



April 17, 2017

Mr. John Sager  
Wisconsin Department of Natural Resources  
1701 N. 4<sup>th</sup> Street  
Superior, WI 54880

Re: Annual Groundwater Monitoring Report  
Former Minocqua Cleaners State Lead Project, St. Germain St., Minocqua, WI  
WDNR BRRTs: 02-44-000052

Dear John:

This report presents the results of the October 2015, May 2016, and November 2016 semi-annual groundwater sampling at the former Minocqua Cleaners State Lead Project. It also includes the results of the installation of two new monitoring wells in May 2016. The work was performed by MSA Professional Services, Inc. (MSA) for the Wisconsin Department of Natural Resources (WDNR) under Contract 37000-0000001175.

The semi-annual sampling was performed as described in the *Proposed Scope of Work for Budget Approval* letters dated September 30, 2013 and February 19, 2016. Groundwater samples were collected from a total of 16 or 17 monitoring wells, Extraction Wells #4 and #6, the post-treatment discharge (labeled GW Outfall), and Municipal Well #3 during the October 2015 sample round. New monitoring wells MW-18A and MW-19A were installed in May 2016 and added to the subsequent sample rounds. The monitoring and municipal well locations are shown on attached Figures 2 and 3.

Groundwater extraction wells EXW-4 and EXW-6 were pumping during all three sample events at approximately 100 gpm and 15 gpm, respectively. Municipal Well #3 was also pumping during the sampling events. However, in February 2017 it was determined that EXW-4 was pumping sand, and the extraction well was shut down on March 3, 2017. MSA recently received a contract to replace EXW-4. This work will be performed in Spring 2017.

### **New Well Installations**

In May 2016, MSA mobilized to the site to install new groundwater monitoring wells. The original proposal called for installing four wells, including two piezometers in the source area adjacent to existing water table wells MW-18 and MW-19 to check at a mid-level depth for groundwater contamination, and a nested pair of wells to be called MW-22 and MW-22A to the southeast of the site in the right of way adjacent to St. Germain Street.

Wells MW-18A and MW-19A were installed, and copies of the soil borings logs and well construction forms for these two wells are attached. Both wells are approximately 60 feet deep, with a five foot long screen. Wells MW-22 and MW-22A could not be installed due to utility conflicts and property ownership uncertainty. There is an overhead electric line along the west side of St. Germain Street, limiting access. There is an underground water main in the paved right of way of St. Germain Street. The underground lines for the remediation system are located on the east side of the right of way, carrying the treated water from the cascading weir to the discharge point northwest of the site. The exact location of these underground lines is unknown, and could not be located by Digger's Hotline or the sanitary district personnel. Therefore, the well installation in this area was canceled to prevent possible damage to the buried system discharge piping.

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## **Groundwater Monitoring Results**

### ***Groundwater Flow Direction***

Table 1 presents a summary of groundwater elevation data collected since November 2004. Figure 4 shows the water table contours based on the November 2016 data. The groundwater flow direction at the water table was generally southeast from the source property toward Municipal Wells #3 and #4. An apparent cone of depression was observed in the elevation contours near extraction well EXW-6, located on the source property, which was continuously pumping at approximately 15 gpm. This flow direction has been consistent throughout the project.

The groundwater flow direction in the deeper piezometer wells was also consistent during this period with previous directions, primarily to the southeast.

### ***Monitoring Results***

Table 2 summarizes the groundwater sample results for this site. The analytical laboratory reports for the October 2015, May 2016, and November 2016 sample rounds are attached. Graphs of concentrations versus time for wells B-13 and MW-19, the two wells with the highest concentrations, are also attached.

Tetrachloroethene (PCE) was detected above the NR 140 enforcement standard (ES) of 5 µg/L at water table wells B-13 (ranging from 22 to 440 ug/L during this period) and in MW-21 (6.3 to 13 ug/L). PCE was detected above the NR 140 Preventive Action Limit (PAL) of 0.5 µg/L at wells B-3A (<0.37 to 1.2 µg/L), B-13A (<0.37 to 3.3 ug/L), B-13B (<0.37 to 1.2 ug/L), MW-18 (0.91 ug/L in November 2016), MW-18A (0.86 and 1.3 ug/L), MW-19 (1.2 ug/L in both 2016 sample events), MW-20 (3.2 ug/L in May 2016), and MW-21A (1.4 to 4.5 ug/L) during this period.

Trichloroethene (TCE) was detected above the NR 140 enforcement standard (ES) of 5 µg/L at water table wells B-13 (12 to 73 µg/L), MW-17 (24 ug/L in May 2016), MW-18 (8.0 ug/L in October 2015), MW-19 (45 ug/L in November 2016), and MW-21A (6.9 ug/L in May 2016). PAL exceedances of TCE were detected at wells B-12 (0.74 ug/L in May 2016), MW-18A (0.60 and 0.62 ug/L in the two 2016 sample events), and MW-21 (0.80 ug/L in October 2015) during this period.

Vinyl chloride was detected above the ES of 0.2 µg/L at wells B-13 (2.2 to 38 ug/L), MW-17 (19 to 46 µg/L), MW-18 (2.6 ug/L in October 2015), MW-19 (24 to 98 ug/L), MW-21 (1.2 in October 2015), and MW-21A (3.1 to 4.0 ug/L) in this report period.

In general, concentrations appear to be stable to decreasing across the site. Increases continue to be noted at well B-13, a water table well located downgradient of the source area on the east side of St. Germain Street. Concentrations are somewhat erratic at MW-19 and other wells located in the source area, and may reflect differences in water levels, precipitation and leaching through source area soils.

Figure 5 illustrates the contaminant concentrations in November 2016 (or last sample date) across the subject area.

### **Extraction Wells**

Extraction well EXW-6 discharge had ES exceedances of PCE (6.0 and 8.1 ug/L), TCE (8.8 and 9.5 µg/L), and vinyl chloride (1.1 to 6.3 µg/L) during this reporting period. The cis-1,2-dichloroethylene (DCA) concentration ranged from 16 to 24

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µg/L, exceeding the PAL of 7 µg/L. The contaminant concentrations detected in extraction well EXW-6 appear to be stable to slowly decreasing since pumping began in December 2006.

Contaminant concentrations at extraction well EXW-4 (pumping during the sampling activities) remained below the ES during this period. No PCE was detected in this well during this period, but TCE was detected at 1.1 to 1.8 µg/L. Vinyl chloride has not been detected in the discharge from this well since November 2006.

**Municipal Well #3 (LSD Well #3)**

No VOCs were detected in the three sample rounds collected during this period, and have not been detected since August 2006. The well was pumping on the dates the samples were collected.

**Groundwater Discharge Sample (GW Outfall)**

No ES exceedances were detected in the discharge sample. Tetrachloroethene was not detected in the October 2015 and May 2016 sample, but was present in November 2016 at a concentration of 0.60 µg/L. TCE was detected at 1.0 µg/L in October 2015 and 0.92 µg/L in November 2016. Vinyl chloride has not been detected in the discharge sample. Cis-1,2-dichloroethene was detected at 2.0 to 2.1 µg/L during this period. The results of this sampling are also included in Table 2 (GW Outfall).

**Vapor Sampling**

Two vapor samples were collected at this site in July 2016 to evaluate the vapor pathway risk. Sample V-1 is a subslab sample, collected through an Entech sample port installed in a concrete slab in the source area property, in front of an existing garage building. This sample location was chosen as the concrete slab in this area is fairly large (exact size unknown as it is partially buried under soil) and in good condition without cracks and holes. Sample V-2 was a collected from a soil probe installed between the former dry cleaning building (source area) and the residence on the adjacent parcel to the south. The probe consists of a PVC temporary well previously installed in July 2005 and designated VP-3. This probe is 5.5 feet deep and screened above the water table surface. Both samples were collected over an approximately 30 minute period.

The results for the site target compounds are compiled on Table 3, attached. The results for V-1 were compared to the residential subslab vapor action levels (VAL) published in the May 2016 Wisconsin Department of Natural Resources (WDNR) Quick Look-up Table. The tetrachloroethene (PCE) concentration in V-1 was 8,100 µg/m<sup>3</sup>, which exceeds the WDNR subslab VAL of 1,400 µg/m<sup>3</sup> for residential properties.

For sample V-2, the soil probe results, the PCE concentration was 21 µg/m<sup>3</sup>. These results can be compared to residential indoor air VALs from the May 2016 WDNR table using a dilution factor of 100. Therefore the VAL for indoor air of 42 µg/m<sup>3</sup> multiplied by 100 equals 4,200 µg/m<sup>3</sup>. The result for PCE for V-2 was 21 µg/m<sup>3</sup>, well below this concentration.

The subslab vapor results at V-1 indicate that organic vapors may accumulate below structures, potentially leading to a vapor intrusion risk. Additional vapor sampling may be warranted prior to ruling out this risk.

### **Summary**

The following was observed during this period.

- No VOCs have been detected in Municipal Well #3 since the August 2006 sample event.
- Enforcement standard exceedances remain in the source area and immediately downgradient, but have been greatly decreased since sampling events in 1993-1995.
- Sporadic PCE and TCE ES and PAL exceedances were detected in wells on the source property and immediately downgradient. The highest concentrations of PCE and TCE were detected at MW-19 near the source area and at B-13, which is located on the east side of St. Germain Street and downgradient of the source area.
- High concentrations of vinyl chloride are present at MW-17 in the source area, but TCE and PCE concentrations are low to no detect in this well. Vinyl chloride is also increasing at MW-19 in the source area, and continues to increase in concentration downgradient at B-13, indicating incomplete reductive dechlorination.
- There were no ES exceedances detected in pumped water at the downgradient extraction well EXW-4. The only PAL exceedance was for TCE. It was noted that EXW-4 was pumping sand in February 2017, and the well was shut down on March 3, 2017. A replacement well has been authorized by the WDNR, and will be installed in Spring 2017.
- Extraction well EXW-6 continued to extract PCE, TCE and vinyl chloride concentrations exceeding the ES during this period.
- The vapor concentration in a sample collected below a concrete slab near the former garage on the source property exceeded the subslab vapor risk action level for PCE.

### **Recommendations**

MSA recommends that the remedial objectives at this site be reviewed and discussed. If it is determined that the remedial objective is to reduce contaminant concentrations in the source area further, it may be more cost-effective to implement alternate remedial actions, such as an injection, to obtain remedial goals versus continued operation of the current pump and treat system.

Incomplete reductive dechlorination, as shown by formation of cis-1,2-dichloroethene and vinyl chloride, may indicate that either insufficient electron donor material is present, or that bacteria that support complete breakdown of PCE to ethenes are not present at this site. Injection of additional electron donor material or microbial colonies may be warranted to complete the bioremediation of the remaining contamination at this site.

Extraction well EXW-6 should continue to operate to control contaminant migration from the source area and reduce aquifer concentrations. The WDNR has requested that extraction well EXW-4 be replaced to continue to act as an intercept well to prevent contamination from reaching the downgradient municipal wells.

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The current semi-annual groundwater monitoring frequency appears to be appropriate for this site. Based on specific wells results and trends, sampling at some of the off-site wells could be reduced to an annual frequency.

Additional subslab vapor sampling may be warranted based on the results noted at sample V-1.

**Conclusions**

The next round of semi-annual groundwater samples will be collected in late April or early May 2017. Please contact Richard Lyster, project manager, at (608) 355-8901 if you have questions or comments concerning the report. Thank you for allowing MSA to assist the Department with this project.

Sincerely,

MSA Professional Services, Inc.



Jayne Englebert, P.G.  
Senior Hydrogeologist

JAE:

Enc.

cc: Cully Akey, Superintendent, Lakeland Sanitary District (email copy)  
Richard Lyster, MSA

List of Attachments

Table 1	Groundwater Elevations
Table 2	Groundwater Sample Analytical Results
Table 3	Vapor Sampling Results
	Graph, concentrations vs. time, well B-13
	Graph, concentrations vs. time, well MW-19
Figure 1	Site Location Map
Figure 2	Site Layout Map
Figure 3	Well Location Map
Figure 4	Groundwater Flow Direction, November 2016
Figure 5	Groundwater Concentrations
	Soil borings logs and well construction forms for MW-18A and MW-19A
	Analytical Reports for groundwater and vapor sampling

**Table 1**  
**Groundwater Elevations**  
**Minocqua Cleaners**  
**Minocqua, WI**

Well Number Screen Length Ground Surface Top of Casing Top of Screen DATE	B-1		B-1A		B-1B		B-2		B-2A		B-2B		B-3		B-3A	
	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation
09-Nov-04	29.52	1576.96	26.11	1580.55	26.13	1580.79	23.42	1580.58	22.82	1580.70	22.25	1581.43	22.49	1582.67	22.71	1582.71
06-Dec-04	29.71	1576.77	26.39	1580.27	26.40	1580.52	23.78	1580.22	23.16	1580.36	22.28	1581.40	22.81	1582.35	22.92	1582.50
22-Mar-05	25.57	1580.91	25.61	1581.05	25.86	1581.06	23.61	1580.39	23.20	1580.32	22.81	1580.87	23.81	1581.35	23.88	1581.54
31-Aug-05	25.63	1580.85	25.68	1580.98	25.94	1580.98	23.61	1580.39	23.22	1580.30	22.83	1580.85	23.21	1581.95	23.62	1581.80
14-Feb-06	25.68	1580.80	25.70	1580.96	25.98	1580.94	23.61	1580.39	23.18	1580.34	22.85	1580.83	23.32	1581.84	23.68	1581.74
22-May-06	25.40	1581.08	25.41	1581.25	25.64	1581.28	23.56	1580.44	23.04	1580.48	22.47	1581.21	22.96	1582.20	23.31	1582.11
08-Aug-06	31.61	1574.87	27.95	1578.71	26.89	1580.03	25.74	1578.26	24.97	1578.55	23.89	1579.79	23.71	1581.45	23.89	1581.53
29-Nov-06	25.60	1580.88	26.21	1580.45	26.68	1580.24	25.21	1578.79	24.46	1579.06	23.05	1580.63	23.51	1581.65	23.62	1581.80
26-Feb-07	25.01	1581.47	25.47	1581.19	25.89	1581.03	22.95	1581.05	22.31	1581.21	22.64	1581.04	22.92	1582.24	23.11	1582.31
22-May-07	24.97	1581.51	25.01	1581.65	25.29	1581.63	23.33	1580.67	22.28	1581.24	22.22	1581.46	22.47	1582.69	22.87	1582.55
21-Aug-07	31.29	1575.19	27.36	1579.30	27.26	1579.66	25.33	1578.67	24.59	1578.93	23.31	1580.37	23.49	1581.67	23.66	1581.76
28-Nov-07	24.50	1581.98	24.66	1582.00	24.94	1581.98	22.52	1581.48	21.90	1581.62	21.91	1581.77	22.81	1582.35	22.97	1582.45
28-Jul-08	25.65	1580.83	25.73	1580.93	26.02	1580.90	24.09	1579.91	23.58	1579.94	23.19	1580.49	23.24	1581.92	23.61	1581.81
20-Nov-08	24.90	1581.58	25.07	1581.59	25.34	1581.58	23.02	1580.98	22.33	1581.19	22.37	1581.31	23.28	1581.88	23.49	1581.93
10-Feb-09	25.35	1581.13	25.53	1581.13	25.82	1581.10	23.40	1580.60	22.81	1580.71	22.86	1580.82	23.26	1581.90	23.70	1581.72
20-May-09	25.14	1581.34	25.16	1581.50	25.40	1581.52	23.48	1580.52	22.98	1580.54	22.39	1581.29	22.23	1582.93	23.14	1582.28
05-Aug-09	25.86	1580.62	25.94	1580.72	26.21	1580.71	23.38	1580.62	23.74	1579.78	23.30	1580.38	23.50	1581.66	23.84	1581.58
19-Nov-09	25.21	1581.27	25.19	1581.47	25.43	1581.49	23.36	1580.64	22.84	1580.68	22.23	1581.45	22.84	1582.32	23.21	1582.21
25-Feb-10	25.10	1581.38	25.07	1581.59	25.32	1581.60	22.61	1581.39	22.01	1581.51	22.11	1581.57	22.93	1582.23	23.26	1582.16
11-May-10	24.85	1581.63	25.19	1581.47	25.53	1581.39	22.79	1581.21	22.17	1581.35	22.40	1581.28	22.75	1582.41	23.09	1582.33
25-Oct-10	23.66	1582.82	23.82	1582.84	24.06	1582.86							21.74	1583.42	22.06	1583.36
26-Apr-11	24.27	1582.21	24.47	1582.19	24.74	1582.18	22.13	1581.87	21.54	1581.98	21.56	1582.12	22.45	1582.71	22.78	1582.64
27-Oct-11	24.06	1582.42	24.23	1582.43	24.49	1582.43	22.46	1581.54	21.94	1581.58	21.25	1582.43	22.18	1582.98	22.50	1582.92
26-Apr-12	23.87	1582.61	24.02	1582.64	24.28	1582.64	21.71	1582.29	21.11	1582.41	21.13	1582.55	22.07	1583.09	22.37	1583.05
08-Jan-14	24.08	1582.40	24.09	1582.57	24.32	1582.60	21.68	1582.32	21.11	1582.41	21.21	1582.47	21.98	1583.18	22.27	1583.15
26-Apr-14	24.56	1581.92	24.82	1581.84	25.09	1581.83	22.71	1581.29	22.20	1581.32	21.81	1581.87	22.41	1582.75	22.74	1582.68
28-Oct-14	23.32	1583.16	23.46	1583.20	23.73	1583.19	21.68	1582.32	21.17	1582.35	20.42	1583.26	21.54	1583.62	21.79	1583.63
27-Apr-15	23.98	1582.50	24.16	1582.50	24.43	1582.49	21.70	1582.30	21.14	1582.38	21.12	1582.56	22.11	1583.05	22.36	1583.06
20-Oct-15	23.77	1582.71	23.74	1582.92	23.99	1582.93	21.46	1582.54	20.89	1582.63	20.97	1582.71	21.71	1583.45	22.02	1583.40
25-May-16	23.63	1582.85	23.81	1582.85	24.09	1582.83	21.78	1582.22	21.28	1582.24	20.92	1582.76	21.60	1583.56	21.89	1583.53
16-Nov-16	23.44	1583.04	23.61	1583.05	23.87	1583.05	21.25	1582.75	20.71	1582.81	20.77	1582.91	21.58	1583.58	21.88	1583.54

**Table 1**  
**Groundwater Elevations**  
**Minocqua Cleaners**  
**Minocqua, WI**

Well Number Screen Length Ground Surface Top of Casing Top of Screen DATE	B-5 15		B-8 10		B-8A 5		B-9 5		B-10 5		B-11 10		B-12 25	
	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation
09-Nov-04	16.94	1582.08	20.40	1582.46			16.34	1582.13	19.08	1582.17	19.22	1582.22	21.98	1582.02
06-Dec-04	17.08	1581.94	20.48	1582.38	22.35	1581.02	16.64	1581.83	19.11	1582.14	19.15	1582.29	21.81	1582.19
23-Mar-05			21.43	1581.43	22.29	1581.08								
31-Aug-05			21.77	1581.09	22.37	1581.00								
14-Feb-06			21.30	1581.56	22.44	1580.93								
22-May-06			20.59	1582.27	22.22	1581.15								
08-Aug-06			21.93	1580.93	24.23	1579.14								
29-Nov-06	17.97	1581.05	21.55	1581.31	22.47	1580.90	17.54	1580.93						
26-Feb-07	17.61	1581.41	21.27	1581.59	22.01	1581.36	16.88	1581.59						
22-May-07	17.30	1581.72	20.83	1582.03	21.71	1581.66	16.57	1581.90						
21-Aug-07	18.32	1580.70	21.74	1581.12	23.68	1579.69	17.83	1580.64						
28-Nov-07	17.40	1581.62	20.59	1582.27	22.47	1580.90	16.69	1581.78						
28-Jul-08	19.41	1579.61	21.18	1581.68	22.41	1580.96	19.59	1578.88	20.33	1580.92	20.38	1581.06		
19-Nov-08			21.11	1581.75	21.81	1581.56	17.40	1581.07	19.76	1581.49	19.98	1581.46		
10-Feb-09	18.91	1580.11	21.53	1581.33	22.27	1581.10	17.74	1580.73	19.89	1581.36	20.02	1581.42		
20-May-09	17.73	1581.29	20.31	1582.55	21.72	1581.65	17.33	1581.14	19.84	1581.41	19.87	1581.57		
05-Aug-09	19.73	1579.29	21.73	1581.13	22.37	1581.00	17.82	1580.65	20.09	1581.16	20.44	1581		
19-Nov-09	18.07	1580.95	21.04	1581.82	21.92	1581.45	18.70	1579.77	20.11	1581.14	20.05	1581.39	22.82	1581.18
25-Feb-10	17.68	1581.34	21.05	1581.81	21.83	1581.54	18.41	1580.06	19.51	1581.74	19.76	1581.68	22.44	1581.56
11-May-10	17.49	1581.53	20.84	1582.02	21.77	1581.60	16.81	1581.66	19.61	1581.64	19.64	1581.8	22.41	1581.59
25-Oct-10									18.89	1582.36	18.83	1582.61	21.34	1582.66
26-Apr-11	16.84	1582.18			21.12	1582.25	16.28	1582.19	19.38	1581.87	19.29	1582.15	21.86	1582.14
27-Oct-11	16.77	1582.25			20.84	1582.53	16.73	1581.74	18.77	1582.48	19.01	1582.43	21.68	1582.32
26-Apr-12	16.46	1582.56			20.70	1582.67	15.88	1582.59	18.96	1582.29	18.88	1582.56	21.47	1582.53
08-Jan-14	16.52	1582.50	19.88	1582.98	20.72	1582.65	15.92	1582.55	19.01	1582.24	19.03	1582.41	21.73	1582.27
26-Apr-14	17.66	1581.36	20.57	1582.29	21.29	1582.08	17.37	1581.10	19.61	1581.64	19.58	1581.86	22.28	1581.72
28-Oct-14	16.56	1582.46	19.27	1583.59	20.12	1583.25	16.63	1581.84	18.07	1583.18	18.29	1583.15	20.92	1583.08
27-Apr-15	16.54	1582.48	19.47	1583.39	20.70	1582.67	15.98	1582.49	18.73	1582.52	18.94	1582.5	21.60	1582.4
20-Oct-15	16.51	1582.51	19.84	1583.02	20.47	1582.90	15.81	1582.66	18.71	1582.54	18.72	1582.72	21.35	1582.65
25-May-16	16.62	1582.40	19.36	1583.50	20.41	1582.96	16.86	1581.61	18.37	1582.88	18.59	1582.85	21.24	1582.76
16-Nov-16	16.24	1582.78	19.38	1583.48	20.30	1583.07	15.61	1582.86	18.18	1583.07	18.39	1583.05	21.03	1582.97

**Table 1**  
**Groundwater Elevations**  
**Minocqua Cleaners**  
**Minocqua, WI**

Well Number Screen Length Ground Surface Top of Casing Top of Screen DATE	B-13		B-13A		B-13B		B-15		MW-17		MW-18		MW-18A	
	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation
	25		5		5		25		10		10		5	
	1594.58		1593.91		1594.1		1598.85		1591.1		1590.9		1589.48	
	1596.7		1596.33		1596.16		1601.77		1591.8		1591.42		1591.6	
	1585.1		1538.9		1509.1		1583.35		1586.1		1585.9		1535.7	
09-Nov-04	13.18	1583.52					18.36	1583.41	8.35	1583.45	8.14	1583.28		
06-Dec-04	13.28	1583.42	14.11	1582.22	13.68	1582.48	18.41	1583.36	8.69	1583.11	8.46	1582.96		
23-Mar-05	14.24	1582.46	15.08	1581.25	14.92	1581.24			9.63	1582.17	9.50	1581.92		
31-Aug-05	14.17	1582.53	14.77	1581.56	14.48	1581.68			9.49	1582.31	9.29	1582.13		
15-Feb-06	14.25	1582.45	14.90	1581.43	14.65	1581.51			9.68	1582.12	9.54	1581.88		
26-May-06	13.84	1582.86	14.50	1581.83	14.23	1581.93			9.05	1582.75	8.95	1582.47		
08-Aug-06	14.12	1582.58	14.73	1581.60	14.42	1581.74			9.00	1582.80	8.98	1582.44		
29-Nov-06	13.93	1582.77	14.76	1581.57	14.51	1581.65			9.26	1582.54	8.97	1582.45		
26-Feb-07	13.54	1583.16	14.14	1582.19	13.79	1582.37			8.98	1582.82	8.82	1582.60		
23-May-07	13.50	1583.20	14.08	1582.25	13.72	1582.44			8.69	1583.11	8.52	1582.90		
22-Aug-07	14.08	1582.62	14.66	1581.67	14.28	1581.88			9.24	1582.56	9.07	1582.35		
28-Nov-07	13.58	1583.12	14.20	1582.13	13.89	1582.27			8.91	1582.89	8.80	1582.62		
29-Jul-08	14.11	1582.59	14.72	1581.61	14.37	1581.79			8.98	1582.82	8.89	1582.53		
15-Aug-08									9.20	1582.60	9.12	1582.30		
11-Sep-08	14.12	1582.58	14.78	1581.55					9.35	1582.45	9.19	1582.23		
9-Oct-08	13.75	1582.95	14.48	1581.85					9.09	1582.71	8.96	1582.46		
21-Nov-08	13.80	1582.90	14.56	1581.77	14.17	1581.99			9.21	1582.59	9.17	1582.25		
16-Dec-08	13.81	1582.89	14.49	1581.84					9.41	1582.39	9.26	1582.16		
10-Feb-09	14.27	1582.43	14.94	1581.39	14.65	1581.51			9.39	1582.41	9.56	1581.86		
20-May-09	13.77	1582.93	14.24	1582.09	14.20	1581.96			8.83	1582.97	8.81	1582.61		
05-Aug-09	14.41	1582.29	15.01	1581.32	14.48	1581.68			9.54	1582.26	9.33	1582.09		
19-Nov-09	13.81	1582.89	14.41	1581.92	14.11	1582.05			9.13	1582.67	9.04	1582.38		
25-Feb-10	13.72	1582.98	14.37	1581.96	14.15	1582.01			9.35	1582.45	9.15	1582.27		
11-May-10	13.68	1583.02	14.34	1581.99	14.07	1582.09			9.13	1582.67	9.02	1582.40		
25-Oct-10	12.51	1584.19	13.54	1582.79	13.34	1582.82			8.37	1583.43	8.13	1583.29		
26-Apr-11	13.24	1583.46	14.02	1582.31	13.74	1582.42			8.75	1583.05	8.73	1582.69		
27-Oct-11	13.08	1583.62	13.86	1582.47	13.64	1582.52			8.80	1583.00	8.54	1582.88		
26-Apr-12	12.97	1583.73	13.70	1582.63	13.46	1582.70			8.73	1583.07	8.52	1582.90		
08-Jan-14	12.84	1583.86	13.65	1582.68	13.46	1582.70			8.61	1583.19	8.34	1583.08		
26-Apr-14	13.15	1583.55	13.99	1582.34	13.73	1582.43			8.38	1583.42	8.56	1582.86		
28-Oct-14	12.34	1584.36	13.23	1583.10	13.09	1583.07			8.18	1583.62	7.92	1583.50		
27-Apr-15	12.88	1583.82	13.60	1582.73	13.38	1582.78			8.69	1583.11	8.54	1582.88		
20-Oct-15	12.62	1584.08	13.35	1582.98	13.12	1583.04			8.51	1583.29	8.24	1583.18		
25-May-16	12.41	1584.29	13.14	1583.19	12.93	1583.23			8.41	1583.39	8.04	1583.38	8.28	1583.32
16-Nov-16	12.48	1584.22	13.15	1583.18	12.92	1583.24			8.37	1583.43	8.09	1583.33	8.34	1583.26



**Table 1**  
**Groundwater Elevations**  
**Minocqua Cleaners**  
**Minocqua, WI**

Well Number Screen Length Ground Surface Top of Casing Top of Screen DATE	MW-19		MW-19A		MW-20		MW-21		MW-21A	
	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation
	10		5		10		10		5	
	1591.3		1589.8		1590.92		1591.99		1592.16	
	1591.73		1592.04		1593.78		1591.51		1592.66	
	1586.3		1535.1		1587.3		1586		1554.2	
09-Nov-04	8.47	1583.26								
06-Dec-04	8.84	1582.89								
23-Mar-05	9.88	1581.85								
31-Aug-05	9.53	1582.20								
15-Feb-06	9.88	1581.85								
26-May-06	9.30	1582.43								
08-Aug-06	9.26	1582.47								
29-Nov-06	9.28	1582.45								
26-Feb-07	8.96	1582.77								
23-May-07	8.72	1583.01								
22-Aug-07	9.21	1582.52								
28-Nov-07	9.04	1582.69								
29-Jul-08	9.04	1582.69			9.68	1584.10	10.81	1580.70	13.43	1579.23
15-Aug-08	9.25	1582.48			9.89	1583.89	10.97	1580.54	13.62	1579.04
11-Sep-08	9.33	1582.40			10.01	1583.77	10.90	1580.61	13.53	1579.13
9-Oct-08	9.16	1582.57			9.88	1583.90	10.61	1580.90	13.42	1579.24
21-Nov-08	9.39	1582.34			10.13	1583.65	10.71	1580.80	16.37	1576.29
16-Dec-08	9.45	1582.28			10.20	1583.58	10.76	1580.75	13.22	1579.44
10-Feb-09	9.86	1581.87			10.61	1583.17	11.07	1580.44	13.58	1579.08
20-May-09	9.07	1582.66			9.84	1583.94	10.11	1581.40	12.91	1579.75
05-Aug-09	9.46	1582.27			10.14	1583.64	10.52	1580.99	13.17	1579.49
19-Nov-09	9.28	1582.45			10.00	1583.78	10.17	1581.34	14.35	1578.31
25-Feb-10	9.38	1582.35			10.15	1583.63	10.16	1581.35	13.85	1578.81
11-May-10	9.25	1582.48			10.02	1583.76	10.01	1581.50	12.61	1580.05
25-Oct-10	8.41	1583.32			9.18	1584.60	9.14	1582.37	11.66	1581.00
26-Apr-11	9.07	1582.66			9.86	1583.92	9.74	1581.77	10.42	1582.24
27-Oct-11	8.81	1582.92			9.58	1584.20	9.42	1582.09	13.16	1579.50
26-Apr-12	8.84	1582.89			9.62	1584.16	9.29	1582.22	15.24	1577.42
08-Jan-14	8.63	1583.10			9.43	1584.35	8.68	1582.83	11.23	1581.43
26-Apr-14	9.09	1582.64			9.93	1583.85	8.52	1582.99	11.68	1580.98
28-Oct-14	8.22	1583.51			9.06	1584.72	7.95	1583.56	10.51	1582.15
27-Apr-15	8.84	1582.89			9.68	1584.10	8.80	1582.71	11.54	1581.12
20-Oct-15	8.49	1583.24			9.28	1584.50	8.54	1582.97	10.73	1581.93
25-May-16	8.33	1583.40	8.67	1583.37	9.26	1584.52	7.09	1584.42	10.96	1581.70
16-Nov-16	8.34	1583.39	8.64	1583.40	9.19	1584.59	8.49	1583.02	11.19	1581.47

Note : Datum for Measurements is Mean Sea Level (MSL)

**Table 1**  
**Groundwater Elevations**  
**Minocqua Cleaners**  
**Minocqua, WI**

Elevations for TOC of wells B-1, B-1A, B-1B, B-2, B-2A, B-3, B-3A, B-8, B-8A, B-10, B-12, MW15, MW17 were resurveyed on May 5, 2005. The bolt on the fire hydrant was the benchmark of 1603.56, as shown on basemap. Elevations for TOC and ground surface of wells B-5, B-9 were resurveyed on July 30, 2008.

TABLE 2  
Groundwater Sample Analytical Results  
Minocqua Cleaners  
Minocqua, WI

Analyte	Sampling Date	Cis-1,2-Dichloroethylene	Trans-1,2-Dichloroethylene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	GW Elevation	pH	DO	Redox	Conductivity
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
Top of Casing Elevation = 1606.48 ft MSL											
B-1 (90')	12/01/99	ND	ND	ND	ND	ND					
	11/01/03	ND	ND	ND	ND	ND					
	12/06/04	<0.5	<0.4	<0.5	<0.6	<0.3	1576.77	8.68	1.29	126	309.9
	03/22/05	<0.60	<0.60	<0.4	<0.15	<0.12	1580.91	8.47	1.43	145	336.5
	08/31/05	<0.60	<0.60	<0.4	<0.15	<0.12	1580.85	7.21	1.06	147	399.2
	02/14/06	<0.60	<0.60	<0.4	<0.15	<0.12	1580.80	7.6	1.4	149	398.9
	05/22/06	<0.4	<0.4	<0.29	0.19	<0.15	1581.08	7.83	1.89	151	306.4
	08/08/06	<0.4	<0.4	<0.29	<0.15	<0.15	1574.87	8.27	1.27	173	374
	11/29/06	<0.4	<0.4	<0.29	<0.15	<0.15	1580.88	7.37	1.26		287
	02/26/07	<0.4	<0.4	<0.29	<0.15	<0.15	1581.47	8.14	1.28	155	370
	05/22/07	<0.4	<0.5	<0.4	<0.15	<0.15	1581.51	7.67	1.17		393
	08/21/07	<0.4	<0.5	<0.4	<0.15	<0.15	1575.19	6.84	0.42	160	432
	11/28/07	<0.4	<0.5	<0.4	<0.15	<0.15	1581.98	7.54	1.41	182	386
	07/28/08	<0.4	<0.5	<0.4	<0.15	<0.15	1580.83	7.62	1.13		411
	11/20/08	<0.4	<0.5	<0.4	<0.15	<0.15	1581.58	8.05	1.49	190	395
	02/11/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.13	7.12	1.64	245	398
	05/21/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.34	6.79	1.74	276	398
	08/05/09	<0.4	<0.5	<0.4	<0.15	<0.15	1580.62	7.26	1.04	172	407
	11/19/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.27	7.48	1.85	13.9	404
	02/25/10	<0.4	<0.5	<0.4	<0.15	<0.15	1581.38	7.94	1.48	129	385
	10/25/10	<0.5	<0.5	<0.5	<0.2	<0.2	1582.82	7.63	1.31	53	385
	04/26/11	<0.5	<0.5	<0.5	<0.2	<0.2	1582.21	8.14	1.97	76	411
	10/27/11	<0.50	<0.50	<0.50	<0.20	<0.20	1582.42	7.33	2.02	181	375
	04/27/12	<0.12	<0.25	<0.17	<0.19	<0.10	1582.61	6.81	2.01	169	334
	01/08/14	<0.12	<0.25	<0.17	<0.19	<0.10	1582.40	7.35	1.93	161	356
	04/10/14	<0.12	<0.25	<0.17	<0.19	<0.10	1581.92	6.96	2.38		337
	10/28/14	<0.12	<0.25	<0.17	<0.19	<0.10	1583.16	7.36	1.41		317
	04/27/15	<0.12	<0.25	<0.17	<0.19	<0.10	1582.50	7.18	2.39		368
	10/20/15	<0.41	<0.35	<0.37	<0.16	<0.20	1582.71	7.83	1.64	215	386
	05/25/16	<0.41	<0.35	<0.37	<0.16	<0.20	1582.85	7.89	1.78	282	399
	11/16/16	<0.41	<0.35	<0.37	<0.16	<0.20	1583.04	7.72	1.93	223	407
Top of Casing Elevation = 1606.66 ft MSL											
B-1A (60')	12/06/04	<0.5	<0.4	<0.5	<0.6	<0.3	1580.27	8.44	1.08	173	463.4
	03/22/05	<0.60	<0.60	<0.4	<0.15	<0.12	1581.05	8.23	1.88	138	399.7
	08/31/05	<0.60	<0.60	<0.4	<0.15	<0.12	1580.98	6.70	2.26	274	348
	02/14/06	<0.60	<0.60	<0.4	<0.15	<0.12	1580.96	7.30	1.7	157	348.2
	05/22/06	<0.4	<0.4	<0.29	<0.15	<0.15	1581.25	7.41	1.31	154	360
	08/08/06	<0.4	<0.4	0.56	0.44	<0.15	1578.71	7.58	0.91	522	378
	11/29/06	<0.4	<0.4	<0.29	>0.15	<0.15	1580.45	7.59	1.19		328
	02/26/07	<0.4	<0.4	<0.29	>0.15	<0.15	1581.19	7.05	1.31	436	455
	05/22/07	<0.4	<0.5	<0.4	<0.15	<0.15	1581.65	7.56	1.27		487
	08/21/07	<0.4	<0.5	<0.4	<0.15	<0.15	1579.30	6.73	1.97	448	559
	11/28/07	<0.4	<0.5	<0.4	<0.15	<0.15	1582.00	7.01	1.33	349	501
	07/28/08	<0.4	<0.5	<0.4	<0.15	<0.15	1580.93	7.37	1.86	335	476
	11/20/08	<0.4	<0.5	<0.4	<0.15	<0.15	1581.59	8.02	1.92	234	452
	02/11/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.13	7.09	1.56	311	388
	05/21/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.50	6.91	1.39	363	468
	08/05/09	<0.4	<0.5	<0.4	<0.15	<0.15	1580.72	6.64	1.86	410	471
	11/19/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.47	7.06	1.81	301	530
	02/25/10	<0.4	<0.5	<0.4	<0.15	<0.15	1581.59	7.79	1.68	219	519
	05/11/10	<0.25	<0.25	<0.3	<0.22	<0.22	1581.47	7.85	1.31	401	502
	10/25/10	<0.5	<0.5	<0.5	<0.2	<0.2	1582.84	7.04	1.91	261	502
	04/26/11	<0.5	<0.5	<0.5	<0.2	<0.2	1582.19	8.16	1.92	240	426
	10/27/11	<0.50	<0.50	<0.50	<0.20	<0.20	1582.43	7.28	1.82	188	526
	04/27/12	<0.12	<0.25	<0.17	<0.19	<0.10	1582.64	6.87	2.11	289	483
	01/08/14	<0.12	<0.25	<0.17	<0.19	<0.10	1582.57	7.23	1.89	222	530
	04/10/14	<0.12	<0.25	<0.17	<0.19	<0.10	1581.84	6.84	1.97		506
	10/28/14	<0.12	<0.25	<0.17	<0.19	<0.10	1583.20	7.12	1.44		447
	04/27/15	<0.12	<0.25	<0.17	<0.19	<0.10	1582.50	7.01	2.08		419
	10/20/15	<0.41	<0.35	<0.37	<0.16	<0.20	1582.92	7.40	1.57	343	509
	05/25/16	<0.41	<0.35	<0.37	<0.16	<0.20	1582.85	7.55	0.78	400	520
	11/16/16	<0.41	<0.35	<0.37	<0.16	<0.20	1583.05	7.77	1.8	294	589









TABLE 2  
Groundwater Sample Analytical Results  
Minocqua Cleaners  
Minocqua, WI

Analyte	Sampling Date	Cis-1,2-Dichloroethylene	Trans-1,2-Dichloroethylene	Tetrachloroethene	Trichloroethene	Vinyl Chloride	GW Elevation	pH	DO	Redox	Conductivity
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
		Top of Casing Elevation = 1596.33 ft MSL									
B-13A (62')	12/08/04	1.5	<0.4	<0.5	<0.6	<0.3	1582.22	9.12	1.45	64	246.4
	03/23/05	0.95	<0.6	<0.4	<0.15	<0.12	1581.25	9.38	1.36	141	191.5
	09/01/05	1	<0.6	<0.4	2.6	<0.12	1581.56	7.58	0.67	148	160
	02/15/06	1	<0.60	0.62	2.8	<0.12	1581.43	7.73	1.75	156	150.6
	05/23/06	0.99	0.44	<0.29	3.7	<0.15	1581.83	8.26	1.01	153	146.2
	08/08/06	1.1	0.42	<0.29	3.5	<0.15	1581.60	8.29	1.19	225	166
	11/29/06	1.6	<0.4	<0.29	2.7	<b>0.25</b>	1581.57	7.61	1.17	149	
	02/26/07	0.41	<0.4	0.3	0.93	<0.15	1582.19	7.64	1.51	353	172
	05/22/07	<0.4	<0.5	<0.4	0.54	<0.15	1582.25	7.33	1.28		207
	08/22/07	<0.4	<0.5	<0.4	0.42	<0.15	1581.67		1.68	371	227
	11/29/07	<0.4	<0.5	<0.4	0.23	<0.15	1582.13	7.69	1.18	352	204
Qtr	07/29/08	<0.4	<0.5	<0.4	0.19	<0.15	1581.61	8.03	1.79	308	241
Pilot Study	09/11/08	<0.4	<0.5	<0.4	0.26	<0.15	1581.55	8.20	2.53	248	223
Pilot Study	10/09/08	<0.4	<0.5	<0.4	0.26	<0.15	1581.85	8.67	2.2	251	225
Qtr	11/21/08	0.43	<0.5	0.42	<0.15	<0.15	1581.77	8.31	1.84	300	227
Pilot Study	12/17/08	0.41	<0.50	<0.40	0.25	<0.15	1581.84	8.27	1.43	297	233
Qtr	02/11/09	0.51	<0.5	<0.4	0.32	<0.15	1581.39	7.67	1.96	401	237
Qtr	05/21/09	0.53	<0.5	0.75	0.29	<0.15	1582.09	6.43	1.82	363	246
Pilot Study	08/05/09	1.4	<0.5	3.5	1.5	<0.15	1581.32	7.61	1.51	396	237
Qtr	11/19/09	0.79	<0.5	1.8	0.69	<0.15	1581.92	7.55	1.17	229	240
	02/25/10	0.6	<0.5	<0.4	<0.15	<0.15	1581.96	7.98	1.21	203	239
	05/12/10	0.64	<0.25	0.61	0.29	<0.22	1581.96	8.56	1.21	256	246
	10/25/10	0.74	<0.5	1.8	0.57	<0.2	1582.79	8.07	2.15	205	246
	04/26/11	0.64	<0.50	<0.50	0.45	<0.20	1582.31	8.29	1.92	179	249
	10/28/11	1.2	<0.50	2.3	1.3	<0.20	1582.47	6.95	2.25	188	253
	04/27/12	<0.12	<0.25	<0.17	0.34	<0.10	1582.63	7.07	1.72	191	250
	01/09/14	<0.12	<0.25	0.56	0.33	<0.10	1582.68	7.11	1.83	190	342
	04/10/14	<0.12	<0.25	<0.17	<0.19	<0.10	1582.34	6.98	2.23	391	391
	10/29/14	<0.12	<0.25	0.78	0.46	<0.10	1583.10	7.26	0.9		291
	04/28/15	<0.12	<0.25	0.63	<0.19	<0.10	1582.73	7.14	2.18		295
	10/21/15	<0.41	<0.35	<0.37	<0.16	<0.20	1582.98	7.54	1.92	287	306
	05/26/16	<0.41	<0.35	3.3	0.46	<0.20	1583.19	7.98	1.65	352	313
	11/17/16	<0.41	<0.35	1.4	0.36	<0.20	1583.18	8.13	1.84	265	312
		Top of Casing Elevation = 1596.16 ft MSL									
B-13B (92')	12/08/04	0.92	<0.4	<0.5	<0.6	<0.3	1582.48	9.34	1.25	44	497.8
	03/23/05	<0.6	<0.6	<0.4	<0.15	<0.12	1581.24	8.40	1.77	173	197.8
	09/01/05	<0.6	<0.6	<0.4	<0.15	<0.12	1581.68	7.57	1.41	253	144
	02/15/06	<0.6	<0.6	<0.4	<0.15	<0.12	1581.51	8.18	1.3	156	151.9
	05/23/06	<0.4	<0.4	<0.29	<0.15	<0.15	1581.93	8.10	1.13	153	144.9
	08/08/06	<0.4	<0.4	0.32	<0.15	<0.15	1581.74	7.83	0.74	326	168
	11/29/06	<0.4	<0.4	0.32	<0.15	<0.15	1581.65	7.32	1.25	159	159
	02/26/07	<0.4	<0.4	<0.29	<0.15	<0.15	1582.37	7.58	1.72	349	172
	05/22/07	<0.4	<0.5	<0.4	<0.15	<0.15	1582.44	7.27	1.33		191
	08/22/07	<0.4	<0.5	<0.4	<0.15	<0.15	1581.88	5.89	2.04	370	205
	11/29/07	<0.4	<0.5	<0.4	<0.15	<0.15	1582.27	7.90	1.64	353	200
	07/29/08	<0.4	<0.5	<0.4	<0.15	<0.15	1581.79	8.02	1.58	279	207
	02/11/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.51	7.69	1.89	360	198
	05/21/09	<0.4	<0.5	<0.4	<0.15	<0.15	1581.96	6.35	1.91	364	208
	11/19/09	<0.4	<0.5	0.66	<0.15	<0.15	1582.05	7.68	1.83	249	200
	02/25/10	<0.4	<0.5	0.51	0.18	<0.15	1582.01	8.12	1.73	212	201
	05/12/10	<0.25	<0.25	<0.3	<0.21	<0.22	1582.09	8.66	1.92	277	213
	10/25/10	<0.5	<0.5	<0.5	<0.2	<0.2	1582.82	7.80	1.56	276	210
	04/26/11	<0.5	<0.5	<0.5	<0.2	<0.2	1582.42	8.08	1.74	191	238
	10/28/11	<0.50	<0.50	0.83	0.44	<0.20	1582.52	6.82	1.97	204	224
	04/27/12	<0.12	<0.25	<0.17	<0.19	<0.10	1582.70	7.13	1.66	202	229
	01/09/14	<0.12	<0.25	<0.17	<0.19	<0.10	1582.70	7.15	1.84	198	365
	04/10/14	<0.12	<0.25	<0.17	<0.19	<0.10	1582.43	7.08	1.93		399
	10/29/14	<0.12	<0.25	<0.17	<0.19	<0.10	1583.07	7.24	0.96		338
	04/28/15	<0.12	<0.25	<0.17	<0.19	<0.10	1582.78	6.86	1.89		339
	10/21/15	<0.41	<0.35	<0.37	<0.16	<0.20	1583.04	7.62	1.77	335	369
	05/26/16	<0.41	<0.35	1.2	<0.16	<0.20	1583.23	7.96	2.08	417	367
	11/17/16	<0.41	<0.35	0.62	<0.16	<0.20	1583.24	8.14	2.39	327	408



**TABLE 2**  
**Groundwater Sample Analytical Results**  
**Minocqua Cleaners**  
**Minocqua, WI**

Analyte	Sampling Date	Cis-1,2-	Trans-1,2-	Tetrachloro-	Trichloro-	Vinyl	GW Elevation	pH	DO	Redox	Conductivity	
		Dichloroethylene	Dichloroethylene	ethene	ethene	Chloride						
ES		70	100	5	5	0.2						
PAL		7	20	0.5	0.5	0.02						
B-15 (42')	12/07/04	Top of Casing Elevation = 1601.77 ft MSL						1583.36	8.73	1.19	136	410.9
EXW-2	06/01/00	4.3	ND	3.2	7.9	<0.16>						
	01/01/01	4	<0.18>	3.4	7.3	<0.18>						
	12/01/01	4.5	ND	5.6	8.6	ND						
	06/01/02	4.9	<0.21>	1.9	7.3	ND						
	12/01/02	5	ND	1.2	5.3	ND						
	11/01/03	6.8	ND	3.4	6.9	0.53						
	12/06/04	5.2	<0.4	1.9	4.5	<0.3						
	03/23/05	<0.6	<0.6	<0.4	<0.15	<0.12		9.03	1.56	-64	775.3	
	09/01/05	<0.6	<0.6	<0.4	<0.15	<0.12		7.46	1.15	19	562.3	
	02/15/06	<3.0	<3.0	<2.0	<0.75	<0.6		7.47	1.92	151	730.9	
	05/23/06	0.41	<0.4	0.33	0.35	<0.15		7.62	0.84	142	123.6	
	08/22/06	<0.4	<0.4	<0.29	<0.15	<0.15		8.72	1.38	78	144	
	EXW-4	03/22/05	0.78	<0.6	0.87	1.2	<0.12					
09/01/05		<0.6	<0.6	<0.4	<0.15	<0.12						
05/23/06		9.1	<0.4	6	11	0.37		8.23	1.5	156	209.7	
08/08/06		5.1	<0.4	4.1	5.5	0.17		8.59	1.76	159	222	
11/29/06		4.1	<0.4	3.7	5.5	0.16		7.17	1.71		215	
02/26/07		2.5	<0.4	2.5	3.2	<0.15		8.08	2.51	39	250	
05/23/07		2.2	<0.5	2.3	2.8	<0.15		7.57	1.49		268	
08/22/07		1.2	<0.5	1.3	1.6	<0.15		6.95	2.01	342	234	
11/29/07		1.5	<0.5	1.6	2.2	<0.15		7.76	2.23	139	285	
07/29/08		1.3	<0.5	0.55	2.1	<0.15		8.07	2.85	305	279	
11/20/08		1	<0.5	0.7	1.5	<0.15		8.30	1.19	304	311	
02/11/09		0.93	<0.5	0.44	1.2	<0.15		7.93	1.69	349	335	
05/21/09		2.3	<0.5	1.2	2.6	<0.15		7.71	2.39	225	317	
08/05/09		2	<0.5	1.1	2.1	<0.15		7.52	1.91	291	281	
11/19/09		0.76	<0.5	0.61	1	<0.15		7.80	2.53	239	289	
02/25/10		0.67	<0.5	0.5	0.77	<0.15		7.97	2.18	211	308	
05/11/10		0.64	<0.25	0.45	0.7	<0.22		8.31	2.56	359	321	
10/25/10		0.91	<0.5	0.96	1.1	<0.2		7.70	2.74	181	346	
04/26/11		1.9	<0.50	0.61	2.1	<0.20		8.26	2.67	143	326	
10/27/11		0.92	<0.50	<0.50	0.82	<0.20		7.11	2.08	176	355	
04/27/12		<0.12	<0.25	<0.17	0.35	<0.10		7.15	2.13	172	349	
01/08/14		0.67	<0.25	<0.17	0.62	<0.10		7.06	2.13	125	359	
04/10/14		0.91	<0.25	<0.17	0.76	<0.10		6.71	2.33		376	
10/28/14	0.99	<0.25	<0.17	0.99	<0.10		7.29	1.37		328		
04/27/15	<0.12	<0.25	<0.17	1.7	<0.10		6.60	2.02		311		
10/22/15	1.1	<0.35	<0.37	1.1	<0.20		7.48	2.14	246	375		
05/25/16	1.7	<0.35	<0.37	1.8	<0.20		7.66	2.15	296	384		
11/16/16	1.5	<0.35	<0.37	1.4	<0.20		8.01	4.04	259	272		
EXW-5	11/01/93	32	ND	48	48	ND						
	01/01/94	ND	ND	48	48	ND						
	07/01/94	6.2	ND	6.7	ND	14						
	01/01/95	35	ND	32	57	ND						
	06/01/95	ND	ND	96	110	19						
	01/01/96	18	ND	17	19	ND						
	06/01/96	28	1.7	2.4	20	ND						
	01/01/97	59	3.8	28	36	ND						
	10/01/97	68	ND	36	49	ND						
	04/01/98	58	ND	31	33	ND						
	11/01/98	110	ND	38	54	ND						
	06/01/99	150	ND	<9.3>	24	ND						
	12/01/99	2.5	ND	<0.42>	0.98	ND						
	06/01/00	160	1.6	19	32	ND						
	01/01/01	16	<0.29>	5.8	10	ND						
	12/01/01	19	ND	5.6	8.6	ND						
	06/02/02	54	ND	11	24	3.3						
	12/01/02	57	ND	8.6	18	ND						
	12/06/04	61	<0.4	<1.0	<1.2	11						
	03/23/05	38	<1.2	1.6	9	2.7		8.97	1.14	-72	417.5	
	09/01/05	29	<0.6	<0.40	0.48	2.1		7.16	1.06	64	112.7	
	02/15/06	33	<0.6	0.42	1.2	4.5		7.41	1.9	150	112.8	
	05/23/06	51	<0.8	4.5	8.9	5.2		7.49	1.81	145	160.5	
	08/08/06	33	0.62	1.7	3.3	3.7		8.44	0.97	80	128	
	11/29/06	33	0.46	17	18	7		7.38	1.19		168	
	02/26/07	2.3	<0.4	<0.29	1.4	0.4		7.60	1.01	110	146	
	05/22/07	1.5	<0.5	<0.4	0.35	0.4		7.69	1.34		168	
08/22/07	1.5	<0.5	<0.4	0.21	1.3		6.69	2.14	121	116		
11/29/07	2.7	<0.5	<0.4	0.25	1.2		7.35	1.84	88	106		
07/29/08	2.3	<0.5	<0.4	<0.15	0.56		7.44	1.23	51	141		

TABLE 2  
Groundwater Sample Analytical Results  
Minocqua Cleaners  
Minocqua, WI

Analyte	Sampling Date	Cis-1,2-Dichloroethylene	Trans-1,2-Dichloroethylene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride	GW Elevation	pH	DO	Redox	Conductivity
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
EXW-6	02/26/07	43	1.1	23	19	2.4		7.90		293	224
	05/22/07	44	0.99	25	18	2.2		7.55	1.52		239
	08/22/07	34	0.67	16	12	1.6		6.65	2.34	231	225
	11/29/07	36	0.69	20	14	1.2		7.24	1.71	277	285
	07/29/08	32	0.55	23	14	0.79		7.45	1.87	137	228
	09/11/08	26	<0.5	16	12	0.69		7.87	2.23	254	224
	10/09/08	34	0.53	19	15	1.1		8.02	2.03	253	228
	11/20/08	27	<0.5	15	13	0.94		7.95	1.87	385	233
	12/17/08	23	<0.50	14	12	0.51		8.04	2.29	303	226
	02/11/09	25	<0.5	18	14	<0.15		8.02	1.98	377	240
	05/21/09	22	<0.5	16	13	0.77		7.56	2.12	356	230
	08/05/09	30	<0.5	16	13	1.9		6.70	2.37	351	241
	11/19/09	32	0.6	17	16	2.3		7.47	2.45	307	231
	02/25/10	22	<0.5	13	12	0.86		8.12	1.69	226	227
	05/11/10	23	0.42	13	11	2.3		7.86	1.62	278	234
	10/25/10	24	<0.5	13	13	3.2		7.28	1.73	221	249
	04/26/11	20	<0.50	13	12	1.4		8.28	2.33	304	269
	10/27/11	24	<0.50	16	16	2.4		7.06	1.42	216	270
	04/27/12	23	0.50	7.0	9.2	3.2		7.12	1.85	218	263
	01/08/14	19	<0.25	6.9	12	1.6		7.27	2.09	227	417
04/10/14	<0.12	<0.25	<0.17	0.87	<0.10		6.59	2.17		444	
10/28/14	18	<0.25	8.6	12	1.6		7.44	1.81		310	
04/27/15	18	<0.25	5.9	12	1.7		6.52	1.94		327	
10/20/15	16	<0.35	6.0	8.8	1.4		7.44	2.18	367	289	
05/25/16	24	1.3	<0.37	0.80	6.3		7.96	1.84	65	412	
11/16/16	17	<0.35	8.1	9.5	1.1		7.90	2.34	322	300	
MW-16	11/01/93	ND	ND	ND	ND	ND					
	01/01/94	ND	ND	ND	ND	ND					
	07/01/94	ND	ND	ND	ND	ND					
	01/01/95	ND	ND	ND	ND	ND					
	06/01/95	ND	ND	ND	ND	0.71					
	01/01/96	ND	ND	ND	ND	ND					
	06/06/96	ND	1.3	ND	ND	ND					
	01/01/97	ND	ND	ND	ND	ND					
	10/01/97	ND	ND	0.54	ND	ND					
	04/01/98	ND	ND	1	ND	ND					
	11/01/98	ND	ND	ND	ND	ND					
06/01/99	Lost Well										

**TABLE 2**  
**Groundwater Sample Analytical Results**  
**Minocqua Cleaners**  
**Minocqua, WI**

Analyte	Sampling Date	Cis-1,2-	Trans-1,2-	Tetrachloro-	Trichloro	Vinyl	GW Elevation	pH	DO	Redox	Conductivity
		Dichloroethylene	Dichloroethylene	ethene	ethene	Chloride					
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
Top of Casing Elevation = 1591.80 ft MSL											
MW-17	11/01/93	230	3.5	23	40	1.2					
(18')	01/01/94	400	ND	40	58	ND					
	07/01/94	380	ND	44	40	ND					
	01/01/95	12	ND	0.53	112	ND					
	06/01/95	ND	ND	380	53	12					
	01/01/96	180	40	32	31	ND					
	06/06/96	290	13	80	40	6.7					
	01/01/97	860	7	33	53	3.2					
	10/01/97	270									
	04/01/98	84	ND	11	9.4	ND					
	11/01/98	290	4.5	24	37	2.8					
	06/01/99	170	ND	<9.7>	23	ND					
	12/01/99	420	ND	ND	26	ND					
	06/01/00	220	ND	ND	ND	ND					
	01/01/01	270	<7.0>	ND	<8.7>	<4.4>					
	12/01/01	200	<5.0>	<5.2>	<4.8>	ND					
	06/01/02	180	<5.7	9.4	8.9	ND					
	12/01/02	230	ND	<13>	43	<5.1>					
	11/01/03	390	<13>	ND	ND	ND					
	12/07/04	220	7.5	6.8	14	4.7	1583.11	8.64	1.46	-32	230
	03/23/05	84	3.4	7.8	6.7	2.6	1582.17	8.90	1.76	16	252.4
	09/01/05	330	9.1	1.4	5	23	1582.31	6.65	1.78	204	240
	02/15/06	140	4.6	4.3	1.9	2.9	1582.12	7.32	1.75	153	196.4
	05/23/06	98	<4.0	5.9	5.8	4	1582.75	7.24	1.68	152	171.9
	08/08/06	290	5.7	7.9	12	12	1582.80	7.44	1.58	2.57	264
	11/29/06	190	4.6	11	25	8.7	1582.54	7.38	1.67		249
	02/26/07	230	4	<2.9	18	15	1582.82	7.16	1.49	216	253
	05/23/07	100	4.9	2.4	3	9.2	1583.11	7.66	1.88		236
	08/22/07	130	<2.5	6.1	18	10	1582.56	6.20	2.23	2.04	309
	11/29/07	110	4.5	3.8	5.8	11	1582.89	6.62	2.18	255	263
Qtr	07/29/08	100	6.7	4	3.5	12	1582.82	6.83	2.35	209	272
Pilot Study	09/11/08	180	3	4.3	22	18	1582.45	6.39	1.87	229	487
Pilot Study	10/09/08	150	3	<2.0	<0.75	14	1582.71	6.56	2.57	195	616
Qtr	11/21/2008	99	2.7	<2.0	<0.75	10	1582.59	7.08	1.55	150	633
Pilot Study	12/17/2008	120	5.4	<2.0	<0.75	14	1582.39	7.05	2.11	149	657
Qtr	2/11/2009	78	2.4	1.7	2.1	29	1582.41	7.43	1.37	225	426
Qtr	5/21/2009	63	3.5	1.3	0.72	49	1582.97	8.63	2.1	172	400
Pilot Study	8/5/2009	180	1.7	6.8	43	91	1582.26	5.98	2.9	181	512
Qtr	11/19/2009	8.6	<0.5	0.85	2.2	45	1582.67	6.28	2.1	182	494
	02/25/10	14	<0.5	0.85	0.35	41	1582.45	6.62	1.98	217	5.9
	05/11/10	11	0.25	0.41	0.24	26	1582.67	6.89	1.47	244	386
	10/25/10	6.5	<0.5	<0.5	1.4	41	1583.43	6.28	2.14	143	313
	04/26/11	6.7	<0.50	0.56	3.5	8.3	1583.05	7.44	2.27	87	249
	10/28/11	130	1.3	<0.50	12	110	1583.00	7.30	2.07	137	362
	04/27/12	10	<0.25	<0.17	0.50	16	1583.07	7.32	2.39	141	328
	01/08/14	33	2.0	0.55	5.0	91	1583.19	6.78	2.19	152	395
	04/10/14	30	1.2	<0.17	1.1	19	1583.42	6.82	2.34		237
	10/28/14	48	1.5	<0.17	0.38	55	1583.62	6.25	1.11		257
	04/27/15	23	1.4	<0.17	1.1	19	1583.11	6.67	1.96		255
	10/20/15	<0.42	2.3	<0.37	24	46	1583.29	6.58	1.95	187	450
	05/25/16	19	<0.35	<0.37	0.52	19	1583.39	6.48	2.15	238	164
	11/16/16	64	2.3	<0.37	<0.16	42	1583.43	7.19	1.65	182	267

TABLE 2  
Groundwater Sample Analytical Results  
Minocqua Cleaners  
Minocqua, WI

Analyte	Sampling Date	Cis-1,2-	Trans-1,2-	Tetrachloro-	Trichloro	Vinyl	GW Elevation	pH	DO	Redox	Conductivity
		Dichloroethylene	Dichloroethylene	ethene	ethene	Chloride					
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
Top of Casing Elevation = 1591.42 ft MSL											
MW-18 (17')	11/01/93	44	0.93	2200	200	ND					
	01/01/94	ND	ND	8000	530	ND					
	07/01/94	15	ND	75	13	ND					
	01/01/95	6.3	ND	4.2	21	ND					
	06/01/95	ND	ND	4.1	1600	950					
	01/01/96	6.7	ND	110	100	ND					
	06/06/96	3.9	ND	51	34	ND					
	01/01/97	16	ND	500	130	ND					
	10/01/97	20	ND	290	150	ND					
	04/01/98	3.3	ND	37	13	ND					
	11/01/98	24	0.84	41	43	ND					
	06/01/99	19	ND	5.1	28	ND					
	12/01/99	Not Sampled because well was bent in collision									
	06/01/00	220	3.3	4.9	43	1.7					
	01/01/01	9.9	ND	34	76	ND					
	12/01/01	<0.50	ND	3.4	1.8	ND					
	06/01/02	1	ND	5.2	3.6	ND					
	12/01/02	1.9	ND	6.5	6	1.2					
	11/01/03	1.3	ND	1.6	1.1	ND					
	12/07/04	1.1	<0.4	5.7	2	0.43	1582.96	8.41	1.33	42	475.8
	03/22/05	1.6	<0.6	4.5	2.9	0.66	1581.92	8.69	1.98	52	479.8
	08/31/05	670	7.7	470	2700	1.3	1582.13	6.50	1.11	292	328
	02/14/06	2.9	<0.6	6.8	7.7	0.39	1581.88	7.25	1.93	158	280.7
	05/22/06	1.2	<0.4	3.1	2.2	1.7	1582.47	7.22	2.37	155	339.9
	08/08/06	37	<0.4	7.7	83	1.7	1582.44	7.48	1.89	256	431
	11/29/06	250	1.8	16	140	4	1582.45	7.00	1.51		305
	02/26/07	27	<0.4	1.2	2.4	7.1	1582.60	6.75	1.29	361	595
	05/23/07	<0.4	<0.5	1.8	0.27	0.8	1582.90	7.68	1.93		573
	08/22/07	110	1.1	3	22	11	1582.35	5.88	1.46	204	309
	11/29/07	0.4	<0.5	2.5	1.3	0.89	1582.62	6.56	1.84	304	793
Qtr	07/29/08	18	<0.5	3.1	2.5	1.9	1582.53	6.91	2.22	346	506
Pilot Study	09/11/08	490	5.3	3.3	23	24	1582.23	7.15	2.15	375	293
Pilot Study	10/09/08	4.4	<0.5	4.3	1.5	5.9	1582.46	6.92	2.27	425	600
Qtr	11/21/2008	1.3	<0.5	1.5	0.69	2.1	1582.25	7.23	1.62	191	638
Pilot Study	12/17/2008	3.0	<0.50	1.1	0.54	1.9	1582.16	7.29	1.28	304	597
Qtr	2/11/2009	<0.4	<0.5	3.7	<0.15	<0.15	1581.86	7.48	1.61	354	255
Qtr	5/21/2009	<0.4	<0.5	3	<0.15	<0.15	1582.61	7.96	2.16	237	320
Pilot Study	8/5/2009	320	3.5	2.1	25	13	1582.09	6.05	2.37	262	331
Qtr	11/19/2009	1.4	<0.5	1.9	0.31	4.9	1582.38	6.28	2.18	288	614
	02/25/10	75	1.1	0.46	0.26	29	1582.27	6.78	1.51	228	558
	05/11/10	0.9	<0.25	0.86	<0.21	1.4	1582.40	7.14	1.32	319	569
	10/25/10	<0.5	<0.5	2.5	1.3	0.54	1583.29	6.42	2.12	172	457
	04/26/11	<0.5	<0.5	<0.50	<0.20	0.21	1582.69	7.68	2.36	197	599
	10/28/11	17	<0.50	<0.50	0.90	3.9	1582.88	6.93	2.13	193	601
	04/27/12	3.7	<0.25	<0.17	0.32	1.7	1582.90	6.99	2.46	189	584
	01/08/14	0.75	<0.25	<0.17	0.39	<0.10	1583.08	6.92	2.07	202	488
	04/10/14	0.79	<0.25	<0.17	<0.19	<0.10	1582.86	6.68	2.28		414
	10/28/14	0.51	<0.25	<0.17	1.4	<0.10	1583.50	6.33	0.9		348
	04/27/15	<0.12	<0.25	<0.17	<0.19	<0.10	1582.88	6.43	2.12		449
	10/20/15	97	<0.35	<0.37	8.0	2.6	1583.18	6.38	2.23	244	466
	05/25/16	<0.41	<0.35	<0.37	<0.16	<0.20	1583.38	6.78	2.16	239	352
	11/16/16	0.52	<0.35	0.91	1.1	<0.20	1583.33	7.24	1.99	219	396
Top of Casing Elevation = 1591.60 ft MSL											
MW-18A	05/25/16	0.91	<0.35	0.86	0.62	<0.20	1583.32	8.07	1.23	-319	321
	11/16/16	<0.41	<0.35	1.3	0.60	<0.20	1583.26	7.76	1.74	115	331

TABLE 2  
Groundwater Sample Analytical Results  
Minocqua Cleaners  
Minocqua, WI

Analyte	Sampling Date	Cis-1,2-	Trans-1,2-	Tetrachloro-	Trichloro-	Vinyl	GW Elevation	pH	DO	Redox	Conductivity
		Dichloroethylene	Dichloroethylene	ethene	ethene	Chloride					
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
Top of Casing Elevation = 1591.73 ft MSL											
MW-19	11/01/93	35	0.65	2.3	12	ND					
(17')	01/01/94	15	ND	18	9	ND					
	07/01/94	360	1.5	53	110	ND					
	01/01/95	ND	ND	16	9.4	0.9					
	06/01/95	ND	ND	680	630	1.7					
	01/01/96	4.1	ND	11	170	ND					
	06/06/96	64	72	230	37	ND					
	01/01/97	13	ND	39	11	ND					
	10/01/97	150	5.5	54	50	ND					
	04/01/98	120	2.8	42	38	ND					
	11/01/98	200	5	45	83	ND					
	06/01/99	390	ND	280	210	ND					
	12/01/99	450	ND	52	120	ND					
	06/01/00	580	<7.4>	140	160	ND					
	01/01/01	<0.33>	ND	1.6	<0.35>	ND					
	12/01/01	0.91	ND	8.4	1.2	ND					
	06/01/02	93	ND	67	23	ND					
	12/01/02	55	ND	35	16	ND					
	11/01/03	14	ND	3.4	11	ND					
	12/07/04	68	0.64	71	20	<0.3	1582.89	8.85	1.89	-8	262.7
	03/23/05	250	3.6	250	92	<0.24	1581.85	8.84	1.95	27	461.8
	09/01/05	320	<12	41	95	<2.4	1582.20	6.47	1.91	307	185.3
	02/15/06	220	<12	45	66	<2.4	1581.85	7.26	1.38	159	190.3
	05/23/06	270	<4.0	45	55	<1.5	1582.43	7.12	1.27	154	171.1
	08/08/06	370	<4.0	34	79	2.9	1582.47	7.25	1.79	311	215
	11/29/06	400	6.7	23	110	8.1	1582.45	6.95	1.56		226
	02/26/07	130	3.9	6.3	46	3.9	1582.77	6.77	1.84	267	288
	05/23/07	170	4.2	21	51	3.5	1583.01	7.52	1.97		267
	08/22/07	70	2.6	6.6	26	3	1582.52	6.05	2.3	311	192
	11/29/07	65	2	7.3	17	1.7	1582.69	6.36	1.91	255	263
Qtr	07/29/08	56	1.8	5.6	13	1.6	1582.69	6.95	1.98	288	179
Pilot Study	09/11/08	40	<1.0	0.81	7.6	1.1	1582.40	6.93	1.85	145	366
Pilot Study	10/09/08	40	<1.0	<0.8	1.5	0.83	1582.57	6.92	2.14	112	995
Qtr	11/21/2008	33	<1.0	0.81	1	1.5	1582.34	7.30	1.5	114	634
Pilot Study	12/17/2008	13	<1.0	<0.80	0.64	<0.30	1582.28	7.27	1.82	98	607
Qtr	2/11/2009	23	<0.5	4.9	2.8	<0.15	1581.87	7.38	1.92	117	473
Qtr	5/21/2009	28	<0.5	4.5	4.1	0.9	1582.66	8.55	1.7	226	427
Pilot Study	8/5/2009	45	0.65	0.81	1.4	3.6	1582.27	5.99	2.16	190	391
Qtr	11/19/2009	35	0.69	3.1	3	8.9	1582.45	6.31	1.73	181	382
	02/25/10	32	0.68	1.3	2.3	11	1582.35	6.70	2.04	165	403
	05/11/10	51	1	4.7	4.9	14	1582.48	6.85	2.14	157	419
	10/25/10	61	0.88	0.67	2.7	19	1583.32	6.39	2.07	133	410
	04/26/11	74	0.97	5.8	24	12	1582.66	7.36	2.1	98	405
	10/28/11	110	1.2	<0.50	4.2	22	1582.92	7.24	1.54	142	451
	04/27/12	46	1.0	<0.17	1.2	110	1582.89	7.17	2.14	138	439
	01/08/14	120	1.4	<0.17	3.2	23	1583.10	6.82	2.15	138	391
	04/10/14	48	0.58	<0.17	2.0	13	1582.64	6.79	2.14		291
	10/28/14	290	3.5	<0.17	20	32	1583.51	6.14	1.16		335
	04/27/15	170	2.5	1.3	30	26	1582.89	6.69	2.25		443
	10/20/15	110	1.5	<0.37	4.6	24	1583.24	6.23	2.26	198	401
	05/25/16	10	<0.35	1.2	2.6	98	1583.40	6.51	2.28	252	282
	11/16/16	<0.42	2.7	1.2	45	31	1583.39	6.97	1.51	172	357
Top of Casing Elevation = 1592.04 ft MSL											
MW-19A	05/25/16	<0.41	<0.35	<0.37	<0.16	<0.20	1583.37	7.85	2.27	-221	237
	11/16/16	<0.41	<0.35	<0.37	<0.16	<0.20	1583.40	7.83	2.07	102	212
Top of Casing Elevation = 1593.78 ft MSL											
MW-20	07/29/08	<0.4	<0.5	<0.4	<0.15	<0.15	1584.10	7.18	1.88	296	152
(16.5')	9/11/2008	<0.4	<0.5	<0.4	<0.15	<0.15	1583.77	7.27	1.47	149	137
	10/9/2008	<0.4	<0.5	1.4	<0.15	<0.15	1583.90	7.48	1.48	111	139
	11/21/2008	<0.4	<0.5	<0.4	<0.15	<0.15	1583.65	8.26	0.99	297	134
	12/17/2008	No VOC sample					1583.58	7.81	1.17	85	136
	2/11/2009	<0.4	<0.5	<0.4	<0.15	<0.15	1583.17	7.58	1.36	322	135
	5/21/2009						1583.94	7.07	1.03	351	164
	8/5/2009						1583.64	6.74	2.04	374	154
	05/11/10	<0.25	<0.25	0.56	<0.21	<0.22	1583.76	7.51	1.84	132	144
	10/25/10	<0.5	<0.5	1.8	<0.2	<0.2	1584.60	6.83	2.18	216	197
	10/28/11	<0.50	<0.50	0.78	<0.20	<0.20	1584.20	6.82	1.74	225	139
	04/27/12	<0.12	<0.25	4.6	<0.19	<0.10	1584.16	6.89	2.02	221	142
	01/08/14	<0.12	<0.25	0.58	0.28	<0.10	1584.35	6.81	2.13	229	129
	04/27/15	<0.12	<0.25	<0.17	<0.19	<0.10	1584.10	6.61	2.22		141
	05/25/16	<0.41	<0.35	3.2	<0.16	<0.20	1584.52	7.14	2.25	362	211

**TABLE 2**  
**Groundwater Sample Analytical Results**  
**Minocqua Cleaners**  
**Minocqua, WI**

Analyte	Sampling Date	Cis-1,2-	Trans-1,2-	Tetrachloro-	Trichloro-	Vinyl	GW	pH	DO	Redox	Conductivity
		Dichloroethylene	Dichloroethylene	ethene	ethene	Chloride	Elevation				
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
Top of Casing Elevation = 1591.51 ft MSL											
MW-21	07/29/08	<b>77</b>	10	<b>23</b>	<b>6.8</b>	<b>0.49</b>	1580.70	7.18	1.88	296	152
(15')	9/11/2008	<b>430</b>	3.5	<b>35</b>	<b>37</b>	<b>3</b>	1580.61	6.83	2.33	220	212
Pilot Study	10/9/2008	<b>490</b>	<10	<b>36</b>	<b>42</b>	<b>6.2</b>	1580.90	6.81	2.42	242	226
Qtr	11/21/2008	<b>450</b>	<10	<b>32</b>	<b>42</b>	<3.0	1580.80	7.58	1.56	253	208
Pilot Study	12/17/2008	<b>500</b>	<10	<b>36</b>	<b>58</b>	<3.0	1580.57	7.68	2.02	234	205
Qtr	2/11/2009	<b>98</b>	1.1	<b>21</b>	<b>12</b>	<0.15	1580.44	7.63	2.03	301	212
Qtr	5/21/2009	<b>50</b>	<0.5	<b>9.3</b>	<b>3.4</b>	<b>3</b>	1581.40	7.39	2.01	325	240
Pilot Study	8/5/2009	<b>91</b>	1.1	<b>18</b>	<b>5</b>	<b>1.6</b>	1580.99	5.84	2.92	441	267
Qtr	11/19/2009	<b>600</b>	12	<b>32</b>	<b>15</b>	<b>12</b>	1581.34	6.27	1.94	388	225
	02/25/10	<b>480</b>	7.4	<b>24</b>	<b>7.9</b>	<b>20</b>	1581.35	7.15	2.61	173	224
	05/11/10	<b>530</b>	5.3	<b>18</b>	<b>7.1</b>	<b>29</b>	1581.50	7.29	2.29	276	221
	10/25/10	9.7	<0.5	<b>10</b>	0.54	<b>0.89</b>	1582.37	6.28	1.86	317	142
	04/26/11	<b>73</b>	1.2	<b>41</b>	<b>5.3</b>	<b>22</b>	1581.77	7.22	2.17	318	163
	10/28/11	<b>75</b>	1.1	<b>14</b>	1.3	<b>28</b>	1582.09	6.83	2.57	312	150
	04/27/12	23	<0.25	<b>9.9</b>	0.53	<b>4.3</b>	1582.22	6.91	2.23	315	152
	01/09/14	1.3	<0.25	<b>19</b>	0.75	<0.10	1582.83	7.05	2.21	319	192
	04/10/14	0.89	<0.25	<b>35</b>	1.1	<0.10	1582.99	6.77	2.24		432
	10/28/14	<0.12	<0.25	3.4	<0.19	<0.10	1583.56	6.17	0.89		203
	04/27/15	<0.12	<0.25	<b>22</b>	0.87	<0.10	1582.71	6.47	2.34		220
	10/20/15	4.6	<0.35	<b>13</b>	0.80	<b>1.2</b>	1582.97	6.05	2.51	405	125
	05/25/16	<0.41	<0.35	<b>6.3</b>	<0.16	<0.20	1584.42	6.37	2.20	443	92
	11/16/16	<0.41	<0.35	<b>10</b>	<0.16	<0.20	1583.02	7.75	1.71	379	112
Top of Casing Elevation = 1592.66 ft MSL											
MW-21A	07/29/08	4.6	<0.5	0.91	0.23	<b>0.34</b>	1582.73	7.89	1.59	25	209
(42')	9/11/2008	8.5	<0.5	1.2	1.4	<b>0.97</b>	1579.13	7.92	1.12	243	208
Pilot Study	10/9/2008	14	<0.5	2	3.3	<b>1.4</b>	1579.24	7.98	2.04	226	215
Qtr	11/21/2008	4.6	<0.5	1.7	2.5	<0.15	1576.29	8.51	1.35	303	222
Pilot Study	12/17/2008	2.9	<0.50	1.5	2.1	<0.15	1579.44	8.49	1.30	2.08	213
Qtr	2/11/2009	16	<0.50	1.4	1.9	<b>1.3</b>	1579.08	7.67	2.13	213	220
Qtr	5/21/2009	9.2	<0.5	0.99	1.1	<b>1</b>	1579.75	7.65	2.02	188	217
Pilot Study	8/5/2009	31	0.6	1.1	1.8	<b>5.5</b>	1579.49	7.52	1.41	263	217
Qtr	11/19/2009	22	<0.5	1.7	<b>5</b>	<b>3.1</b>	1578.31	7.92	1.97	387	219
	02/25/10	5.2	<0.5	0.85	1.3	<b>0.49</b>	1578.81	7.93	2.35	137	215
	05/11/10	5.9	<0.25	0.7	0.91	<b>0.74</b>	1580.05	8.67	2.24	147	220
	10/25/10	14	<0.5	0.53	0.71	<b>3.4</b>	1581.00	7.77	2.02	249	238
	04/26/11	8.0	<0.50	2.9	3.3	<b>1.4</b>	1582.24	8.07	1.93	143	285
	10/28/11	5.8	<0.50	1.9	2.3	<b>0.97</b>	1579.50	6.8	1.81	198	283
	04/27/12	12	<0.25	2.3	2.8	<b>1.8</b>	1577.42	6.89	1.89	202	282
	01/09/14	3.4	<0.25	0.55	0.92	<0.10	1581.43	7.05	2.21	319	192
	04/10/14	2.3	<0.25	1.1	1.2	<0.10	1580.98	6.75	1.91		392
	10/28/14	5.8	<0.25	0.55	0.91	<0.10	1582.15	7.22	0.81		314
	04/27/15	8.0	<0.25	<0.17	1.7	<b>1.5</b>	1581.12	6.83	2.47		369
	10/20/15	18	<0.35	4.5	4.8	<b>3.1</b>	1581.93	7.29	1.17	331	348
	05/25/16	46	<0.35	2.2	<b>6.9</b>	<b>4.0</b>	1581.70	7.48	1.25	338	359
	11/16/16	31	0.52	1.4	2.8	<b>3.2</b>	1581.47	7.48	1.85	309	356

**TABLE 2**  
**Groundwater Sample Analytical Results**  
**Minocqua Cleaners**  
**Minocqua, WI**

Analyte	Sampling Date	Cis-1,2-Dichloroethylene	Trans-1,2-Dichloroethylene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride	GW Elevation	pH	DO	Redox	Conductivity
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
GW Outfall (Discharge)	Mar-96			3.6	5.2						
	Jun-96			4.6	4.9						
	Sep-96			5.6	nd						
	Dec-96			2.5	3.9						
	Mar-97			2.4	nd						
	Jul-97			2.6	4.3						
	Sep-97			3.6	nd						
	Dec-97			2.1	4.3						
	Mar-98			1.8	nd						
	Jun-98			1.6	2.7						
	Sep-98			1.2	nd						
	Dec-98			1.6	2.7						
	Mar-99			1.5	nd						
	Jun-99			1.3	2.4						
	Sep-99			1.4	nd						
	Dec-99			1	2.7						
	Apr-00			0.96	nd						
	Jun-00			1.1	3						
	Sep-00			2.5	nd						
	Dec-00			1.8	3.8						
	Mar-01			1.6	nd						
	Jun-01			3	4.4						
	Oct-01			1.2	nd						
	Dec-01			1.1	2.5						
	Mar-02			1.1	2.5						
	Jun-02			1	2.8						
	Sep-02			0.6	1.3						
	Dec-04			0.34	1.2						
	10/25/10	2.7	<0.5	1.1	1.4	<0.2					
	04/26/11	2.9	<0.50	1.8	2.0	<0.20		8.29	5.53	284	316
	10/27/11	1.8	<0.50	0.95	1.1	<0.20		6.97	1.67	243	337
	04/27/12	2.0	<0.25	0.61	0.69	<0.10		7.21	4.97	213	329
	01/09/14	1.2	<0.25	0.53	0.93	<0.10		7.07	3.27	251	334
	04/10/14	1.1	<0.25	<0.17	0.65	<0.10		6.7	4.77		258
	10/28/14	1.2	<0.25	0.47	0.75	<0.10		7.12	1.47		220
	04/27/15	1.7	<0.25	<0.17	0.96	<0.10		6.61	3.55		247
	10/20/15	2.0	<0.35	<0.37	1.0	<0.20		7.77	4.81	253	355
	05/25/16	<0.41	<0.35	<0.37	<0.16	<0.20		8.15	4.09	388	380
	11/16/16	2.1	<0.35	0.60	0.92	<0.20		7.45	4.61	117	365

TABLE 2  
Groundwater Sample Analytical Results  
Minocqua Cleaners  
Minocqua, WI

Analyte	Sampling Date	Cis-1,2-Dichloroethylene	Trans-1,2-Dichloroethylene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride	GW Elevation	pH	DO	Redox	Conductivity
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
LSD	07/09/84		<1.0	<1.0	<1.0		sampled by Lakeland SD				
Well-3	08/07/84			62	4		sampled by Lakeland SD				
	08/21/84			12	<1.0		sampled by Lakeland SD				
	05/27/86		<1.0	<1.0	<1.0	<7.0	sampled by Lakeland SD				
	06/09/86		<1.0	<1.0	<1.0	<7.0	sampled by Lakeland SD				
	10/19/87		<0.1	<0.1	<0.1		sampled by Lakeland SD				
	06/25/90	<0.5	<0.5	<0.2	<0.2	<0.2	sampled by Lakeland SD				
	02/27/91	<0.5	<0.5	<0.5	<0.2	<0.2	sampled by Lakeland SD				
	06/28/91	<0.5	<0.5	<0.5	<0.2	<0.2	sampled by Lakeland SD				
	03/22/92	<0.5	<0.5	<0.5	<0.2	<0.2	sampled by Lakeland SD				
	06/10/92	<0.5	<0.5	<0.5	<0.2	<0.2	sampled by Lakeland SD				
	09/30/02	<0.5	<0.5	<0.5	<0.2	<0.2	sampled by Lakeland SD				
	11/10/93	<0.1	<0.1	<0.5	<0.5	<0.2	sampled by Lakeland SD				
	07/06/94	<0.1	<0.1	<0.2	<0.1	<0.2	sampled by Lakeland SD				
	08/15/95	0.5	<0.1	2.8	2.1	<0.2	sampled by Lakeland SD				
	03/25/96	0.87	<0.1	3.4	3.6	<0.2	sampled by Lakeland SD				
	06/01/96	0.67	ND	3.1	3.4	ND					
	06/07/96	0.67	<0.1	3.1	3.4	<0.2	sampled by Lakeland SD				
	08/27/96	0.5	<0.1	<0.2	2.2	<0.2	sampled by Lakeland SD				
	12/16/96	0.24	<0.1	0.9	1	<0.2	sampled by Lakeland SD				
	01/01/97	ND	ND	1.5	1.4	ND					
	03/03/97	0.16	<0.1	0.52	0.46	<0.2	sampled by Lakeland SD				
	06/02/97	0.11	<0.1	0.33	0.34	<0.2	sampled by Lakeland SD				
	09/12/97	<0.1	<0.1	0.17	0.16	<0.2	sampled by Lakeland SD				
	10/01/97	ND	ND	1.5	0.32	ND					
	12/11/97	<0.1	<0.1	0.13	0.16	<0.2	sampled by Lakeland SD				
	03/03/98	<0.1	<0.1	<0.2	<0.1	<0.2	sampled by Lakeland SD				
	06/25/98	<0.1	<0.1	<0.2	<0.1	<0.2	sampled by Lakeland SD				
	09/01/98	ND	ND	ND	ND	ND					
	09/22/98	<0.1	<0.1	<0.2	<0.1	<0.2	sampled by Lakeland SD				
	11/01/98	ND	ND	0.17	0.19	ND					
	12/14/98	<0.1	<0.1	<0.2	<0.1	<0.2	sampled by Lakeland SD				
	03/16/99	<0.1	<0.1	<0.2	<0.1	<0.2	sampled by Lakeland SD				
	06/01/99	ND	ND	ND	ND	ND					
	12/01/99	ND	ND	<0.26>	ND	ND					
	01/25/00	<0.1	<0.1	<0.2	<0.1	<0.2	sampled by Lakeland SD				
	06/01/00	ND	ND	ND	<0.17>	ND					
	01/01/01	ND	<0.41>	<0.43>	ND	ND					
	01/24/01	<0.1	<0.1	0.35	0.32	<0.2	sampled by Lakeland SD				
	12/01/01	ND	ND	<0.23>	<0.31>	ND					
	02/05/02	<0.1	<0.1	<0.2	0.18	<0.2	sampled by Lakeland SD				
	06/02/02	ND	ND	<0.23>	<0.38>	ND					
	12/02/02	<0.44>	ND	0.56	1.2	ND					
	03/11/03	<0.1	<0.1	<0.2	0.77	<0.2	sampled by Lakeland SD				
	07/30/03	0.75	<0.1	0.66	1.7	<0.2	sampled by Lakeland SD				
	11/01/03	[0.59]	ND	0.59	1.4	ND					
	11/26/03	0.55	<0.37	0.63	1.4	<0.12	sampled by Lakeland SD				
	03/01/04	0.78	<0.1	0.71	1.7	<0.2	sampled by Lakeland SD				
	04/26/04	0.73	<0.1	0.59	1.4	<0.2	sampled by Lakeland SD				
	08/24/04	0.47	<0.1	0.44	1	<0.2	sampled by Lakeland SD				
	11/03/04	0.95	<0.1	0.93	2	<0.2	sampled by Lakeland SD				
	12/06/04	0.61	<0.4	0.64	1	<0.3					
	02/14/05	1.7	<0.17	1.8	3.6	<0.17	sampled by Lakeland SD				
	03/09/05	1.3	<0.17	1.4	2.7	<0.15	sampled by Lakeland SD				
	03/23/05	1.2	<0.6	0.93	2.2	<0.12	8.52	3.41	291	308.3	
	04/25/05	0.87	<0.17	0.85	1.7	<0.17	sampled by Lakeland SD				
	08/09/05	[0.57]	<0.58	[0.46]	1	<0.54	sampled by Lakeland SD				
	09/01/05	<0.60	<0.60	0.48	1.1	<0.12	7.35	2.22	234	278.7	
	02/15/05	<0.6	<0.6	<0.4	<0.15	<0.12	7.77	2.49	156	284.8	
	03/06/06	1.8	<0.17	1.1	2	0.17	sampled by Lakeland SD				
	04/17/06	0.64	<0.17	0.47	0.88	<0.17	sampled by Lakeland SD				
	05/23/06	0.51	<0.4	0.43	0.58	<0.15	8.06	2.29	158	296.1	
	08/08/06	0.9	<0.40	1	1.4	<0.15	8.81	2.72	176	359	
	11/29/06	<0.4	<0.4	<0.29	<0.15	<0.15	7.36	1.71			
	02/21/07	<0.26	<0.23	<0.19	<0.22	<0.12	sampled by Lakeland SD				
	02/26/07	<0.4	<0.4	<0.29	<0.15	<0.15	7.95	2.96	293	224	
	05/22/07	<0.4	<0.5	<0.4	<0.15	<0.15	7.46	1.31		237	
	08/22/07	<0.4	<0.5	<0.4	<0.15	<0.15	7.23	3.9	211	361	
	11/29/07	<0.4	<0.5	<0.4	<0.15	<0.15	7.73	2.22	319	386	
	07/29/08	<0.4	<0.5	<0.4	<0.15	<0.15	7.83	3.08	209	397	
	11/20/08	<0.4	<0.5	<0.4	<0.15	<0.15	8.54	1.74	334	413	
	02/11/09	<0.4	<0.5	<0.4	<0.15	<0.15					
	05/21/09	<0.4	<0.5	<0.4	<0.15	<0.15	6.64	2.79	353	382	
	08/05/09	<0.4	<0.5	<0.4	<0.15	<0.15	7.27	2.56	229	384	
	11/19/09	<0.4	<0.5	<0.4	<0.15	<0.15	7.52	2.52	209	389	
	02/25/10	<0.4	<0.5	<0.4	<0.15	<0.15	7.55	2.19	169	406	
	05/12/10	<0.25	<0.25	<0.3	<0.21	<0.22	805	1.47	244	386	
	10/25/10	<0.5	<0.5	<0.5	<0.2	<0.2	7.75	2.17	142	425	

continued on next page



**TABLE 2**  
**Groundwater Sample Analytical Results**  
**Minocqua Cleaners**  
**Minocqua, WI**

Analyte	Sampling Date	Cis-1,2-Dichloroethylene	Trans-1,2-Dichloroethylene	Tetrachloro-ethene	Trichloro-ethene	Vinyl Chloride	GW Elevation	pH	DO	Redox	Conductivity
ES		70	100	5	5	0.2					
PAL		7	20	0.5	0.5	0.02					
Well-3 (cont.)											
	04/26/11	<0.5	<0.5	<0.5	<0.20	<0.20		8.17	2.95	117	379
	10/28/11	<0.50	<0.50	<0.50	<0.20	<0.20		6.89	2.14	183	447
	04/27/12	<0.12	<0.25	<0.17	<0.19	<0.10		7.18	2.42	158	429
	01/09/14	<0.12	<0.25	<0.17	<0.19	<0.10		7.16	2.41	178	396
	04/10/14	<0.12	<0.25	<0.17	<0.19	<0.10		7.06	2.46		389
	10/28/14	<0.12	<0.25	<0.17	<0.19	<0.10		7.47	1.52		321
	04/28/15	<0.12	<0.25	<0.17	<0.19	<0.10		6.84	2.46		359
	10/20/15	<0.41	<0.35	<0.37	<0.16	<0.20		7.8	2.07	165	424
	05/25/16	<0.41	<0.35	<0.37	<0.16	<0.20		7.97	2.32	280	432
	11/17/16	<0.41	<0.35	<0.37	<0.16	<0.20		7.83	2.53	310	427

Notes: Concentrations are in ug/L  
MSL - mean sea level

**Table 3 - Vapor Sampling Results  
Minocqua Cleaners, Minocqua, WI**

Location	V-1	DNR VRSL	V-2	DNR VRSL
Type of Sample	Subslab	Residential - Subslab	Deep Soil Probe	Residential Indoor Air
cis -1,2-Dichloroethene	<9.7		<2.4	
1,1-Dichloroethene	<5.5	7000	<1.3	210
Tetrachloroethene	<b>8100</b>	1400	21	42
trans-1,2-Dichloroethene	<8.1		<2.0	
Trichloroethene	8.8J	70	2.5J	2.1
Vinyl Chloride	<7.4	57	<1.8	1.7

Samples V-1 and V-2 were collected in July 2016.

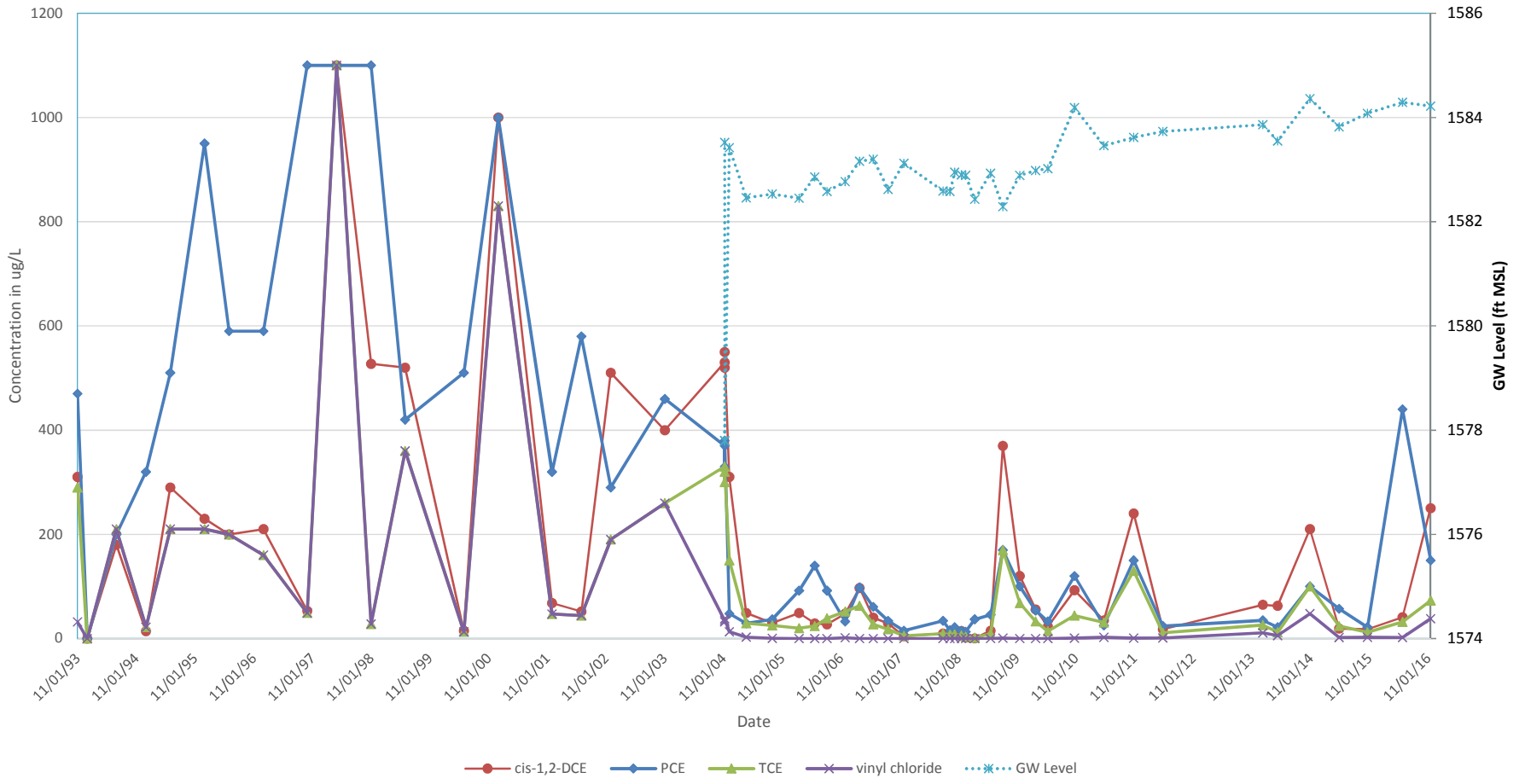
All concentrations are in ug/m<sup>3</sup> (micrograms per cubic meter of air).

VRSL - Vapor risk action level (from: May 2016 WDNR Quick Look-Up Table)

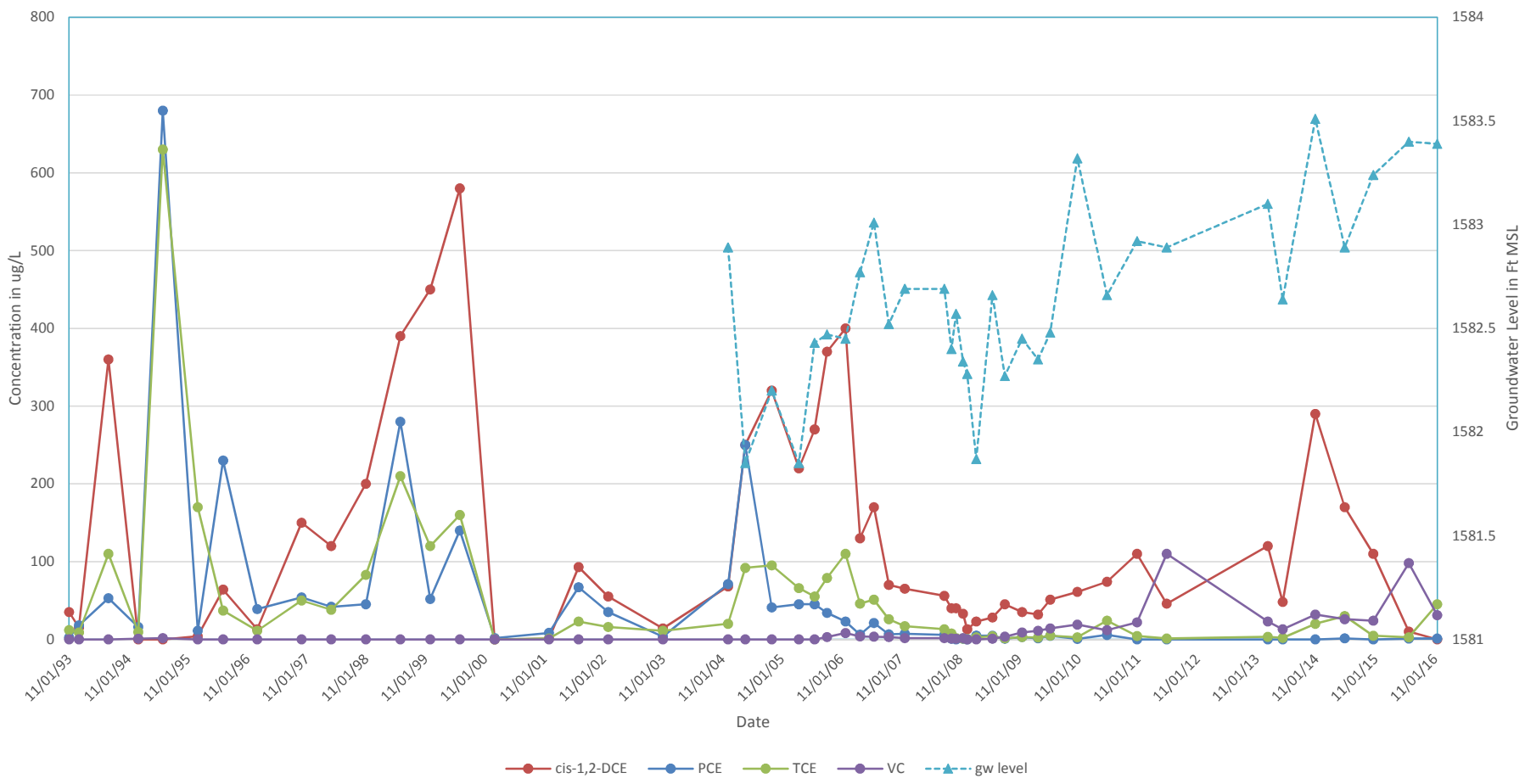
J = concentration is between reporting limit and method detection limit, and the concentration is approximate

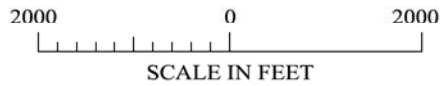
Concentrations in red and bold text exceed a Wisconsin DNR VRSL.

Concentrations vs. Time Well B-13, Minocqua Cleaners



Concentrations vs. Time Well MW-19, Minocqua Cleaners





Woodruff & Hazelhurst Quadrangle  
 Wisconsin - Onedia County  
 7.5 Minute Series (Topographic)

Contour Interval 10 Feet  
 1982

FIGURE 1  
 SITE LOCATION MAP  
 Minocqua Cleaners  
 Minocqua, WI



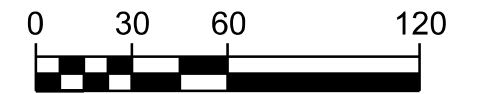
TRANSPORTATION • MUNICIPAL  
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 715-362-3244 1-800-844-7854 Fax: 715-362-4116  
 Web Address: www.msa-ps.com  
 MSA PROFESSIONAL SERVICES



**LEGEND**

- MONITORING WELL
- EXTRACTION WELL
- ABANDONED EXTRACTION WELL
- VAPOR SAMPLE LOCATION

V-1 = SUBSLAB  
V-2 = DEEP SOIL PROBE



**FIGURE 2**

**SITE LAYOUT MAP**

MINOCQUA CLEANERS  
MINOCQUA, WI



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DRAWN BY CAR	DATE 4/2017	SHEET NO.
CHECKED BY JE	SCALE AS SHOWN	FILE NO. 8267007 F2 SITE

CHICAGO AVENUE

MANITOWISH ST

PINE ST

ST. GERMAIN ST

TREATMENT DISCHARGE TO LAKE

FORMER DRY CLEANING BUILDING (JACK MAHONEY)

GARAGE

ZENTNER

RISTO

SHED





SCHILLING

YELTON

MUNICIPAL WELL #3

MUNICIPAL WELL #4

LEGEND

-  MONITORING WELL
-  EXTRACTION WELL
-  ABANDONED EXTRACTION WELL
-  VAPOR SAMPLE LOCATION

V-1 = SUBSLAB  
V-2 = DEEP SOIL PROBE

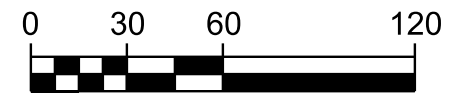


FIGURE 3

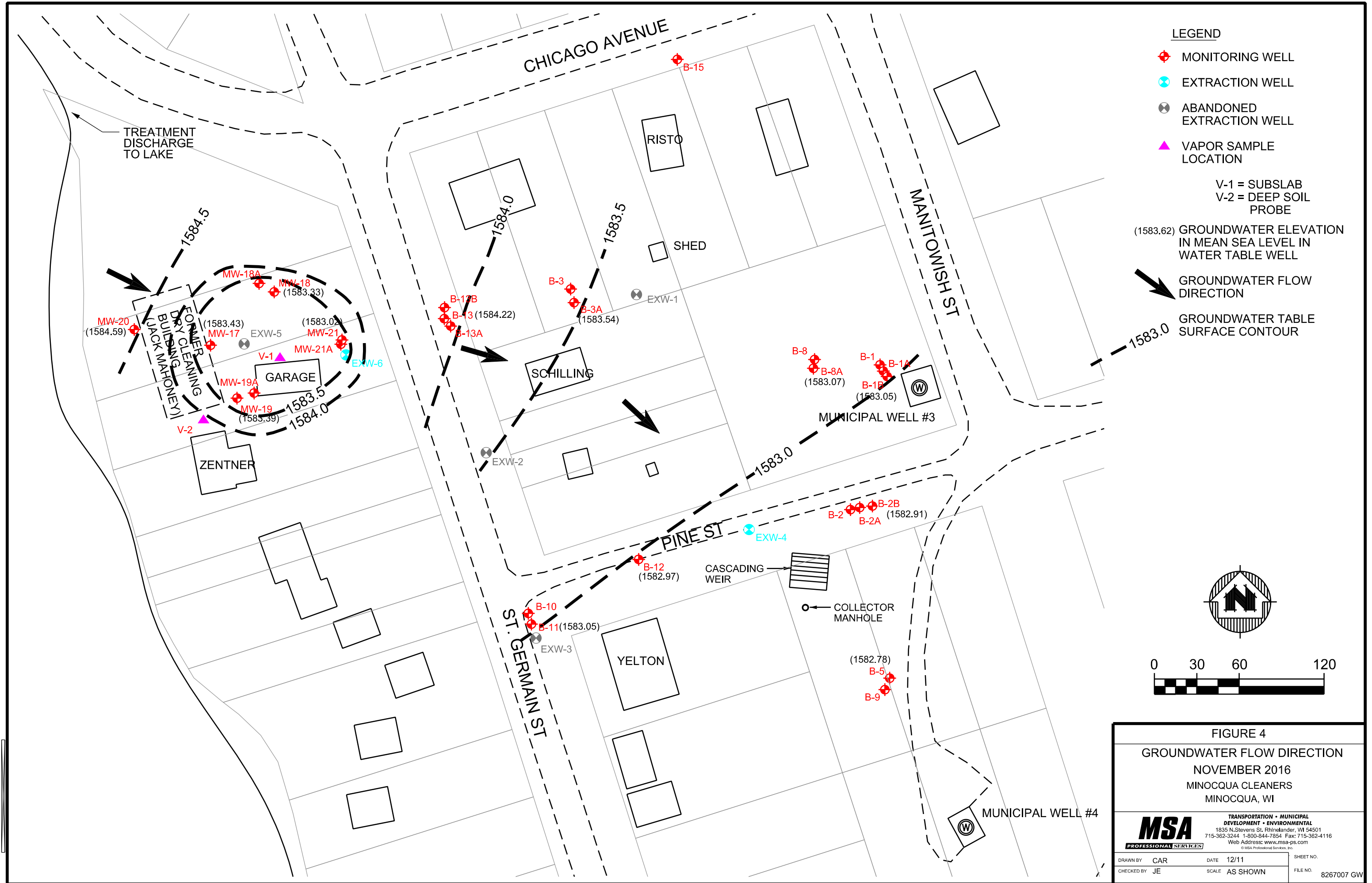
WELL LOCATION MAP

MINOCQUA CLEANERS  
MINOCQUA, WI



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DRAWN BY	CAR	DATE	12/11	SHEET NO.
CHECKED BY	JE	SCALE	AS SHOWN	FILE NO. 8267007 GW



- LEGEND**
- MONITORING WELL
  - EXTRACTION WELL
  - ABANDONED EXTRACTION WELL
  - VAPOR SAMPLE LOCATION
- V-1 = SUBSLAB  
V-2 = DEEP SOIL PROBE
- (1583.62) GROUNDWATER ELEVATION IN MEAN SEA LEVEL IN WATER TABLE WELL
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER TABLE SURFACE CONTOUR



**FIGURE 4**  
**GROUNDWATER FLOW DIRECTION**  
 NOVEMBER 2016  
 MINOCQUA CLEANERS  
 MINOCQUA, WI

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DRAWN BY CAR	DATE 12/11	SHEET NO.
CHECKED BY JE	SCALE AS SHOWN	FILE NO. 8267007 GW



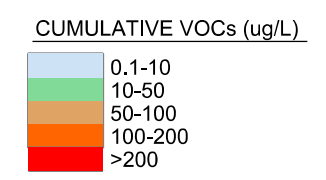
CHICAGO AVENUE

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- ABANDONED EXTRACTION WELL

11/2016	DATE
1.4	TETRACHLOROETHYLENE
2.8	TRICHLOROETHYLENE
31	CIS-1,2-DICHLOROETHYLENE
3.2	VINYL CHLORIDE
38.4	CUMULATIVE

ALL CONCENTRATIONS ARE IN ug/L



CONCENTRATIONS LISTED ARE FROM MOST RECENT ANALYSIS (SEE TABLE 2 FOR ADDITIONAL INFORMATION)

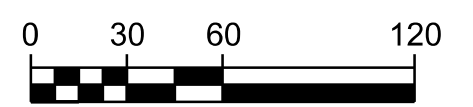


FIGURE 5

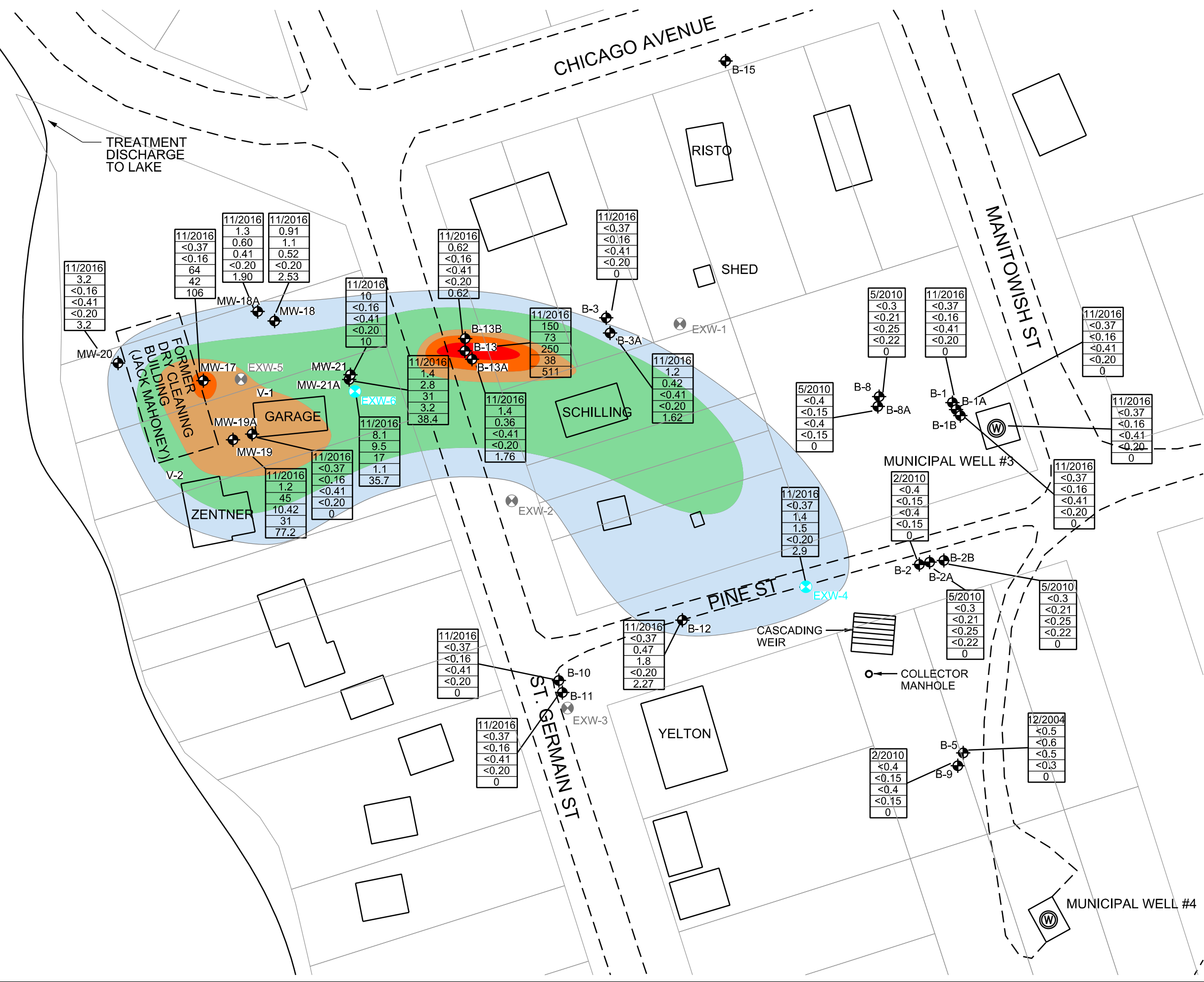
GROUNDWATER CONCENTRATIONS

MINOCQUA CLEANERS  
MINOCQUA, WI



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DRAWN BY	CAR	DATE	4/17	SHEET NO.	8267007
CHECKED BY	JE	SCALE	AS SHOWN	GW concentration	F5 Nov16



8267007 GW concentration F5 Nov16 .dgn 4/7/2017 3:41:50 PM crooyakkers

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <b>Former Minocqua Cleaners</b>		License/Permit/Monitoring Number		Boring Number <b>MW-18A</b>	
Boring Drilled By: Name of crew chief (first, last) and Firm <b>Kevin Hargus Soils and Engineering Services, Inc.</b>		Date Drilling Started <b>5/24/2016</b>		Date Drilling Completed <b>5/24/2016</b>	
WI Unique Well No. <b>VZ492</b>		DNR Well ID No.		Common Well Name <b>MW-18A</b>	
Final Static Water Level <b>1,581.0 Feet MSL</b>		Surface Elevation <b>1,589.5 Feet MSL</b>		Borehole Diameter <b>8.5 inches</b>	
Local Grid Origin <input checked="" type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/>		State Plane <b>N, E S/C/N</b>		Local Grid Location Lat _____ " <input type="checkbox"/> N <input type="checkbox"/> E Long _____ " Feet <input type="checkbox"/> S Feet <input type="checkbox"/> W	
SW 1/4 of NE 1/4 of Section 14, T 39 N, R 6 E		County <b>45</b>		Civil Town/City/ or Village <b>Minocqua</b>	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			0	Sandy topsoil, roots	SM										
			2	Brown, fine to coarse sand, some gravel and silt (less with depth)											
1	24 6		4					0							
2	24		8		SP			0							
3	24		14					0							
			16	Brownish gray fine to coarse sand, trace silt and gravel											
4	24		20		SP			0							
			24												

I hereby certify that the information on this form is true and correct to the best of my knowledge.



Signature <i>Jayne Egelbert</i>	Firm <b>MSA Professional Services, Inc.</b> 1230 South Boulevard Baraboo, WI 53913	Tel: 608-356-2771 Fax: 608-356-2770
------------------------------------	--	--

Boring Number

**MW-18A**

Use only as an attachment to Form 4400-122.

Page **2** of **2**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
5 SS	24		26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58	Brownish gray fine to coarse sand, trace silt and gravel ( <i>continued</i> )	SP			0						

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <b>Former Minocqua Cleaners</b>			License/Permit/Monitoring Number		Boring Number <b>MW-19A</b>	
Boring Drilled By: Name of crew chief (first, last) and Firm <b>Kevin Hargus Soils and Engineering Services, Inc.</b>			Date Drilling Started <b>5/23/2016</b>		Date Drilling Completed <b>5/23/2016</b>	
WI Unique Well No. <b>VX493</b>		DNR Well ID No.	Common Well Name <b>MW-19A</b>		Final Static Water Level <b>1,581.3 Feet MSL</b>	Surface Elevation <b>1,589.8 Feet MSL</b>
				Borehole Diameter <b>8.5 inches</b>		
Local Grid Origin <input checked="" type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/>			State Plane <b>N, E S/C/N</b>		Local Grid Location	
SW 1/4 of NE 1/4 of Section 14, T 39 N, R 6 E			Lat _____ "		Feet <input type="checkbox"/> N <input type="checkbox"/> E	
			Long _____ "		Feet <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County <b>45</b>	County Code	Civil Town/City/ or Village <b>Minocqua</b>		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			0	Dark brownish-black Topsoil, sandy	ML										
			2	Brown fine sand, little silt											
1	24		4		SP			0.1							
			6												
2	24		8	Brownish-gray, fine to medium sand, trace silt, more coarse sand with depth				3.2							
			10												
3	24		14		SP			4.9							
			16												
4	24		20					5.0							
			22												
			24												

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm <b>MSA Professional Services, Inc.</b> 1230 South Boulevard Baraboo, WI 53913	Tel: 608-356-2771 Fax: 608-356-2770
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.



Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

**MONITORING WELL CONSTRUCTION**  
Form 4400-113A Rev. 7-98

Facility/Project Name <b>Former Minocqua Cleaners</b>	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name <b>MW-18A</b>
Facility License, Permit or Monitoring No.	Local Grid Origin <input checked="" type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. _____ Long. _____ or	Wis. Unique Well No. <b>VZ492</b> DNR Well Number
Facility ID	St. Plane _____ ft. N. _____ ft. E. S/C/N	Date Well Installed <b>05/24/2016</b>
Type of Well	Section Location of Waste/Source SW 1/4 of NE 1/4 of Sec. 14, T. 39 N, R. 6 <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: (Person's Name and Firm) <b>Kevin Hargus</b>
Well Code /2	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input checked="" type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number
Distance from Waste/Source <b>0 ft.</b>	Enf. Stds. Apply <input type="checkbox"/>	<b>SES</b>

- A. Protective pipe, top elevation 1591.28 ft. MSL
- B. Well casing, top elevation 1591.60 ft. MSL
- C. Land surface elevation 1589.5 ft. MSL
- D. Surface seal, bottom 1587.0 ft. MSL or 2.5 ft.

12. USCS classification of soil near screen:  
 GP  GM  GC  GW  SW  SP   
 SM  SC  ML  MH  CL  CH   
 Bedrock

13. Sieve analysis attached?  Yes  No

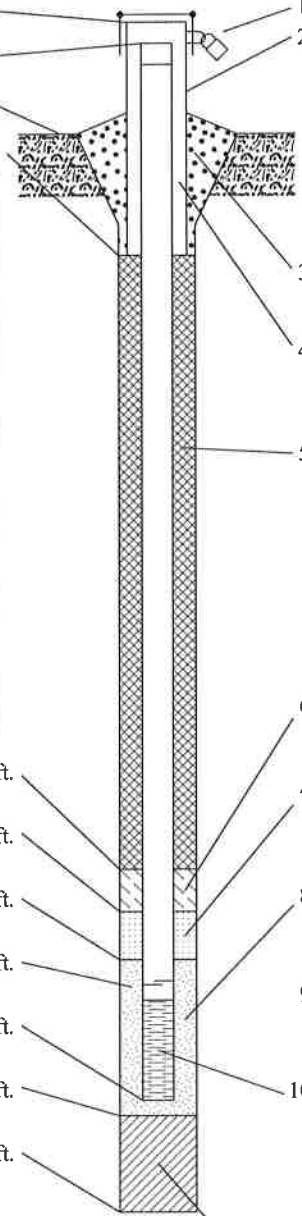
14. Drilling method used: Rotary  5 0  
 Hollow Stem Auger  4 1  
 Other

15. Drilling fluid used: Water  0 2 Air  0 1  
 Drilling Mud  0 3 None  9 9

16. Drilling additives used?  Yes  No  
 Describe \_\_\_\_\_

17. Source of water (attach analysis, if required):  
Minocqua Hydrant

- E. Bentonite seal, top 1587.0 ft. MSL or 2.5 ft.
- F. Fine sand, top \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.
- G. Filter pack, top 1540.5 ft. MSL or 49.0 ft.
- H. Screen joint, top 1535.7 ft. MSL or 53.8 ft.
- I. Well bottom 1530.7 ft. MSL or 58.8 ft.
- J. Filter pack, bottom 1530.7 ft. MSL or 58.8 ft.
- K. Borehole, bottom 1530.5 ft. MSL or 59.0 ft.
- L. Borehole, diameter 8.5 in.
- M. O.D. well casing 2.40 in.
- N. I.D. well casing 2.03 in.



- 1. Cap and lock?  Yes  No
- 2. Protective cover pipe:
  - a. Inside diameter: 4.0 in.
  - b. Length: 7.0 ft.
  - c. Material: Steel  0 4  
Other
  - d. Additional protection?  Yes  No  
If yes, describe: \_\_\_\_\_
- 3. Surface seal: Bentonite  3 0  
Concrete  0 1  
Other
- 4. Material between well casing and protective pipe: Bentonite chips / sand  
Bentonite  3 0  
Other
- 5. Annular space seal:
  - a. Granular/Chipped Bentonite  3 3
  - b. \_\_\_\_\_ Lbs/gal mud weight . . . Bentonite-sand slurry  3 5
  - c. 10 Lbs/gal mud weight . . . Bentonite slurry  3 1
  - d. \_\_\_\_\_ % Bentonite . . . Bentonite-cement grout  5 0
  - e. \_\_\_\_\_ Ft<sup>3</sup> volume added for any of the above
  - f. How installed: Tremie  0 1  
Tremie pumped  0 2  
Gravity  0 8
- 6. Bentonite seal:
  - a. Bentonite granules  3 3
  - b.  1/4 in.  3/8 in.  1/2 in. Bentonite chips  3 2
  - c. 20 lbs Other
- 7. Fine sand material: Manufacturer, product name & mesh size  
 a. \_\_\_\_\_  
 b. Volume added \_\_\_\_\_ ft<sup>3</sup>
- 8. Filter pack material: Manufacturer, product name & mesh size  
 a. #40 Red Flint  
 b. Volume added \_\_\_\_\_ ft<sup>3</sup>
- 9. Well casing: Flush threaded PVC schedule 40  2 3  
 Flush threaded PVC schedule 80  2 4  
 Other
- 10. Screen material: PVC  
 a. Screen Type: Factory cut  1 1  
 Continuous slot  0 1  
 Other
- b. Manufacturer \_\_\_\_\_  
 c. Slot size: 0.010 in.  
 d. Slotted length: 5.0 ft.
- 11. Backfill material (below filter pack): None  1 4  
 Other

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Jayne Eighart Firm **MSA Professional Services, Inc.** Tel: 608-356-2771  
 1230 South Boulevard Baraboo, WI 53913 Fax: 608-356-2770

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <b>Former Minocqua Cleaners</b>	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name <b>MW-19A</b>
Facility License, Permit or Monitoring No.	Local Grid Origin <input checked="" type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. _____ Long. _____ or	Wis. Unique Well No. <b>VX493</b> DNR Well Number
Facility ID	St. Plane _____ ft. N. _____ ft. E. S/C/N	Date Well Installed <b>05/23/2016</b>
Type of Well	Section Location of Waste/Source <b>SW 1/4 of NE 1/4 of Sec. 14, T. 39 N, R. 6</b> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: (Person's Name and Firm) <b>Kevin Hargus</b>
Well Code /2	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input checked="" type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	SES
Distance from Waste/Source <b>0 ft.</b>	Gov. Lot Number	

A. Protective pipe, top elevation 1591.71 ft. MSL  
 B. Well casing, top elevation 1592.04 ft. MSL  
 C. Land surface elevation 1589.8 ft. MSL  
 D. Surface seal, bottom 1587.8 ft. MSL or 2.0 ft.

12. USCS classification of soil near screen:  
 GP  GM  GC  GW  SW  SP   
 SM  SC  ML  MH  CL  CH   
 Bedrock

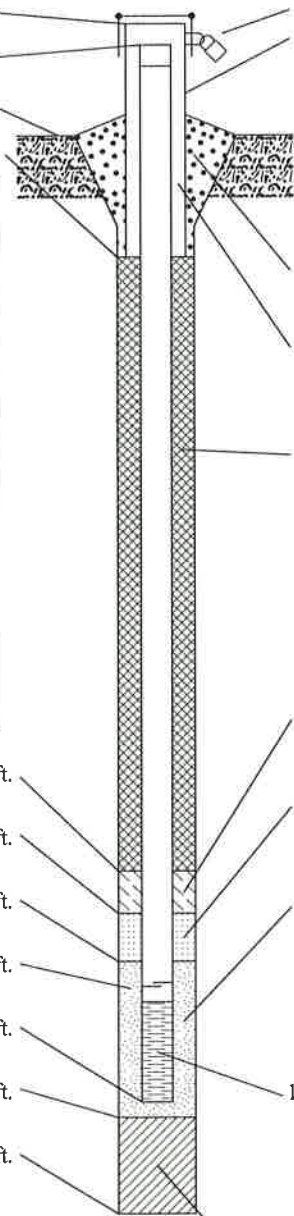
13. Sieve analysis attached?  Yes  No

14. Drilling method used: Rotary  5 0  
 Hollow Stem Auger  4 1  
 Other

15. Drilling fluid used: Water  0 2 Air  0 1  
 Drilling Mud  0 3 None  9 9

16. Drilling additives used?  Yes  No  
 Describe \_\_\_\_\_

17. Source of water (attach analysis, if required):  
Minocqua hydrant (grout)



- Cap and lock?  Yes  No
- Protective cover pipe:
  - Inside diameter: 4.0 in.
  - Length: 7.0 ft.
  - Material: Steel  0 4  
Other
- Additional protection?  Yes  No  
 If yes, describe: \_\_\_\_\_
- Surface seal:
  - Bentonite  3 0
  - Concrete  0 1
  - OtherBentonite Chips/sand
- Material between well casing and protective pipe:
  - Bentonite  3 0
  - Otherand sand mix
- Annular space seal:
  - Granular/Chipped Bentonite  3 3
  - Lbs/gal mud weight . . . Bentonite-sand slurry  3 5
  - 10 Lbs/gal mud weight . . . Bentonite slurry  3 1
  - % Bentonite . . . Bentonite-cement grout  5 0
  - Ft<sup>3</sup> volume added for any of the above \_\_\_\_\_
  - How installed: Tremie  0 1  
Tremie pumped  0 2  
Gravity  0 8100 gallons high solids grout
- Bentonite seal:
  - Bentonite granules  3 3
  - 1/4 in.  3/8 in.  1/2 in. Bentonite chips  3 2
  - Other
- Fine sand material: Manufacturer, product name & mesh size  
 a. \_\_\_\_\_  
 b. Volume added \_\_\_\_\_ ft<sup>3</sup>
- Filter pack material: Manufacturer, product name & mesh size  
 a. #40 Red Flint  
 b. Volume added \_\_\_\_\_ ft<sup>3</sup>
- Well casing:
  - Flush threaded PVC schedule 40  2 3
  - Flush threaded PVC schedule 80  2 4
  - Other
- Screen material: PVC
  - Screen Type:
    - Factory cut  1 1
    - Continuous slot  0 1
    - Other
  - Manufacturer \_\_\_\_\_
  - Slot size: 0.010 in.
  - Slotted length: 5.0 ft.
- Backfill material (below filter pack):
  - None  1 4
  - Other

E. Bentonite seal, top 1587.8 ft. MSL or 2.0 ft.  
 F. Fine sand, top \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.  
 G. Filter pack, top 1539.8 ft. MSL or 50.0 ft.  
 H. Screen joint, top 1535.1 ft. MSL or 54.7 ft.  
 I. Well bottom 1530.1 ft. MSL or 59.7 ft.  
 J. Filter pack, bottom 1530.1 ft. MSL or 59.7 ft.  
 K. Borehole, bottom 1528.8 ft. MSL or 61.0 ft.  
 L. Borehole, diameter 8.5 in.  
 M. O.D. well casing 2.40 in.  
 N. I.D. well casing 2.03 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature Jayne Englebert Firm **MSA Professional Services, Inc.** Tel: 608-356-2771  
 1230 South Boulevard Baraboo, WI 53913 Fax: 608-356-2770

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

# 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: 500-102950-1

Client Project/Site: Minoqua Cleaners 8267033

For:

MSA Professional Services, Inc

1230 South Blvd

Baraboo, Wisconsin 53913

Attn: Mr. Richard Lyster



Authorized for release by:

11/3/2015 10:07:05 AM

Sandie Fredrick, Project Manager II

(920)261-1660

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

### LINKS

Review your project  
results through

Total Access

Have a Question?



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: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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**Job ID: 500-102950-1**

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**Laboratory: TestAmerica Chicago**

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**Narrative**

**Job Narrative  
500-102950-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 10/22/2015 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9° C.

**GC/MS VOA**

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

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# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Client Sample ID: EXW-4

## Lab Sample ID: 500-102950-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	1.1		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: EXW-6

## Lab Sample ID: 500-102950-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	6.0		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	8.8		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	1.4		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: Muni #3

## Lab Sample ID: 500-102950-3

No Detections.

## Client Sample ID: MW-17

## Lab Sample ID: 500-102950-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.4		1.0	0.39	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.3		1.0	0.35	ug/L	1		8260B	Total/NA
Trichloroethene	24		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	46		0.50	0.20	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	240		5.0	2.0	ug/L	5		8260B	Total/NA

## Client Sample ID: MW-18

## Lab Sample ID: 500-102950-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	97		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	8.0		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	2.6		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-19

## Lab Sample ID: 500-102950-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	110		1.0	0.41	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.5		1.0	0.35	ug/L	1		8260B	Total/NA
Trichloroethene	4.6		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	24		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-21

## Lab Sample ID: 500-102950-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.6		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	13		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.80		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	1.2		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-21A

## Lab Sample ID: 500-102950-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	18		1.0	0.41	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Client Sample ID: MW-21A (Continued)

Lab Sample ID: 500-102950-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	4.5		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	4.8		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	3.1		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: B-1

Lab Sample ID: 500-102950-9

No Detections.

## Client Sample ID: B-1 DUP

Lab Sample ID: 500-102950-10

No Detections.

## Client Sample ID: B-1A

Lab Sample ID: 500-102950-11

No Detections.

## Client Sample ID: B-1B

Lab Sample ID: 500-102950-12

No Detections.

## Client Sample ID: B-3

Lab Sample ID: 500-102950-13

No Detections.

## Client Sample ID: B-3A

Lab Sample ID: 500-102950-14

No Detections.

## Client Sample ID: B-10

Lab Sample ID: 500-102950-15

No Detections.

## Client Sample ID: B-11

Lab Sample ID: 500-102950-16

No Detections.

## Client Sample ID: B-12

Lab Sample ID: 500-102950-17

No Detections.

## Client Sample ID: B-13

Lab Sample ID: 500-102950-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	18		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	22		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	12		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	2.3		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: B-13A

Lab Sample ID: 500-102950-19

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Client Sample ID: B-13B

Lab Sample ID: 500-102950-20

No Detections.

## Client Sample ID: Discharge Pipe

Lab Sample ID: 500-102950-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.0		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	1.0		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: Trip Blank

Lab Sample ID: 500-102950-22

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Method Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

---

**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

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# Sample Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-102950-1	EXW-4	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-2	EXW-6	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-3	Muni #3	Ground Water	10/21/15 00:00	10/22/15 09:35
500-102950-4	MW-17	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-5	MW-18	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-6	MW-19	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-7	MW-21	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-8	MW-21A	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-9	B-1	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-10	B-1 DUP	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-11	B-1A	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-12	B-1B	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-13	B-3	Ground Water	10/21/15 00:00	10/22/15 09:35
500-102950-14	B-3A	Ground Water	10/21/15 00:00	10/22/15 09:35
500-102950-15	B-10	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-16	B-11	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-17	B-12	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-18	B-13	Ground Water	10/21/15 00:00	10/22/15 09:35
500-102950-19	B-13A	Ground Water	10/21/15 00:00	10/22/15 09:35
500-102950-20	B-13B	Ground Water	10/21/15 00:00	10/22/15 09:35
500-102950-21	Discharge Pipe	Ground Water	10/20/15 00:00	10/22/15 09:35
500-102950-22	Trip Blank	Water	10/20/15 00:00	10/22/15 09:35

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: EXW-4**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-1**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/01/15 22:33	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/01/15 22:33	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/01/15 22:33	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/01/15 22:33	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/01/15 22:33	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/01/15 22:33	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/01/15 22:33	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/01/15 22:33	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/01/15 22:33	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/01/15 22:33	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/01/15 22:33	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/01/15 22:33	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/01/15 22:33	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/01/15 22:33	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/01/15 22:33	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/01/15 22:33	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/01/15 22:33	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/01/15 22:33	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/01/15 22:33	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/01/15 22:33	1
Benzene	<0.15		0.50	0.15	ug/L			11/01/15 22:33	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/01/15 22:33	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/01/15 22:33	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/01/15 22:33	1
Bromoform	<0.48		1.0	0.48	ug/L			11/01/15 22:33	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/01/15 22:33	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/01/15 22:33	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/01/15 22:33	1
Chloroform	<0.37		1.0	0.37	ug/L			11/01/15 22:33	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/01/15 22:33	1
<b>cis-1,2-Dichloroethene</b>	<b>1.1</b>		1.0	0.41	ug/L			11/01/15 22:33	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/01/15 22:33	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/01/15 22:33	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/01/15 22:33	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/01/15 22:33	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/01/15 22:33	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/01/15 22:33	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/01/15 22:33	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/01/15 22:33	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/01/15 22:33	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/01/15 22:33	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/01/15 22:33	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: EXW-4**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-1**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 22:33	1
Styrene	<0.39		1.0	0.39	ug/L			11/01/15 22:33	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 22:33	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/01/15 22:33	1
Toluene	<0.15		0.50	0.15	ug/L			11/01/15 22:33	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/01/15 22:33	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/01/15 22:33	1
<b>Trichloroethene</b>	<b>1.1</b>		0.50	0.16	ug/L			11/01/15 22:33	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/01/15 22:33	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/01/15 22:33	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/01/15 22:33	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)	106		75 - 125					11/01/15 22:33	1
4-Bromofluorobenzene (Surr)	99		75 - 120					11/01/15 22:33	1
Dibromofluoromethane	86		75 - 120					11/01/15 22:33	1
Toluene-d8 (Surr)	102		75 - 120					11/01/15 22:33	1

**Client Sample ID: EXW-6**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-2**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/01/15 23:00	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/01/15 23:00	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/01/15 23:00	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/01/15 23:00	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/01/15 23:00	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/01/15 23:00	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/01/15 23:00	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/01/15 23:00	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/01/15 23:00	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:00	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/01/15 23:00	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/01/15 23:00	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/01/15 23:00	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/01/15 23:00	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:00	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/01/15 23:00	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:00	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/01/15 23:00	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/01/15 23:00	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/01/15 23:00	1
Benzene	<0.15		0.50	0.15	ug/L			11/01/15 23:00	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:00	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/01/15 23:00	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: EXW-6**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-2**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/01/15 23:00	1
Bromoform	<0.48		1.0	0.48	ug/L			11/01/15 23:00	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/01/15 23:00	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/01/15 23:00	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/01/15 23:00	1
Chloroform	<0.37		1.0	0.37	ug/L			11/01/15 23:00	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/01/15 23:00	1
<b>cis-1,2-Dichloroethene</b>	<b>16</b>		1.0	0.41	ug/L			11/01/15 23:00	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/01/15 23:00	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/01/15 23:00	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/01/15 23:00	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/01/15 23:00	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/01/15 23:00	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/01/15 23:00	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/01/15 23:00	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/01/15 23:00	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/01/15 23:00	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/01/15 23:00	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/01/15 23:00	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:00	1
Styrene	<0.39		1.0	0.39	ug/L			11/01/15 23:00	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:00	1
<b>Tetrachloroethene</b>	<b>6.0</b>		1.0	0.37	ug/L			11/01/15 23:00	1
Toluene	<0.15		0.50	0.15	ug/L			11/01/15 23:00	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/01/15 23:00	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/01/15 23:00	1
<b>Trichloroethene</b>	<b>8.8</b>		0.50	0.16	ug/L			11/01/15 23:00	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/01/15 23:00	1
<b>Vinyl chloride</b>	<b>1.4</b>		0.50	0.20	ug/L			11/01/15 23:00	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/01/15 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		75 - 125		11/01/15 23:00	1
4-Bromofluorobenzene (Surr)	97		75 - 120		11/01/15 23:00	1
Dibromofluoromethane	90		75 - 120		11/01/15 23:00	1
Toluene-d8 (Surr)	102		75 - 120		11/01/15 23:00	1

**Client Sample ID: Muni #3**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-3**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/01/15 23:27	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/01/15 23:27	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/01/15 23:27	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: Muni #3**

**Lab Sample ID: 500-102950-3**

**Date Collected: 10/21/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/01/15 23:27	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/01/15 23:27	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/01/15 23:27	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/01/15 23:27	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/01/15 23:27	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/01/15 23:27	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:27	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/01/15 23:27	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/01/15 23:27	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/01/15 23:27	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/01/15 23:27	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:27	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/01/15 23:27	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:27	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/01/15 23:27	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/01/15 23:27	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/01/15 23:27	1
Benzene	<0.15		0.50	0.15	ug/L			11/01/15 23:27	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:27	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/01/15 23:27	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/01/15 23:27	1
Bromoform	<0.48		1.0	0.48	ug/L			11/01/15 23:27	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/01/15 23:27	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/01/15 23:27	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/01/15 23:27	1
Chloroform	<0.37		1.0	0.37	ug/L			11/01/15 23:27	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/01/15 23:27	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/01/15 23:27	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/01/15 23:27	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/01/15 23:27	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/01/15 23:27	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/01/15 23:27	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/01/15 23:27	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/01/15 23:27	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/01/15 23:27	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/01/15 23:27	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/01/15 23:27	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/01/15 23:27	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/01/15 23:27	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:27	1
Styrene	<0.39		1.0	0.39	ug/L			11/01/15 23:27	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:27	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: Muni #3**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-3**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/01/15 23:27	1
Toluene	<0.15		0.50	0.15	ug/L			11/01/15 23:27	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/01/15 23:27	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/01/15 23:27	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/01/15 23:27	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/01/15 23:27	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/01/15 23:27	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/01/15 23:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		75 - 125		11/01/15 23:27	1
4-Bromofluorobenzene (Surr)	99		75 - 120		11/01/15 23:27	1
Dibromofluoromethane	87		75 - 120		11/01/15 23:27	1
Toluene-d8 (Surr)	103		75 - 120		11/01/15 23:27	1

**Client Sample ID: MW-17**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-4**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/01/15 23:53	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/01/15 23:53	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/01/15 23:53	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/01/15 23:53	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/01/15 23:53	1
<b>1,1-Dichloroethene</b>	<b>1.4</b>		1.0	0.39	ug/L			11/01/15 23:53	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/01/15 23:53	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/01/15 23:53	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/01/15 23:53	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/01/15 23:53	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:53	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/01/15 23:53	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/01/15 23:53	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/01/15 23:53	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/01/15 23:53	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/01/15 23:53	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/01/15 23:53	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:53	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/01/15 23:53	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:53	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/01/15 23:53	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/01/15 23:53	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/01/15 23:53	1
Benzene	<0.15		0.50	0.15	ug/L			11/01/15 23:53	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/01/15 23:53	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/01/15 23:53	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/01/15 23:53	1
Bromoform	<0.48		1.0	0.48	ug/L			11/01/15 23:53	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/01/15 23:53	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-17**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-4**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/01/15 23:53	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:53	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/01/15 23:53	1
Chloroform	<0.37		1.0	0.37	ug/L			11/01/15 23:53	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/01/15 23:53	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/01/15 23:53	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/01/15 23:53	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/01/15 23:53	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/01/15 23:53	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/01/15 23:53	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/01/15 23:53	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/01/15 23:53	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:53	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/01/15 23:53	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/01/15 23:53	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/01/15 23:53	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 23:53	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/01/15 23:53	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/01/15 23:53	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:53	1
Styrene	<0.39		1.0	0.39	ug/L			11/01/15 23:53	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 23:53	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/01/15 23:53	1
Toluene	<0.15		0.50	0.15	ug/L			11/01/15 23:53	1
<b>trans-1,2-Dichloroethene</b>	<b>2.3</b>		1.0	0.35	ug/L			11/01/15 23:53	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/01/15 23:53	1
<b>Trichloroethene</b>	<b>24</b>		0.50	0.16	ug/L			11/01/15 23:53	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/01/15 23:53	1
<b>Vinyl chloride</b>	<b>46</b>		0.50	0.20	ug/L			11/01/15 23:53	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/01/15 23:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 125		11/01/15 23:53	1
4-Bromofluorobenzene (Surr)	100		75 - 120		11/01/15 23:53	1
Dibromofluoromethane	90		75 - 120		11/01/15 23:53	1
Toluene-d8 (Surr)	102		75 - 120		11/01/15 23:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>240</b>		5.0	2.0	ug/L			11/03/15 05:41	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		75 - 125		11/03/15 05:41	5
4-Bromofluorobenzene (Surr)	95		75 - 120		11/03/15 05:41	5
Dibromofluoromethane	98		75 - 120		11/03/15 05:41	5
Toluene-d8 (Surr)	95		75 - 120		11/03/15 05:41	5

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-18**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 00:20	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 00:20	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 00:20	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 00:20	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 00:20	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 00:20	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 00:20	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 00:20	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 00:20	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 00:20	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 00:20	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 00:20	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 00:20	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 00:20	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 00:20	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 00:20	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 00:20	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 00:20	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 00:20	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 00:20	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 00:20	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 00:20	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 00:20	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 00:20	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 00:20	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 00:20	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 00:20	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 00:20	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 00:20	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 00:20	1
<b>cis-1,2-Dichloroethene</b>	<b>97</b>		1.0	0.41	ug/L			11/02/15 00:20	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 00:20	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 00:20	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 00:20	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 00:20	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 00:20	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 00:20	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 00:20	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 00:20	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 00:20	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 00:20	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 00:20	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-18**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 00:20	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 00:20	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 00:20	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 00:20	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 00:20	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 00:20	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 00:20	1
<b>Trichloroethene</b>	<b>8.0</b>		0.50	0.16	ug/L			11/02/15 00:20	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 00:20	1
<b>Vinyl chloride</b>	<b>2.6</b>		0.50	0.20	ug/L			11/02/15 00:20	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 00:20	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)	109		75 - 125					11/02/15 00:20	1
4-Bromofluorobenzene (Surr)	99		75 - 120					11/02/15 00:20	1
Dibromofluoromethane	88		75 - 120					11/02/15 00:20	1
Toluene-d8 (Surr)	101		75 - 120					11/02/15 00:20	1

**Client Sample ID: MW-19**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-6**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 00:47	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 00:47	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 00:47	1
1,1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 00:47	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 00:47	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 00:47	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 00:47	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 00:47	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 00:47	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 00:47	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 00:47	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 00:47	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 00:47	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 00:47	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 00:47	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 00:47	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 00:47	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 00:47	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 00:47	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 00:47	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 00:47	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 00:47	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 00:47	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-19**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-6**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 00:47	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 00:47	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 00:47	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 00:47	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 00:47	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 00:47	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 00:47	1
<b>cis-1,2-Dichloroethene</b>	<b>110</b>		1.0	0.41	ug/L			11/02/15 00:47	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 00:47	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 00:47	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 00:47	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 00:47	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 00:47	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 00:47	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 00:47	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 00:47	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 00:47	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 00:47	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 00:47	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 00:47	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 00:47	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 00:47	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 00:47	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 00:47	1
<b>trans-1,2-Dichloroethene</b>	<b>1.5</b>		1.0	0.35	ug/L			11/02/15 00:47	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 00:47	1
<b>Trichloroethene</b>	<b>4.6</b>		0.50	0.16	ug/L			11/02/15 00:47	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 00:47	1
<b>Vinyl chloride</b>	<b>24</b>		0.50	0.20	ug/L			11/02/15 00:47	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 00:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 125		11/02/15 00:47	1
4-Bromofluorobenzene (Surr)	100		75 - 120		11/02/15 00:47	1
Dibromofluoromethane	93		75 - 120		11/02/15 00:47	1
Toluene-d8 (Surr)	101		75 - 120		11/02/15 00:47	1

**Client Sample ID: MW-21**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-7**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 01:13	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 01:13	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 01:13	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-21**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-7**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 01:13	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 01:13	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 01:13	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 01:13	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 01:13	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 01:13	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 01:13	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 01:13	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 01:13	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 01:13	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 01:13	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 01:13	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 01:13	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 01:13	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 01:13	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 01:13	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 01:13	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 01:13	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 01:13	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 01:13	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 01:13	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 01:13	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 01:13	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 01:13	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 01:13	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 01:13	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 01:13	1
<b>cis-1,2-Dichloroethene</b>	<b>4.6</b>		1.0	0.41	ug/L			11/02/15 01:13	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 01:13	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 01:13	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 01:13	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 01:13	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 01:13	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 01:13	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 01:13	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 01:13	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 01:13	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 01:13	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 01:13	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 01:13	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 01:13	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 01:13	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-21**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-7**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Tetrachloroethene</b>	<b>13</b>		1.0	0.37	ug/L			11/02/15 01:13	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 01:13	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 01:13	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 01:13	1
<b>Trichloroethene</b>	<b>0.80</b>		0.50	0.16	ug/L			11/02/15 01:13	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 01:13	1
<b>Vinyl chloride</b>	<b>1.2</b>		0.50	0.20	ug/L			11/02/15 01:13	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 01:13	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)	108		75 - 125					11/02/15 01:13	1
4-Bromofluorobenzene (Surr)	101		75 - 120					11/02/15 01:13	1
Dibromofluoromethane	90		75 - 120					11/02/15 01:13	1
Toluene-d8 (Surr)	102		75 - 120					11/02/15 01:13	1

**Client Sample ID: MW-21A**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-8**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 01:40	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 01:40	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 01:40	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 01:40	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 01:40	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 01:40	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 01:40	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 01:40	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 01:40	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 01:40	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 01:40	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 01:40	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 01:40	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 01:40	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 01:40	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 01:40	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 01:40	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 01:40	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 01:40	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 01:40	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 01:40	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 01:40	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 01:40	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 01:40	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 01:40	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 01:40	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-21A**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-8**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 01:40	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 01:40	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 01:40	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 01:40	1
<b>cis-1,2-Dichloroethene</b>	<b>18</b>		1.0	0.41	ug/L			11/02/15 01:40	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 01:40	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 01:40	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 01:40	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 01:40	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 01:40	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 01:40	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 01:40	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 01:40	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 01:40	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 01:40	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 01:40	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 01:40	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 01:40	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 01:40	1
<b>Tetrachloroethene</b>	<b>4.5</b>		1.0	0.37	ug/L			11/02/15 01:40	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 01:40	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 01:40	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 01:40	1
<b>Trichloroethene</b>	<b>4.8</b>		0.50	0.16	ug/L			11/02/15 01:40	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 01:40	1
<b>Vinyl chloride</b>	<b>3.1</b>		0.50	0.20	ug/L			11/02/15 01:40	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 01:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 125		11/02/15 01:40	1
4-Bromofluorobenzene (Surr)	98		75 - 120		11/02/15 01:40	1
Dibromofluoromethane	88		75 - 120		11/02/15 01:40	1
Toluene-d8 (Surr)	102		75 - 120		11/02/15 01:40	1

**Client Sample ID: B-1**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-9**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 02:06	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 02:06	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 02:06	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 02:06	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 02:06	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-1**

**Lab Sample ID: 500-102950-9**

**Date Collected: 10/20/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 02:06	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 02:06	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 02:06	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 02:06	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 02:06	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 02:06	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 02:06	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 02:06	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 02:06	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 02:06	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 02:06	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 02:06	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 02:06	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 02:06	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 02:06	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 02:06	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 02:06	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 02:06	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 02:06	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 02:06	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 02:06	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 02:06	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 02:06	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 02:06	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 02:06	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 02:06	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 02:06	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 02:06	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 02:06	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 02:06	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 02:06	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 02:06	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 02:06	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 02:06	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 02:06	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 02:06	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 02:06	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 02:06	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 02:06	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 02:06	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 02:06	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 02:06	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 02:06	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Client Sample ID: B-1

Date Collected: 10/20/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-9

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 02:06	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 02:06	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 02:06	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 02:06	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 125		11/02/15 02:06	1
4-Bromofluorobenzene (Surr)	99		75 - 120		11/02/15 02:06	1
Dibromofluoromethane	87		75 - 120		11/02/15 02:06	1
Toluene-d8 (Surr)	101		75 - 120		11/02/15 02:06	1

## Client Sample ID: B-1 DUP

Date Collected: 10/20/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-10

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 02:33	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 02:33	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 02:33	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 02:33	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 02:33	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 02:33	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 02:33	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 02:33	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 02:33	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 02:33	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 02:33	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 02:33	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 02:33	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 02:33	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 02:33	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 02:33	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 02:33	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 02:33	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 02:33	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 02:33	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 02:33	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 02:33	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 02:33	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 02:33	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 02:33	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 02:33	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 02:33	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 02:33	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-1 DUP**

**Lab Sample ID: 500-102950-10**

**Date Collected: 10/20/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 02:33	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 02:33	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 02:33	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 02:33	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 02:33	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 02:33	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 02:33	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 02:33	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 02:33	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 02:33	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 02:33	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 02:33	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 02:33	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 02:33	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 02:33	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 02:33	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 02:33	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 02:33	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 02:33	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 02:33	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 02:33	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 02:33	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 02:33	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 02:33	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 02:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 125		11/02/15 02:33	1
4-Bromofluorobenzene (Surr)	99		75 - 120		11/02/15 02:33	1
Dibromofluoromethane	90		75 - 120		11/02/15 02:33	1
Toluene-d8 (Surr)	102		75 - 120		11/02/15 02:33	1

**Client Sample ID: B-1A**

**Lab Sample ID: 500-102950-11**

**Date Collected: 10/20/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 03:00	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 03:00	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 03:00	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 03:00	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 03:00	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 03:00	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 03:00	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 03:00	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-1A**  
**Date Collected: 10/20/15 00:00**  
**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-11**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 03:00	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:00	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 03:00	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 03:00	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 03:00	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 03:00	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:00	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 03:00	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:00	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 03:00	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 03:00	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 03:00	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 03:00	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:00	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 03:00	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 03:00	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 03:00	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 03:00	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 03:00	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 03:00	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 03:00	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 03:00	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 03:00	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 03:00	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 03:00	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 03:00	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 03:00	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 03:00	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 03:00	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 03:00	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 03:00	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 03:00	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 03:00	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 03:00	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:00	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 03:00	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:00	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 03:00	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 03:00	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 03:00	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 03:00	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 03:00	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 03:00	1

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-1A**  
**Date Collected: 10/20/15 00:00**  
**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-11**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 03:00	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 03:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		75 - 125					11/02/15 03:00	1
4-Bromofluorobenzene (Surr)	99		75 - 120					11/02/15 03:00	1
Dibromofluoromethane	88		75 - 120					11/02/15 03:00	1
Toluene-d8 (Surr)	102		75 - 120					11/02/15 03:00	1

**Client Sample ID: B-1B**  
**Date Collected: 10/20/15 00:00**  
**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-12**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 03:26	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 03:26	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 03:26	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 03:26	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 03:26	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 03:26	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 03:26	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 03:26	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 03:26	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:26	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 03:26	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 03:26	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 03:26	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 03:26	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:26	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 03:26	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:26	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 03:26	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 03:26	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 03:26	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 03:26	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:26	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 03:26	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 03:26	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 03:26	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 03:26	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 03:26	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 03:26	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 03:26	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 03:26	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 03:26	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-1B**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-12**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 03:26	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 03:26	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 03:26	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 03:26	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 03:26	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 03:26	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 03:26	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 03:26	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 03:26	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 03:26	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 03:26	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:26	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 03:26	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:26	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 03:26	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 03:26	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 03:26	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 03:26	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 03:26	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 03:26	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 03:26	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 03:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		75 - 125		11/02/15 03:26	1
4-Bromofluorobenzene (Surr)	99		75 - 120		11/02/15 03:26	1
Dibromofluoromethane	88		75 - 120		11/02/15 03:26	1
Toluene-d8 (Surr)	102		75 - 120		11/02/15 03:26	1

**Client Sample ID: B-3**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-13**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 03:52	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 03:52	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 03:52	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 03:52	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 03:52	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 03:52	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 03:52	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 03:52	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 03:52	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:52	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 03:52	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-3**

**Lab Sample ID: 500-102950-13**

**Date Collected: 10/21/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 03:52	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 03:52	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 03:52	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:52	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 03:52	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:52	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 03:52	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 03:52	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 03:52	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 03:52	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 03:52	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 03:52	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 03:52	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 03:52	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 03:52	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 03:52	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 03:52	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 03:52	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 03:52	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 03:52	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 03:52	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 03:52	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 03:52	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 03:52	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 03:52	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 03:52	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 03:52	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 03:52	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 03:52	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 03:52	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 03:52	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:52	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 03:52	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 03:52	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 03:52	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 03:52	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 03:52	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 03:52	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 03:52	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 03:52	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 03:52	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 03:52	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Client Sample ID: B-3

Date Collected: 10/21/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-13

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 125		11/02/15 03:52	1
4-Bromofluorobenzene (Surr)	99		75 - 120		11/02/15 03:52	1
Dibromofluoromethane	89		75 - 120		11/02/15 03:52	1
Toluene-d8 (Surr)	102		75 - 120		11/02/15 03:52	1

## Client Sample ID: B-3A

Date Collected: 10/21/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-14

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 04:19	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 04:19	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 04:19	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 04:19	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 04:19	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 04:19	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 04:19	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 04:19	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 04:19	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 04:19	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 04:19	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 04:19	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 04:19	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 04:19	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 04:19	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 04:19	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 04:19	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 04:19	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 04:19	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 04:19	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 04:19	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 04:19	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 04:19	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 04:19	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 04:19	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 04:19	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 04:19	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 04:19	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 04:19	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 04:19	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 04:19	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 04:19	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 04:19	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 04:19	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 04:19	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-3A**  
**Date Collected: 10/21/15 00:00**  
**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-14**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 04:19	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 04:19	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 04:19	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 04:19	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 04:19	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 04:19	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 04:19	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 04:19	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 04:19	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 04:19	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 04:19	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 04:19	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 04:19	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 04:19	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 04:19	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 04:19	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 04:19	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 04:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 125		11/02/15 04:19	1
4-Bromofluorobenzene (Surr)	100		75 - 120		11/02/15 04:19	1
Dibromofluoromethane	86		75 - 120		11/02/15 04:19	1
Toluene-d8 (Surr)	101		75 - 120		11/02/15 04:19	1

**Client Sample ID: B-10**  
**Date Collected: 10/20/15 00:00**  
**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-15**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 04:45	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 04:45	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 04:45	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 04:45	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 04:45	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 04:45	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 04:45	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 04:45	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 04:45	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 04:45	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 04:45	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 04:45	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 04:45	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-10**

**Lab Sample ID: 500-102950-15**

**Date Collected: 10/20/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 04:45	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 04:45	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 04:45	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 04:45	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 04:45	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 04:45	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 04:45	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 04:45	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 04:45	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 04:45	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 04:45	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 04:45	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 04:45	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 04:45	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 04:45	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 04:45	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 04:45	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 04:45	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 04:45	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 04:45	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 04:45	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 04:45	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 04:45	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 04:45	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 04:45	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 04:45	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 04:45	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 04:45	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 04:45	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 04:45	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 04:45	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 04:45	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 04:45	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 04:45	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 04:45	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 04:45	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 04:45	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 04:45	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 04:45	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 04:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 125		11/02/15 04:45	1
4-Bromofluorobenzene (Surr)	98		75 - 120		11/02/15 04:45	1
Dibromofluoromethane	88		75 - 120		11/02/15 04:45	1
Toluene-d8 (Surr)	102		75 - 120		11/02/15 04:45	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-11**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-16**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 05:12	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 05:12	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 05:12	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 05:12	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 05:12	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 05:12	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 05:12	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 05:12	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 05:12	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 05:12	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 05:12	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 05:12	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 05:12	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 05:12	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 05:12	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 05:12	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 05:12	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 05:12	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 05:12	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 05:12	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 05:12	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 05:12	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 05:12	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 05:12	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 05:12	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 05:12	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 05:12	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 05:12	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 05:12	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 05:12	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 05:12	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 05:12	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 05:12	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 05:12	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 05:12	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 05:12	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 05:12	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 05:12	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 05:12	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 05:12	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 05:12	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 05:12	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-11**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-16**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 05:12	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 05:12	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 05:12	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 05:12	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 05:12	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 05:12	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 05:12	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 05:12	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 05:12	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 05:12	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 05:12	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)	111		75 - 125					11/02/15 05:12	1
4-Bromofluorobenzene (Surr)	100		75 - 120					11/02/15 05:12	1
Dibromofluoromethane	87		75 - 120					11/02/15 05:12	1
Toluene-d8 (Surr)	101		75 - 120					11/02/15 05:12	1

**Client Sample ID: B-12**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-17**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 05:38	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 05:38	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 05:38	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 05:38	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 05:38	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 05:38	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 05:38	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 05:38	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 05:38	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 05:38	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 05:38	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 05:38	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 05:38	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 05:38	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 05:38	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 05:38	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 05:38	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 05:38	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 05:38	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 05:38	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 05:38	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 05:38	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 05:38	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-12**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-17**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 05:38	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 05:38	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 05:38	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 05:38	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 05:38	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 05:38	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 05:38	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 05:38	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 05:38	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 05:38	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 05:38	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 05:38	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 05:38	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 05:38	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 05:38	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 05:38	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 05:38	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 05:38	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 05:38	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 05:38	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 05:38	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 05:38	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 05:38	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 05:38	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 05:38	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 05:38	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 05:38	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 05:38	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 05:38	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 05:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 125		11/02/15 05:38	1
4-Bromofluorobenzene (Surr)	98		75 - 120		11/02/15 05:38	1
Dibromofluoromethane	88		75 - 120		11/02/15 05:38	1
Toluene-d8 (Surr)	102		75 - 120		11/02/15 05:38	1

**Client Sample ID: B-13**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-18**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 06:05	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 06:05	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 06:05	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-13**

**Lab Sample ID: 500-102950-18**

**Date Collected: 10/21/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 06:05	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 06:05	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 06:05	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 06:05	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 06:05	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 06:05	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:05	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 06:05	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 06:05	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 06:05	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 06:05	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:05	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 06:05	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:05	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 06:05	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 06:05	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 06:05	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 06:05	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:05	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 06:05	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 06:05	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 06:05	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 06:05	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 06:05	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 06:05	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 06:05	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 06:05	1
<b>cis-1,2-Dichloroethene</b>	<b>18</b>		1.0	0.41	ug/L			11/02/15 06:05	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 06:05	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 06:05	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 06:05	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 06:05	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 06:05	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 06:05	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 06:05	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 06:05	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 06:05	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 06:05	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 06:05	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:05	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 06:05	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:05	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Client Sample ID: B-13

Date Collected: 10/21/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-18

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Tetrachloroethene</b>	<b>22</b>		1.0	0.37	ug/L			11/02/15 06:05	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 06:05	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 06:05	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 06:05	1
<b>Trichloroethene</b>	<b>12</b>		0.50	0.16	ug/L			11/02/15 06:05	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 06:05	1
<b>Vinyl chloride</b>	<b>2.3</b>		0.50	0.20	ug/L			11/02/15 06:05	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 06:05	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)	110		75 - 125					11/02/15 06:05	1
4-Bromofluorobenzene (Surr)	101		75 - 120					11/02/15 06:05	1
Dibromofluoromethane	90		75 - 120					11/02/15 06:05	1
Toluene-d8 (Surr)	101		75 - 120					11/02/15 06:05	1

## Client Sample ID: B-13A

Date Collected: 10/21/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-19

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 06:31	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 06:31	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 06:31	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 06:31	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 06:31	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 06:31	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 06:31	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 06:31	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 06:31	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:31	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 06:31	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 06:31	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 06:31	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 06:31	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:31	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 06:31	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:31	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 06:31	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 06:31	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 06:31	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 06:31	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:31	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 06:31	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 06:31	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 06:31	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 06:31	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-13A**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-19**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 06:31	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 06:31	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 06:31	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 06:31	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 06:31	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 06:31	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 06:31	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 06:31	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 06:31	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 06:31	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 06:31	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 06:31	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 06:31	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 06:31	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 06:31	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 06:31	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:31	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 06:31	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:31	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 06:31	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 06:31	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 06:31	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 06:31	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 06:31	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 06:31	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 06:31	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 06:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		75 - 125		11/02/15 06:31	1
4-Bromofluorobenzene (Surr)	100		75 - 120		11/02/15 06:31	1
Dibromofluoromethane	89		75 - 120		11/02/15 06:31	1
Toluene-d8 (Surr)	99		75 - 120		11/02/15 06:31	1

**Client Sample ID: B-13B**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-20**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 06:58	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 06:58	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 06:58	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 06:58	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 06:58	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-13B**

**Lab Sample ID: 500-102950-20**

**Date Collected: 10/21/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 06:58	1
1,2,3-Trichlorobenzene	<0.46	F1	1.0	0.46	ug/L			11/02/15 06:58	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 06:58	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 06:58	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:58	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 06:58	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 06:58	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 06:58	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 06:58	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:58	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 06:58	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:58	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 06:58	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 06:58	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 06:58	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 06:58	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 06:58	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 06:58	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 06:58	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 06:58	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 06:58	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 06:58	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 06:58	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 06:58	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 06:58	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 06:58	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 06:58	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 06:58	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 06:58	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 06:58	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 06:58	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 06:58	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 06:58	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 06:58	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 06:58	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 06:58	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 06:58	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:58	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 06:58	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 06:58	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 06:58	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 06:58	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 06:58	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-13B**

**Lab Sample ID: 500-102950-20**

**Date Collected: 10/21/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 06:58	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 06:58	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 06:58	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 06:58	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 06:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		75 - 125		11/02/15 06:58	1
4-Bromofluorobenzene (Surr)	99		75 - 120		11/02/15 06:58	1
Dibromofluoromethane	90		75 - 120		11/02/15 06:58	1
Toluene-d8 (Surr)	100		75 - 120		11/02/15 06:58	1

**Client Sample ID: Discharge Pipe**

**Lab Sample ID: 500-102950-21**

**Date Collected: 10/20/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 12:13	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 12:13	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 12:13	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 12:13	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 12:13	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 12:13	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 12:13	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 12:13	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 12:13	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 12:13	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 12:13	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 12:13	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 12:13	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 12:13	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 12:13	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 12:13	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 12:13	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 12:13	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 12:13	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 12:13	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 12:13	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 12:13	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 12:13	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 12:13	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 12:13	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 12:13	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 12:13	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 12:13	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: Discharge Pipe**

**Lab Sample ID: 500-102950-21**

**Date Collected: 10/20/15 00:00**

**Matrix: Ground Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 12:13	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 12:13	1
<b>cis-1,2-Dichloroethene</b>	<b>2.0</b>		1.0	0.41	ug/L			11/02/15 12:13	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 12:13	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 12:13	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 12:13	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 12:13	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 12:13	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 12:13	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 12:13	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 12:13	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 12:13	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 12:13	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 12:13	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 12:13	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 12:13	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 12:13	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 12:13	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 12:13	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 12:13	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 12:13	1
<b>Trichloroethene</b>	<b>1.0</b>		0.50	0.16	ug/L			11/02/15 12:13	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 12:13	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 12:13	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 12:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 125		11/02/15 12:13	1
4-Bromofluorobenzene (Surr)	89		75 - 120		11/02/15 12:13	1
Dibromofluoromethane	97		75 - 120		11/02/15 12:13	1
Toluene-d8 (Surr)	96		75 - 120		11/02/15 12:13	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-102950-22**

**Date Collected: 10/20/15 00:00**

**Matrix: Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 11:46	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 11:46	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 11:46	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 11:46	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 11:46	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 11:46	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 11:46	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 11:46	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-102950-22**

**Date Collected: 10/20/15 00:00**

**Matrix: Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 11:46	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 11:46	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 11:46	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 11:46	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 11:46	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 11:46	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 11:46	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 11:46	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 11:46	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 11:46	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 11:46	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 11:46	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 11:46	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 11:46	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 11:46	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 11:46	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 11:46	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 11:46	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 11:46	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 11:46	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 11:46	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 11:46	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 11:46	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 11:46	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 11:46	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 11:46	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 11:46	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 11:46	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 11:46	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 11:46	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 11:46	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 11:46	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 11:46	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 11:46	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 11:46	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 11:46	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 11:46	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 11:46	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 11:46	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 11:46	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 11:46	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 11:46	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 11:46	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-102950-22**

**Date Collected: 10/20/15 00:00**

**Matrix: Water**

**Date Received: 10/22/15 09:35**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 11:46	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 11:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 125					11/02/15 11:46	1
4-Bromofluorobenzene (Surr)	91		75 - 120					11/02/15 11:46	1
Dibromofluoromethane	96		75 - 120					11/02/15 11:46	1
Toluene-d8 (Surr)	99		75 - 120					11/02/15 11:46	1



# Definitions/Glossary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

## Glossary

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

# QC Association Summary

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## GC/MS VOA

### Analysis Batch: 310577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-102950-1	EXW-4	Total/NA	Ground Water	8260B	
500-102950-2	EXW-6	Total/NA	Ground Water	8260B	
500-102950-3	Muni #3	Total/NA	Ground Water	8260B	
500-102950-4	MW-17	Total/NA	Ground Water	8260B	
500-102950-5	MW-18	Total/NA	Ground Water	8260B	
500-102950-6	MW-19	Total/NA	Ground Water	8260B	
500-102950-7	MW-21	Total/NA	Ground Water	8260B	
500-102950-8	MW-21A	Total/NA	Ground Water	8260B	
500-102950-9	B-1	Total/NA	Ground Water	8260B	
500-102950-10	B-1 DUP	Total/NA	Ground Water	8260B	
500-102950-11	B-1A	Total/NA	Ground Water	8260B	
500-102950-12	B-1B	Total/NA	Ground Water	8260B	
500-102950-13	B-3	Total/NA	Ground Water	8260B	
500-102950-14	B-3A	Total/NA	Ground Water	8260B	
500-102950-15	B-10	Total/NA	Ground Water	8260B	
500-102950-16	B-11	Total/NA	Ground Water	8260B	
500-102950-17	B-12	Total/NA	Ground Water	8260B	
500-102950-18	B-13	Total/NA	Ground Water	8260B	
500-102950-19	B-13A	Total/NA	Ground Water	8260B	
500-102950-20	B-13B	Total/NA	Ground Water	8260B	
500-102950-20 MS	B-13B	Total/NA	Ground Water	8260B	
500-102950-20 MSD	B-13B	Total/NA	Ground Water	8260B	
LCS 500-310577/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-310577/6	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 310587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-102950-21	Discharge Pipe	Total/NA	Ground Water	8260B	
500-102950-22	Trip Blank	Total/NA	Water	8260B	
LCS 500-310587/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-310587/6	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 310729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-102950-4 - DL	MW-17	Total/NA	Ground Water	8260B	
LCS 500-310729/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-310729/6	Method Blank	Total/NA	Water	8260B	

# Surrogate Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

Matrix: Ground Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (75-125)	BFB (75-120)	DBFM (75-120)	TOL (75-120)
500-102950-1	EXW-4	106	99	86	102
500-102950-2	EXW-6	108	97	90	102
500-102950-3	Muni #3	107	99	87	103
500-102950-4	MW-17	110	100	90	102
500-102950-4 - DL	MW-17	102	95	98	95
500-102950-5	MW-18	109	99	88	101
500-102950-6	MW-19	109	100	93	101
500-102950-7	MW-21	108	101	90	102
500-102950-8	MW-21A	110	98	88	102
500-102950-9	B-1	110	99	87	101
500-102950-10	B-1 DUP	111	99	90	102
500-102950-11	B-1A	112	99	88	102
500-102950-12	B-1B	112	99	88	102
500-102950-13	B-3	110	99	89	102
500-102950-14	B-3A	114	100	86	101
500-102950-15	B-10	109	98	88	102
500-102950-16	B-11	111	100	87	101
500-102950-17	B-12	109	98	88	102
500-102950-18	B-13	110	101	90	101
500-102950-19	B-13A	113	100	89	99
500-102950-20	B-13B	108	99	90	100
500-102950-20 MS	B-13B	109	101	96	100
500-102950-20 MSD	B-13B	110	101	96	101
500-102950-21	Discharge Pipe	92	89	97	96

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (75-125)	BFB (75-120)	DBFM (75-120)	TOL (75-120)
500-102950-22	Trip Blank	91	91	96	99
LCS 500-310577/4	Lab Control Sample	106	102	93	103
LCS 500-310587/4	Lab Control Sample	89	91	99	99
LCS 500-310729/4	Lab Control Sample	97	88	101	96
MB 500-310577/6	Method Blank	111	101	90	101
MB 500-310587/6	Method Blank	84	91	95	96
MB 500-310729/6	Method Blank	97	98	96	96

#### Surrogate Legend

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

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: MB 500-310577/6**

**Matrix: Water**

**Analysis Batch: 310577**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/01/15 22:06	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/01/15 22:06	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/01/15 22:06	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/01/15 22:06	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/01/15 22:06	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/01/15 22:06	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/01/15 22:06	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/01/15 22:06	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/01/15 22:06	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/01/15 22:06	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/01/15 22:06	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/01/15 22:06	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/01/15 22:06	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/01/15 22:06	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/01/15 22:06	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/01/15 22:06	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/01/15 22:06	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/01/15 22:06	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/01/15 22:06	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/01/15 22:06	1
Benzene	<0.15		0.50	0.15	ug/L			11/01/15 22:06	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/01/15 22:06	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/01/15 22:06	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/01/15 22:06	1
Bromoform	<0.48		1.0	0.48	ug/L			11/01/15 22:06	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/01/15 22:06	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/01/15 22:06	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/01/15 22:06	1
Chloroform	<0.37		1.0	0.37	ug/L			11/01/15 22:06	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/01/15 22:06	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/01/15 22:06	1
cis-1,3-Dichloropropane	<0.42		1.0	0.42	ug/L			11/01/15 22:06	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/01/15 22:06	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/01/15 22:06	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/01/15 22:06	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/01/15 22:06	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/01/15 22:06	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/01/15 22:06	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/01/15 22:06	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/01/15 22:06	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/01/15 22:06	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: MB 500-310577/6**  
**Matrix: Water**  
**Analysis Batch: 310577**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/01/15 22:06	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 22:06	1
Styrene	<0.39		1.0	0.39	ug/L			11/01/15 22:06	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/01/15 22:06	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/01/15 22:06	1
Toluene	<0.15		0.50	0.15	ug/L			11/01/15 22:06	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/01/15 22:06	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/01/15 22:06	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/01/15 22:06	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/01/15 22:06	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/01/15 22:06	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/01/15 22:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 125		11/01/15 22:06	1
4-Bromofluorobenzene (Surr)	101		75 - 120		11/01/15 22:06	1
Dibromofluoromethane	90		75 - 120		11/01/15 22:06	1
Toluene-d8 (Surr)	101		75 - 120		11/01/15 22:06	1

**Lab Sample ID: LCS 500-310577/4**  
**Matrix: Water**  
**Analysis Batch: 310577**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	54.1		ug/L		108	70 - 124
1,1,1-Trichloroethane	50.0	56.8		ug/L		114	70 - 125
1,1,1,2-Tetrachloroethane	50.0	53.9		ug/L		108	68 - 133
1,1,2-Trichloroethane	50.0	55.9		ug/L		112	70 - 125
1,1-Dichloroethane	50.0	53.1		ug/L		106	70 - 127
1,1-Dichloroethene	50.0	49.7		ug/L		99	68 - 121
1,1-Dichloropropene	50.0	54.7		ug/L		109	70 - 126
1,2,3-Trichlorobenzene	50.0	50.4		ug/L		101	70 - 133
1,2,3-Trichloropropane	50.0	51.1		ug/L		102	53 - 139
1,2,4-Trichlorobenzene	50.0	50.9		ug/L		102	70 - 125
1,2,4-Trimethylbenzene	50.0	54.8		ug/L		110	70 - 127
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	59 - 139
1,2-Dibromoethane	50.0	55.7		ug/L		111	70 - 124
1,2-Dichlorobenzene	50.0	52.1		ug/L		104	70 - 123
1,2-Dichloroethane	50.0	58.8		ug/L		118	66 - 132
1,2-Dichloropropane	50.0	52.1		ug/L		104	70 - 127
1,3,5-Trimethylbenzene	50.0	56.5		ug/L		113	70 - 129
1,3-Dichlorobenzene	50.0	49.6		ug/L		99	70 - 122
1,3-Dichloropropane	50.0	56.9		ug/L		114	70 - 127
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	70 - 120
2,2-Dichloropropane	50.0	54.1		ug/L		108	68 - 120
2-Chlorotoluene	50.0	54.0		ug/L		108	70 - 128
4-Chlorotoluene	50.0	54.7		ug/L		109	70 - 127
Benzene	50.0	55.6		ug/L		111	70 - 120

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: LCS 500-310577/4**  
**Matrix: Water**  
**Analysis Batch: 310577**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	54.1		ug/L		108	70 - 129
Bromochloromethane	50.0	50.2		ug/L		100	70 - 121
Bromodichloromethane	50.0	55.8		ug/L		112	70 - 127
Bromoform	50.0	51.1		ug/L		102	70 - 135
Bromomethane	50.0	47.0		ug/L		94	30 - 170
Carbon tetrachloride	50.0	55.4		ug/L		111	70 - 136
Chlorobenzene	50.0	51.8		ug/L		104	70 - 120
Chloroethane	50.0	43.0		ug/L		86	40 - 150
Chloroform	50.0	56.4		ug/L		113	70 - 120
Chloromethane	50.0	44.2		ug/L		88	45 - 140
cis-1,2-Dichloroethene	50.0	52.1		ug/L		104	70 - 120
cis-1,3-Dichloropropene	50.0	56.3		ug/L		113	70 - 122
Dibromochloromethane	50.0	53.8		ug/L		108	70 - 120
Dibromomethane	50.0	52.2		ug/L		104	70 - 120
Dichlorodifluoromethane	50.0	53.4		ug/L		107	30 - 150
Ethylbenzene	50.0	53.4		ug/L		107	70 - 125
Hexachlorobutadiene	50.0	57.7		ug/L		115	70 - 138
Isopropylbenzene	50.0	54.9		ug/L		110	70 - 132
Methyl tert-butyl ether	50.0	55.5		ug/L		111	65 - 120
Methylene Chloride	50.0	50.9		ug/L		102	70 - 120
Naphthalene	50.0	48.2		ug/L		96	59 - 143
n-Butylbenzene	50.0	55.6		ug/L		111	70 - 129
N-Propylbenzene	50.0	53.8		ug/L		108	70 - 132
p-Isopropyltoluene	50.0	54.0		ug/L		108	70 - 133
sec-Butylbenzene	50.0	55.4		ug/L		111	70 - 134
Styrene	50.0	56.8		ug/L		114	70 - 120
tert-Butylbenzene	50.0	52.6		ug/L		105	70 - 137
Tetrachloroethene	50.0	51.9		ug/L		104	70 - 129
Toluene	50.0	56.6		ug/L		113	70 - 120
trans-1,2-Dichloroethene	50.0	50.2		ug/L		100	70 - 120
trans-1,3-Dichloropropene	50.0	58.4		ug/L		117	70 - 123
Trichloroethene	50.0	49.9		ug/L		100	70 - 122
Trichlorofluoromethane	50.0	47.3		ug/L		95	65 - 134
Vinyl chloride	50.0	43.7		ug/L		87	63 - 127
Xylenes, Total	100	112		ug/L		112	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		75 - 125
4-Bromofluorobenzene (Surr)	102		75 - 120
Dibromofluoromethane	93		75 - 120
Toluene-d8 (Surr)	103		75 - 120

**Lab Sample ID: 500-102950-20 MS**  
**Matrix: Ground Water**  
**Analysis Batch: 310577**

**Client Sample ID: B-13B**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	<0.46		50.0	54.0		ug/L		108	70 - 124

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

Lab Sample ID: 500-102950-20 MS

Matrix: Ground Water

Analysis Batch: 310577

Client Sample ID: B-13B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	<0.38		50.0	56.4		ug/L		113	70 - 125
1,1,2,2-Tetrachloroethane	<0.40		50.0	51.9		ug/L		104	68 - 133
1,1,2-Trichloroethane	<0.35		50.0	54.9		ug/L		110	70 - 125
1,1-Dichloroethane	<0.41		50.0	52.9		ug/L		106	70 - 127
1,1-Dichloroethene	<0.39		50.0	48.8		ug/L		98	68 - 121
1,1-Dichloropropene	<0.30		50.0	53.8		ug/L		108	70 - 126
1,2,3-Trichlorobenzene	<0.46	F1	50.0	58.8		ug/L		118	70 - 133
1,2,3-Trichloropropane	<0.41		50.0	50.6		ug/L		101	53 - 139
1,2,4-Trichlorobenzene	<0.34		50.0	53.1		ug/L		106	70 - 125
1,2,4-Trimethylbenzene	<0.36		50.0	53.8		ug/L		108	70 - 127
1,2-Dibromo-3-Chloropropane	<2.0		50.0	51.3		ug/L		103	59 - 139
1,2-Dibromoethane	<0.39		50.0	55.9		ug/L		112	70 - 124
1,2-Dichlorobenzene	<0.33		50.0	51.7		ug/L		103	70 - 123
1,2-Dichloroethane	<0.39		50.0	60.3		ug/L		121	66 - 132
1,2-Dichloropropane	<0.43		50.0	51.5		ug/L		103	70 - 127
1,3,5-Trimethylbenzene	<0.25		50.0	55.2		ug/L		110	70 - 129
1,3-Dichlorobenzene	<0.40		50.0	48.9		ug/L		98	70 - 122
1,3-Dichloropropane	<0.36		50.0	56.9		ug/L		114	70 - 127
1,4-Dichlorobenzene	<0.36		50.0	47.5		ug/L		95	70 - 120
2,2-Dichloropropane	<0.44		50.0	54.0		ug/L		108	68 - 120
2-Chlorotoluene	<0.31		50.0	52.5		ug/L		105	70 - 128
4-Chlorotoluene	<0.35		50.0	52.8		ug/L		106	70 - 127
Benzene	<0.15		50.0	55.0		ug/L		110	70 - 120
Bromobenzene	<0.36		50.0	53.1		ug/L		106	70 - 129
Bromochloromethane	<0.43		50.0	52.5		ug/L		105	70 - 121
Bromodichloromethane	<0.37		50.0	55.7		ug/L		111	70 - 127
Bromoform	<0.48		50.0	49.2		ug/L		98	70 - 135
Bromomethane	<0.80		50.0	55.4		ug/L		111	30 - 170
Carbon tetrachloride	<0.38		50.0	53.3		ug/L		107	70 - 136
Chlorobenzene	<0.39		50.0	51.0		ug/L		102	70 - 120
Chloroethane	<0.47		50.0	46.5		ug/L		93	40 - 150
Chloroform	<0.37		50.0	58.1		ug/L		116	70 - 120
Chloromethane	<0.32		50.0	47.1		ug/L		94	45 - 140
cis-1,2-Dichloroethene	<0.41		50.0	52.1		ug/L		104	70 - 120
cis-1,3-Dichloropropene	<0.42		50.0	53.3		ug/L		107	70 - 122
Dibromochloromethane	<0.49		50.0	51.6		ug/L		103	70 - 120
Dibromomethane	<0.27		50.0	52.0		ug/L		104	70 - 120
Dichlorodifluoromethane	<0.54		50.0	55.9		ug/L		112	30 - 150
Ethylbenzene	<0.18		50.0	51.6		ug/L		103	70 - 125
Hexachlorobutadiene	<0.45		50.0	60.3		ug/L		121	70 - 138
Isopropylbenzene	<0.39		50.0	53.5		ug/L		107	70 - 132
Methyl tert-butyl ether	<0.39		50.0	56.7		ug/L		113	65 - 120
Methylene Chloride	<1.6		50.0	51.9		ug/L		104	70 - 120
Naphthalene	<0.34		50.0	54.2		ug/L		108	59 - 143
n-Butylbenzene	<0.39		50.0	52.3		ug/L		105	70 - 129
N-Propylbenzene	<0.41		50.0	52.2		ug/L		104	70 - 132
p-Isopropyltoluene	<0.36		50.0	52.4		ug/L		105	70 - 133
sec-Butylbenzene	<0.40		50.0	54.0		ug/L		108	70 - 134

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: 500-102950-20 MS**  
**Matrix: Ground Water**  
**Analysis Batch: 310577**

**Client Sample ID: B-13B**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Styrene	<0.39		50.0	55.9		ug/L		112	70 - 120
tert-Butylbenzene	<0.40		50.0	52.1		ug/L		104	70 - 137
Tetrachloroethene	<0.37		50.0	49.2		ug/L		98	70 - 129
Toluene	<0.15		50.0	55.0		ug/L		110	70 - 120
trans-1,2-Dichloroethene	<0.35		50.0	49.5		ug/L		99	70 - 120
trans-1,3-Dichloropropene	<0.36		50.0	55.3		ug/L		111	70 - 123
Trichloroethene	<0.16		50.0	49.3		ug/L		99	70 - 122
Trichlorofluoromethane	<0.43		50.0	49.2		ug/L		98	65 - 134
Vinyl chloride	<0.20		50.0	45.6		ug/L		91	63 - 127
Xylenes, Total	<0.22		100	110		ug/L		110	70 - 120
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	109		75 - 125						
4-Bromofluorobenzene (Surr)	101		75 - 120						
Dibromofluoromethane	96		75 - 120						
Toluene-d8 (Surr)	100		75 - 120						

**Lab Sample ID: 500-102950-20 MSD**  
**Matrix: Ground Water**  
**Analysis Batch: 310577**

**Client Sample ID: B-13B**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	<0.46		50.0	56.9		ug/L		114	70 - 124	5	20
1,1,1-Trichloroethane	<0.38		50.0	58.6		ug/L		117	70 - 125	4	20
1,1,1,2,2-Tetrachloroethane	<0.40		50.0	57.5		ug/L		115	68 - 133	10	20
1,1,1,2-Trichloroethane	<0.35		50.0	59.1		ug/L		118	70 - 125	7	20
1,1-Dichloroethane	<0.41		50.0	54.3		ug/L		109	70 - 127	3	20
1,1-Dichloroethene	<0.39		50.0	51.2		ug/L		102	68 - 121	5	20
1,1-Dichloropropene	<0.30		50.0	55.7		ug/L		111	70 - 126	3	20
1,2,3-Trichlorobenzene	<0.46	F1	50.0	67.6	F1	ug/L		135	70 - 133	14	20
1,2,3-Trichloropropane	<0.41		50.0	54.3		ug/L		109	53 - 139	7	20
1,2,4-Trichlorobenzene	<0.34		50.0	58.0		ug/L		116	70 - 125	9	20
1,2,4-Trimethylbenzene	<0.36		50.0	56.8		ug/L		114	70 - 127	5	20
1,2-Dibromo-3-Chloropropane	<2.0		50.0	55.5		ug/L		111	59 - 139	8	20
1,2-Dibromoethane	<0.39		50.0	59.6		ug/L		119	70 - 124	6	20
1,2-Dichlorobenzene	<0.33		50.0	55.3		ug/L		111	70 - 123	7	20
1,2-Dichloroethane	<0.39		50.0	62.8		ug/L		126	66 - 132	4	20
1,2-Dichloropropane	<0.43		50.0	55.1		ug/L		110	70 - 127	7	20
1,3,5-Trimethylbenzene	<0.25		50.0	58.2		ug/L		116	70 - 129	5	20
1,3-Dichlorobenzene	<0.40		50.0	52.1		ug/L		104	70 - 122	6	20
1,3-Dichloropropane	<0.36		50.0	61.4		ug/L		123	70 - 127	8	20
1,4-Dichlorobenzene	<0.36		50.0	51.1		ug/L		102	70 - 120	7	20
2,2-Dichloropropane	<0.44		50.0	56.2		ug/L		112	68 - 120	4	20
2-Chlorotoluene	<0.31		50.0	55.6		ug/L		111	70 - 128	6	20
4-Chlorotoluene	<0.35		50.0	56.0		ug/L		112	70 - 127	6	20
Benzene	<0.15		50.0	57.7		ug/L		115	70 - 120	5	20
Bromobenzene	<0.36		50.0	57.6		ug/L		115	70 - 129	8	20
Bromochloromethane	<0.43		50.0	53.0		ug/L		106	70 - 121	1	20

TestAmerica Chicago



# QC Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: 500-102950-20 MSD**  
**Matrix: Ground Water**  
**Analysis Batch: 310577**

**Client Sample ID: B-13B**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	<0.37		50.0	58.7		ug/L		117	70 - 127	5	20
Bromoform	<0.48		50.0	53.6		ug/L		107	70 - 135	9	20
Bromomethane	<0.80		50.0	53.9		ug/L		108	30 - 170	3	20
Carbon tetrachloride	<0.38		50.0	56.3		ug/L		113	70 - 136	5	20
Chlorobenzene	<0.39		50.0	53.3		ug/L		107	70 - 120	4	20
Chloroethane	<0.47		50.0	47.7		ug/L		95	40 - 150	2	20
Chloroform	<0.37		50.0	59.8		ug/L		120	70 - 120	3	20
Chloromethane	<0.32		50.0	47.8		ug/L		96	45 - 140	1	20
cis-1,2-Dichloroethene	<0.41		50.0	53.5		ug/L		107	70 - 120	3	20
cis-1,3-Dichloropropene	<0.42		50.0	57.6		ug/L		115	70 - 122	8	20
Dibromochloromethane	<0.49		50.0	56.3		ug/L		113	70 - 120	9	20
Dibromomethane	<0.27		50.0	54.6		ug/L		109	70 - 120	5	20
Dichlorodifluoromethane	<0.54		50.0	58.7		ug/L		117	30 - 150	5	20
Ethylbenzene	<0.18		50.0	53.2		ug/L		106	70 - 125	3	20
Hexachlorobutadiene	<0.45		50.0	63.2		ug/L		126	70 - 138	5	20
Isopropylbenzene	<0.39		50.0	56.7		ug/L		113	70 - 132	6	20
Methyl tert-butyl ether	<0.39		50.0	59.3		ug/L		119	65 - 120	4	20
Methylene Chloride	<1.6		50.0	53.4		ug/L		107	70 - 120	3	20
Naphthalene	<0.34		50.0	62.0		ug/L		124	59 - 143	13	20
n-Butylbenzene	<0.39		50.0	55.5		ug/L		111	70 - 129	6	20
N-Propylbenzene	<0.41		50.0	55.0		ug/L		110	70 - 132	5	20
p-Isopropyltoluene	<0.36		50.0	55.1		ug/L		110	70 - 133	5	20
sec-Butylbenzene	<0.40		50.0	56.7		ug/L		113	70 - 134	5	20
Styrene	<0.39		50.0	58.6		ug/L		117	70 - 120	5	20
tert-Butylbenzene	<0.40		50.0	55.1		ug/L		110	70 - 137	6	20
Tetrachloroethene	<0.37		50.0	51.7		ug/L		103	70 - 129	5	20
Toluene	<0.15		50.0	57.4		ug/L		115	70 - 120	4	20
trans-1,2-Dichloroethene	<0.35		50.0	52.3		ug/L		105	70 - 120	6	20
trans-1,3-Dichloropropene	<0.36		50.0	59.6		ug/L		119	70 - 123	8	20
Trichloroethene	<0.16		50.0	51.5		ug/L		103	70 - 122	4	20
Trichlorofluoromethane	<0.43		50.0	51.7		ug/L		103	65 - 134	5	20
Vinyl chloride	<0.20		50.0	46.9		ug/L		94	63 - 127	3	20
Xylenes, Total	<0.22		100	114		ug/L		114	70 - 120	4	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	110		75 - 125
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane	96		75 - 120
Toluene-d8 (Surr)	101		75 - 120

**Lab Sample ID: MB 500-310587/6**  
**Matrix: Water**  
**Analysis Batch: 310587**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/15 11:07	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 11:07	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 11:07	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: MB 500-310587/6**  
**Matrix: Water**  
**Analysis Batch: 310587**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 11:07	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/15 11:07	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 11:07	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 11:07	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 11:07	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 11:07	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 11:07	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 11:07	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 11:07	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 11:07	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 11:07	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 11:07	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 11:07	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 11:07	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 11:07	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 11:07	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 11:07	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 11:07	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 11:07	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 11:07	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 11:07	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 11:07	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 11:07	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 11:07	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 11:07	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 11:07	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 11:07	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 11:07	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 11:07	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 11:07	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 11:07	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 11:07	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 11:07	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 11:07	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 11:07	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 11:07	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 11:07	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 11:07	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 11:07	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 11:07	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 11:07	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: MB 500-310587/6**

**Matrix: Water**

**Analysis Batch: 310587**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 11:07	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 11:07	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 11:07	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 11:07	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 11:07	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 11:07	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 11:07	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 11:07	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 11:07	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	84		75 - 125		11/02/15 11:07	1
4-Bromofluorobenzene (Surr)	91		75 - 120		11/02/15 11:07	1
Dibromofluoromethane	95		75 - 120		11/02/15 11:07	1
Toluene-d8 (Surr)	96		75 - 120		11/02/15 11:07	1

**Lab Sample ID: LCS 500-310587/4**

**Matrix: Water**

**Analysis Batch: 310587**

**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	45.7		ug/L		91	70 - 125
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/L		106	68 - 133
1,1,2-Trichloroethane	50.0	53.3		ug/L		107	70 - 125
1,1-Dichloroethane	50.0	49.0		ug/L		98	70 - 127
1,1-Dichloroethene	50.0	48.0		ug/L		96	68 - 121
1,1-Dichloropropene	50.0	47.7		ug/L		95	70 - 126
1,2,3-Trichlorobenzene	50.0	52.7		ug/L		105	70 - 133
1,2,3-Trichloropropane	50.0	52.0		ug/L		104	53 - 139
1,2,4-Trichlorobenzene	50.0	53.3		ug/L		107	70 - 125
1,2,4-Trimethylbenzene	50.0	49.4		ug/L		99	70 - 127
1,2-Dibromo-3-Chloropropane	50.0	43.8		ug/L		88	59 - 139
1,2-Dibromoethane	50.0	52.1		ug/L		104	70 - 124
1,2-Dichlorobenzene	50.0	54.0		ug/L		108	70 - 123
1,2-Dichloroethane	50.0	46.5		ug/L		93	66 - 132
1,2-Dichloropropane	50.0	53.5		ug/L		107	70 - 127
1,3,5-Trimethylbenzene	50.0	49.8		ug/L		100	70 - 129
1,3-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 122
1,3-Dichloropropane	50.0	50.9		ug/L		102	70 - 127
1,4-Dichlorobenzene	50.0	52.0		ug/L		104	70 - 120
2,2-Dichloropropane	50.0	36.5		ug/L		73	68 - 120
2-Chlorotoluene	50.0	48.5		ug/L		97	70 - 128
4-Chlorotoluene	50.0	48.2		ug/L		96	70 - 127
Benzene	50.0	47.9		ug/L		96	70 - 120
Bromobenzene	50.0	51.8		ug/L		104	70 - 129
Bromochloromethane	50.0	53.4		ug/L		107	70 - 121
Bromodichloromethane	50.0	47.1		ug/L		94	70 - 127

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# QC Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: LCS 500-310587/4**

**Matrix: Water**

**Analysis Batch: 310587**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	50.0	48.9		ug/L		98	70 - 135
Bromomethane	50.0	43.7		ug/L		87	30 - 170
Carbon tetrachloride	50.0	46.0		ug/L		92	70 - 136
Chlorobenzene	50.0	51.0		ug/L		102	70 - 120
Chloroethane	50.0	43.7		ug/L		87	40 - 150
Chloroform	50.0	46.9		ug/L		94	70 - 120
Chloromethane	50.0	45.8		ug/L		92	45 - 140
cis-1,2-Dichloroethene	50.0	48.3		ug/L		97	70 - 120
cis-1,3-Dichloropropene	50.0	48.6		ug/L		97	70 - 122
Dibromochloromethane	50.0	51.1		ug/L		102	70 - 120
Dibromomethane	50.0	49.2		ug/L		98	70 - 120
Dichlorodifluoromethane	50.0	39.9		ug/L		80	30 - 150
Ethylbenzene	50.0	50.9		ug/L		102	70 - 125
Hexachlorobutadiene	50.0	49.1		ug/L		98	70 - 138
Isopropylbenzene	50.0	50.6		ug/L		101	70 - 132
Methyl tert-butyl ether	50.0	43.1		ug/L		86	65 - 120
Methylene Chloride	50.0	46.8		ug/L		94	70 - 120
Naphthalene	50.0	55.2		ug/L		110	59 - 143
n-Butylbenzene	50.0	49.0		ug/L		98	70 - 129
N-Propylbenzene	50.0	49.9		ug/L		100	70 - 132
p-Isopropyltoluene	50.0	51.4		ug/L		103	70 - 133
sec-Butylbenzene	50.0	51.0		ug/L		102	70 - 134
Styrene	50.0	51.5		ug/L		103	70 - 120
tert-Butylbenzene	50.0	50.6		ug/L		101	70 - 137
Tetrachloroethene	50.0	53.0		ug/L		106	70 - 129
Toluene	50.0	49.7		ug/L		99	70 - 120
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	70 - 120
trans-1,3-Dichloropropene	50.0	47.1		ug/L		94	70 - 123
Trichloroethene	50.0	51.4		ug/L		103	70 - 122
Trichlorofluoromethane	50.0	43.2		ug/L		86	65 - 134
Vinyl chloride	50.0	47.4		ug/L		95	63 - 127
Xylenes, Total	100	98.6		ug/L		99	70 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		75 - 125
4-Bromofluorobenzene (Surr)	91		75 - 120
Dibromofluoromethane	99		75 - 120
Toluene-d8 (Surr)	99		75 - 120

**Lab Sample ID: MB 500-310729/6**

**Matrix: Water**

**Analysis Batch: 310729**

**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	<0.46		1.0	0.46	ug/L			11/02/15 23:33	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/15 23:33	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/15 23:33	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/15 23:33	1

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: MB 500-310729/6**  
**Matrix: Water**  
**Analysis Batch: 310729**

**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	<0.41		1.0	0.41	ug/L			11/02/15 23:33	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/15 23:33	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/15 23:33	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/15 23:33	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/15 23:33	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/15 23:33	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/15 23:33	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/15 23:33	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/15 23:33	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/15 23:33	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/15 23:33	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/15 23:33	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/15 23:33	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/15 23:33	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/15 23:33	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/15 23:33	1
Benzene	<0.15		0.50	0.15	ug/L			11/02/15 23:33	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/15 23:33	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/15 23:33	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/15 23:33	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/15 23:33	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/15 23:33	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/15 23:33	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
Chloroethane	<0.47		1.0	0.47	ug/L			11/02/15 23:33	1
Chloroform	<0.37		1.0	0.37	ug/L			11/02/15 23:33	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/15 23:33	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/15 23:33	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/15 23:33	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/15 23:33	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/15 23:33	1
Dichlorodifluoromethane	<0.54		2.0	0.54	ug/L			11/02/15 23:33	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/15 23:33	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/15 23:33	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/15 23:33	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/15 23:33	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/15 23:33	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/15 23:33	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/15 23:33	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 23:33	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/15 23:33	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/15 23:33	1

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: MB 500-310729/6**  
**Matrix: Water**  
**Analysis Batch: 310729**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/15 23:33	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/15 23:33	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/15 23:33	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/15 23:33	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/15 23:33	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/15 23:33	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/15 23:33	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/15 23:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 125		11/02/15 23:33	1
4-Bromofluorobenzene (Surr)	98		75 - 120		11/02/15 23:33	1
Dibromofluoromethane	96		75 - 120		11/02/15 23:33	1
Toluene-d8 (Surr)	96		75 - 120		11/02/15 23:33	1

**Lab Sample ID: LCS 500-310729/4**  
**Matrix: Water**  
**Analysis Batch: 310729**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/L		95	70 - 124
1,1,1-Trichloroethane	50.0	43.4		ug/L		87	70 - 125
1,1,1,2,2-Tetrachloroethane	50.0	46.6		ug/L		93	68 - 133
1,1,1,2-Trichloroethane	50.0	50.9		ug/L		102	70 - 125
1,1-Dichloroethane	50.0	55.2		ug/L		110	70 - 127
1,1-Dichloroethene	50.0	46.5		ug/L		93	68 - 121
1,1-Dichloropropene	50.0	49.1		ug/L		98	70 - 126
1,2,3-Trichlorobenzene	50.0	44.2		ug/L		88	70 - 133
1,2,3-Trichloropropane	50.0	46.9		ug/L		94	53 - 139
1,2,4-Trichlorobenzene	50.0	44.1		ug/L		88	70 - 125
1,2,4-Trimethylbenzene	50.0	47.6		ug/L		95	70 - 127
1,2-Dibromo-3-Chloropropane	50.0	37.3		ug/L		75	59 - 139
1,2-Dibromoethane	50.0	53.5		ug/L		107	70 - 124
1,2-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 123
1,2-Dichloroethane	50.0	52.9		ug/L		106	66 - 132
1,2-Dichloropropane	50.0	56.4		ug/L		113	70 - 127
1,3,5-Trimethylbenzene	50.0	47.6		ug/L		95	70 - 129
1,3-Dichlorobenzene	50.0	49.5		ug/L		99	70 - 122
1,3-Dichloropropane	50.0	51.5		ug/L		103	70 - 127
1,4-Dichlorobenzene	50.0	48.7		ug/L		97	70 - 120
2,2-Dichloropropane	50.0	45.0		ug/L		90	68 - 120
2-Chlorotoluene	50.0	44.8		ug/L		90	70 - 128
4-Chlorotoluene	50.0	44.7		ug/L		89	70 - 127
Benzene	50.0	50.0		ug/L		100	70 - 120
Bromobenzene	50.0	48.7		ug/L		97	70 - 129
Bromochloromethane	50.0	55.5		ug/L		111	70 - 121
Bromodichloromethane	50.0	43.6		ug/L		87	70 - 127
Bromoform	50.0	42.7		ug/L		85	70 - 135

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

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

**Lab Sample ID: LCS 500-310729/4**

**Matrix: Water**

**Analysis Batch: 310729**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	50.0	40.8		ug/L		82	30 - 170
Carbon tetrachloride	50.0	43.5		ug/L		87	70 - 136
Chlorobenzene	50.0	51.3		ug/L		103	70 - 120
Chloroethane	50.0	44.0		ug/L		88	40 - 150
Chloroform	50.0	47.8		ug/L		96	70 - 120
Chloromethane	50.0	45.7		ug/L		91	45 - 140
cis-1,2-Dichloroethene	50.0	49.0		ug/L		98	70 - 120
cis-1,3-Dichloropropene	50.0	48.1		ug/L		96	70 - 122
Dibromochloromethane	50.0	48.4		ug/L		97	70 - 120
Dibromomethane	50.0	50.7		ug/L		101	70 - 120
Dichlorodifluoromethane	50.0	57.1		ug/L		114	30 - 150
Ethylbenzene	50.0	50.3		ug/L		101	70 - 125
Hexachlorobutadiene	50.0	41.2		ug/L		82	70 - 138
Isopropylbenzene	50.0	48.0		ug/L		96	70 - 132
Methyl tert-butyl ether	50.0	49.0		ug/L		98	65 - 120
Methylene Chloride	50.0	45.4		ug/L		91	70 - 120
Naphthalene	50.0	45.5		ug/L		91	59 - 143
n-Butylbenzene	50.0	43.2		ug/L		86	70 - 129
N-Propylbenzene	50.0	45.3		ug/L		91	70 - 132
p-Isopropyltoluene	50.0	47.9		ug/L		96	70 - 133
sec-Butylbenzene	50.0	47.3		ug/L		95	70 - 134
Styrene	50.0	51.0		ug/L		102	70 - 120
tert-Butylbenzene	50.0	48.7		ug/L		97	70 - 137
Tetrachloroethene	50.0	51.0		ug/L		102	70 - 129
Toluene	50.0	48.0		ug/L		96	70 - 120
trans-1,2-Dichloroethene	50.0	45.4		ug/L		91	70 - 120
trans-1,3-Dichloropropene	50.0	47.0		ug/L		94	70 - 123
Trichloroethene	50.0	54.3		ug/L		109	70 - 122
Trichlorofluoromethane	50.0	46.3		ug/L		93	65 - 134
Vinyl chloride	50.0	54.1		ug/L		108	63 - 127
Xylenes, Total	100	93.4		ug/L		93	70 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		75 - 125
4-Bromofluorobenzene (Surr)	88		75 - 120
Dibromofluoromethane	101		75 - 120
Toluene-d8 (Surr)	96		75 - 120

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: EXW-4**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-1**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/01/15 22:33	TCT	TAL CHI

**Client Sample ID: EXW-6**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-2**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/01/15 23:00	TCT	TAL CHI

**Client Sample ID: Muni #3**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-3**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/01/15 23:27	TCT	TAL CHI

**Client Sample ID: MW-17**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-4**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/01/15 23:53	TCT	TAL CHI
Total/NA	Analysis	8260B	DL	5	310729	11/03/15 05:41	TCT	TAL CHI

**Client Sample ID: MW-18**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-5**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 00:20	TCT	TAL CHI

**Client Sample ID: MW-19**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-6**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 00:47	TCT	TAL CHI

TestAmerica Chicago



# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: MW-21**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-7**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 01:13	TCT	TAL CHI

**Client Sample ID: MW-21A**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-8**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 01:40	TCT	TAL CHI

**Client Sample ID: B-1**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-9**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 02:06	TCT	TAL CHI

**Client Sample ID: B-1 DUP**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-10**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 02:33	TCT	TAL CHI

**Client Sample ID: B-1A**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-11**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 03:00	TCT	TAL CHI

**Client Sample ID: B-1B**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-12**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 03:26	TCT	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Client Sample ID: B-3

Date Collected: 10/21/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 03:52	TCT	TAL CHI

## Client Sample ID: B-3A

Date Collected: 10/21/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-14

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 04:19	TCT	TAL CHI

## Client Sample ID: B-10

Date Collected: 10/20/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-15

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 04:45	TCT	TAL CHI

## Client Sample ID: B-11

Date Collected: 10/20/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-16

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 05:12	TCT	TAL CHI

## Client Sample ID: B-12

Date Collected: 10/20/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-17

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 05:38	TCT	TAL CHI

## Client Sample ID: B-13

Date Collected: 10/21/15 00:00

Date Received: 10/22/15 09:35

## Lab Sample ID: 500-102950-18

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 06:05	TCT	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

**Client Sample ID: B-13A**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-19**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 06:31	TCT	TAL CHI

**Client Sample ID: B-13B**

**Date Collected: 10/21/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-20**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310577	11/02/15 06:58	TCT	TAL CHI

**Client Sample ID: Discharge Pipe**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-21**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310587	11/02/15 12:13	PMF	TAL CHI

**Client Sample ID: Trip Blank**

**Date Collected: 10/20/15 00:00**

**Date Received: 10/22/15 09:35**

**Lab Sample ID: 500-102950-22**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	310587	11/02/15 11:46	PMF	TAL CHI

## Laboratory References:

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

# Certification Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners 8267033

TestAmerica Job ID: 500-102950-1

## Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-16

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# TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60  
Phone: 708.534.5200 Fax: 708.534.5200



500-102950 COC

Report To: Dick Water (optional)  
Contact: MSA Professional  
Company: 1230 South Blvd  
Address: Bonanza WI 53913  
Address: 608-354-2111  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_ (optional)  
Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: Same  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-102950  
Chain of Custody Number: \_\_\_\_\_  
Page 1 of 3  
Temperature °C of Cooler: 4.9

Client		Client Project #		Preservative		Parameter		Project Location/State		Lab Project #		Sampler		Lab PM		Preservative Key	
MSA Professional		8267033						WI				David Fitzsimmons				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	
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	Comments										
			Date	Time													
1		EXW-4	10/20	21/15	3	GW	X										
2		EXW-6e	10/20		3		X										
3		Muni #3	10/21		3		X										
4		MW-17	10/20		3		X										
5		MW-18	10/20		3		X										
6		MW-19	10/20		3		X										
7		MW-21	10/20		3		X										
8		MW-21A	10/20		3		X										
9		B-1	10/20		3		X										
10		B-1 Dup	10/20		3		X										

Turnaround Time Required (Business Days)

\_\_\_ Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days \_\_\_ 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>[Signature]</u> Company: <u>MSA Prof.</u> Date: <u>10/21/15</u> Time: <u>11:00</u>	Received By: <u>[Signature]</u> Company: <u>TA-CBI</u> Date: <u>10/22/15</u> Time: <u>09:35</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____

Lab Courier: \_\_\_\_\_  
Shipped: Fed-X  
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:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To: (optional) Dick Luster  
Contact: MSA Professional  
Company: 1230 South Blvd  
Address: Bamboo WI 53913  
Address: 6046-356-2771  
Phone: 6046-356-2771  
Fax:  
E-Mail:

Bill To: (optional)  
Contact:  
Company:  
Address: Same  
Address:  
Phone:  
Fax:  
PO#/Reference#

## Chain of Custody Record

Lab Job #: 500-102950  
Chain of Custody Number:  
Page 2 of 3  
Temperature °C of Cooler:

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 #		Matrix		Matrix		Comments		
Project Location/State		Lab PM		Matrix		Matrix				
Sampler		Lab PM		Matrix		Matrix				
Lab ID	MS/MSE	Sample ID	Date	Time	# of Containers	Matrix	Matrix	Matrix	Matrix	
11		B-1A	10/20	21/15	3	GW	X			
12		B-1B			3		X			
13		B-3	10/21		3		X			
14		B-3A			3		X			
15		B-1D	10/20		3		X			
16		B-11			3		X			
17		B-12			3		X			
18		B-13	10/21		3		X			
19		B-13A			3		X			
20		B-13B			3		X			

Turnaround Time Required (Business Days)

Day 2 Days 3 Days 7 Days 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>[Signature]</u>	Company: <u>MSA Prof.</u>	Date: <u>10/21/15</u>	Time: <u>10:35</u>	Received By: <u>[Signature]</u>	Company: <u>VA-CRT</u>	Date: <u>10/22/15</u>	Time: <u>09:35</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
  - 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:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To: Dick Lupton (optional) Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_ Company: \_\_\_\_\_  
 Address: 1230 South Blvd Address: Same  
 Address: Beverly Hills 53913 Address: \_\_\_\_\_  
 Phone: 604-351-2771 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_ Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_ PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-102950  
 Chain of Custody Number: \_\_\_\_\_  
 Page 3 of 3  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project		Preservative												
MSA Professional		8262033														
Project Name		Lab Project #		Parameter												
Munsequa Cleaners																
Project Location/State		Lab Project #		Matrix												
WS				VOL												
Sampler		Lab PM		Matrix												
David Fitzsimmons				Gibbs												
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	Comments									
			Date	Time												
21		Discharge Pipe	10/20	2:15	3	GW	X									
22		Tap Blank			2	T	X									

- 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

Turnaround Time Required (Business Days)  
 \_\_\_ Day \_\_\_ 2 Days \_\_\_ 7 Days \_\_\_ 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>[Signature]</u> Company: _____ Date: _____ Time: _____	Received By: <u>MSA Prof</u> Company: _____ Date: <u>10/21/15</u> Time: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: <u>TA-CHE</u> Company: _____ Date: <u>10/22/15</u> Time: <u>0935</u>
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: MSA Professional Services, Inc

Job Number: 500-102950-1

**Login Number: 102950**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	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.	True	
Cooler Temperature is recorded.	True	
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	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	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: 500-112232-1

Client Project/Site: Minoqua Cleaners - 8267019

For:

MSA Professional Services, Inc

1230 South Blvd

Baraboo, Wisconsin 53913

Attn: Mr. Richard Lyster



Authorized for release by:

6/8/2016 2:10:35 PM

Sandie Fredrick, Project Manager II

(920)261-1660

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

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



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: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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**Job ID: 500-112232-1**

---

**Laboratory: TestAmerica Chicago**

## Narrative

---

**Job Narrative**  
**500-112232-1**

## Comments

No additional comments.

## Receipt

The samples were received on 5/27/2016 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

## GC/MS VOA

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

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# Detection Summary

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Client Sample ID: EXW-4

## Lab Sample ID: 500-112232-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	1.8		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: EXW-6

## Lab Sample ID: 500-112232-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	24		1.0	0.41	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.3		1.0	0.35	ug/L	1		8260B	Total/NA
Trichloroethene	0.80		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	6.3		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MUNI #3

## Lab Sample ID: 500-112232-3

No Detections.

## Client Sample ID: MW-17

## Lab Sample ID: 500-112232-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	19		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	0.52		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	19		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-18

## Lab Sample ID: 500-112232-5

No Detections.

## Client Sample ID: MW-19

## Lab Sample ID: 500-112232-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.2		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	2.6		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	98		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-20

## Lab Sample ID: 500-112232-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	3.2		1.0	0.37	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-21

## Lab Sample ID: 500-112232-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	6.3		1.0	0.37	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-21A

## Lab Sample ID: 500-112232-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	46		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	2.2		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	6.9		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	4.0		0.50	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Client Sample ID: B-1

Lab Sample ID: 500-112232-10

No Detections.

## Client Sample ID: B-1A

Lab Sample ID: 500-112232-11

No Detections.

## Client Sample ID: B-1B

Lab Sample ID: 500-112232-12

No Detections.

## Client Sample ID: B-3

Lab Sample ID: 500-112232-13

No Detections.

## Client Sample ID: B-3A

Lab Sample ID: 500-112232-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.66	J	1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.46	J	0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: B-10

Lab Sample ID: 500-112232-15

No Detections.

## Client Sample ID: B-11

Lab Sample ID: 500-112232-16

No Detections.

## Client Sample ID: B-12

Lab Sample ID: 500-112232-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.0		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	0.74		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: B-13

Lab Sample ID: 500-112232-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.57	J	1.0	0.39	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	41		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	32		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	2.2		0.50	0.20	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	440		10	3.7	ug/L	10		8260B	Total/NA

## Client Sample ID: B-13A

Lab Sample ID: 500-112232-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	3.3		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.46	J	0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: B-13B

Lab Sample ID: 500-112232-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.2		1.0	0.37	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Client Sample ID: Discharge

Lab Sample ID: 500-112232-21

No Detections.

## Client Sample ID: MW-18A

Lab Sample ID: 500-112232-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromodichloromethane	0.55	J	1.0	0.37	ug/L	1		8260B	Total/NA
Chloroethane	1.1		1.0	0.51	ug/L	1		8260B	Total/NA
Chloroform	5.8		1.0	0.37	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.91	J	1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.86	J	1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.62		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-19A

Lab Sample ID: 500-112232-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.3		1.0	0.37	ug/L	1		8260B	Total/NA

## Client Sample ID: B-1B Dup

Lab Sample ID: 500-112232-24

No Detections.

## Client Sample ID: Trip Blank

Lab Sample ID: 500-112232-25

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Method Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

---

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

---

**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: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-112232-1	EXW-4	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-2	EXW-6	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-3	MUNI #3	Ground Water	05/26/16 00:00	05/27/16 10:30
500-112232-4	MW-17	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-5	MW-18	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-6	MW-19	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-7	MW-20	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-8	MW-21	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-9	MW-21A	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-10	B-1	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-11	B-1A	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-12	B-1B	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-13	B-3	Ground Water	05/26/16 00:00	05/27/16 10:30
500-112232-14	B-3A	Ground Water	05/26/16 00:00	05/27/16 10:30
500-112232-15	B-10	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-16	B-11	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-17	B-12	Ground Water	05/24/16 00:00	05/27/16 10:30
500-112232-18	B-13	Ground Water	05/26/16 00:00	05/27/16 10:30
500-112232-19	B-13A	Ground Water	05/26/16 00:00	05/27/16 10:30
500-112232-20	B-13B	Ground Water	05/26/16 00:00	05/27/16 10:30
500-112232-21	Discharge	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-22	MW-18A	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-23	MW-19A	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-24	B-1B Dup	Ground Water	05/25/16 00:00	05/27/16 10:30
500-112232-25	Trip Blank	Water	05/24/16 00:00	05/27/16 10:30



# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: EXW-4**  
**Date Collected: 05/25/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-1**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 03:49	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 03:49	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 03:49	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 03:49	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 03:49	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 03:49	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 03:49	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 03:49	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 03:49	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 03:49	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 03:49	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 03:49	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 03:49	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 03:49	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 03:49	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 03:49	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 03:49	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 03:49	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 03:49	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 03:49	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 03:49	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 03:49	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 03:49	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 03:49	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 03:49	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 03:49	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 03:49	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 03:49	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 03:49	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 03:49	1
<b>cis-1,2-Dichloroethene</b>	<b>1.7</b>		1.0	0.41	ug/L			06/07/16 03:49	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 03:49	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 03:49	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 03:49	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 03:49	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 03:49	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 03:49	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 03:49	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 03:49	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 03:49	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 03:49	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 03:49	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: EXW-4**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-1**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 03:49	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 03:49	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 03:49	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 03:49	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 03:49	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 03:49	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 03:49	1
<b>Trichloroethene</b>	<b>1.8</b>		0.50	0.16	ug/L			06/07/16 03:49	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 03:49	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 03:49	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 03:49	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)	107		71 - 127					06/07/16 03:49	1
4-Bromofluorobenzene (Surr)	106		71 - 120					06/07/16 03:49	1
Dibromofluoromethane	96		70 - 120					06/07/16 03:49	1
Toluene-d8 (Surr)	92		75 - 120					06/07/16 03:49	1

**Client Sample ID: EXW-6**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-2**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 04:14	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 04:14	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 04:14	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 04:14	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 04:14	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 04:14	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 04:14	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 04:14	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 04:14	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 04:14	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 04:14	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 04:14	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 04:14	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 04:14	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 04:14	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 04:14	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 04:14	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 04:14	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 04:14	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 04:14	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 04:14	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 04:14	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 04:14	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: EXW-6**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-2**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 04:14	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 04:14	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 04:14	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 04:14	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 04:14	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 04:14	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 04:14	1
<b>cis-1,2-Dichloroethene</b>	<b>24</b>		1.0	0.41	ug/L			06/07/16 04:14	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 04:14	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 04:14	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 04:14	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 04:14	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 04:14	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 04:14	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 04:14	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 04:14	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 04:14	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 04:14	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 04:14	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 04:14	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 04:14	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 04:14	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 04:14	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 04:14	1
<b>trans-1,2-Dichloroethene</b>	<b>1.3</b>		1.0	0.35	ug/L			06/07/16 04:14	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 04:14	1
<b>Trichloroethene</b>	<b>0.80</b>		0.50	0.16	ug/L			06/07/16 04:14	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 04:14	1
<b>Vinyl chloride</b>	<b>6.3</b>		0.50	0.20	ug/L			06/07/16 04:14	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 04:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		71 - 127		06/07/16 04:14	1
4-Bromofluorobenzene (Surr)	110		71 - 120		06/07/16 04:14	1
Dibromofluoromethane	96		70 - 120		06/07/16 04:14	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 04:14	1

**Client Sample ID: MUNI #3**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-3**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 04:39	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 04:39	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 04:39	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MUNI #3**

**Lab Sample ID: 500-112232-3**

**Date Collected: 05/26/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 04:39	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 04:39	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 04:39	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 04:39	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 04:39	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 04:39	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 04:39	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 04:39	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 04:39	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 04:39	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 04:39	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 04:39	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 04:39	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 04:39	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 04:39	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 04:39	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 04:39	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 04:39	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 04:39	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 04:39	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 04:39	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 04:39	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 04:39	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 04:39	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 04:39	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 04:39	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 04:39	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 04:39	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 04:39	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 04:39	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 04:39	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 04:39	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 04:39	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 04:39	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 04:39	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 04:39	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 04:39	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 04:39	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 04:39	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 04:39	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 04:39	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 04:39	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MUNI #3**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-3**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 04:39	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 04:39	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 04:39	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 04:39	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 04:39	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 04:39	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 04:39	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 04:39	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)	107		71 - 127					06/07/16 04:39	1
4-Bromofluorobenzene (Surr)	109		71 - 120					06/07/16 04:39	1
Dibromofluoromethane	94		70 - 120					06/07/16 04:39	1
Toluene-d8 (Surr)	91		75 - 120					06/07/16 04:39	1

**Client Sample ID: MW-17**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-4**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 05:03	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 05:03	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 05:03	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 05:03	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 05:03	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 05:03	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 05:03	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 05:03	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 05:03	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:03	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 05:03	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 05:03	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 05:03	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 05:03	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:03	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 05:03	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:03	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 05:03	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 05:03	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 05:03	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 05:03	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:03	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 05:03	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 05:03	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 05:03	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 05:03	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-17**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-4**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 05:03	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 05:03	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 05:03	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 05:03	1
<b>cis-1,2-Dichloroethene</b>	<b>19</b>		1.0	0.41	ug/L			06/07/16 05:03	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 05:03	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 05:03	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 05:03	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 05:03	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 05:03	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 05:03	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 05:03	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 05:03	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 05:03	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 05:03	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 05:03	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:03	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 05:03	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:03	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 05:03	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 05:03	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 05:03	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 05:03	1
<b>Trichloroethene</b>	<b>0.52</b>		0.50	0.16	ug/L			06/07/16 05:03	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 05:03	1
<b>Vinyl chloride</b>	<b>19</b>		0.50	0.20	ug/L			06/07/16 05:03	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 05:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		71 - 127		06/07/16 05:03	1
4-Bromofluorobenzene (Surr)	109		71 - 120		06/07/16 05:03	1
Dibromofluoromethane	98		70 - 120		06/07/16 05:03	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 05:03	1

**Client Sample ID: MW-18**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 05:29	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 05:29	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 05:29	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 05:29	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 05:29	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-18**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 05:29	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 05:29	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 05:29	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 05:29	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:29	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 05:29	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 05:29	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 05:29	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 05:29	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:29	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 05:29	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:29	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 05:29	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 05:29	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 05:29	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 05:29	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:29	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 05:29	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 05:29	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 05:29	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 05:29	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 05:29	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 05:29	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 05:29	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 05:29	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 05:29	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 05:29	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 05:29	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 05:29	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 05:29	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 05:29	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 05:29	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 05:29	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 05:29	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 05:29	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 05:29	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 05:29	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:29	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 05:29	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:29	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 05:29	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 05:29	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 05:29	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-18**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 05:29	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 05:29	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 05:29	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 05:29	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 05:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		06/07/16 05:29	1
4-Bromofluorobenzene (Surr)	111		71 - 120		06/07/16 05:29	1
Dibromofluoromethane	96		70 - 120		06/07/16 05:29	1
Toluene-d8 (Surr)	89		75 - 120		06/07/16 05:29	1

**Client Sample ID: MW-19**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-6**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 05:53	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 05:53	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 05:53	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 05:53	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 05:53	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 05:53	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 05:53	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 05:53	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 05:53	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:53	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 05:53	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 05:53	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 05:53	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 05:53	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:53	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 05:53	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:53	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 05:53	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 05:53	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 05:53	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 05:53	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 05:53	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 05:53	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 05:53	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 05:53	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 05:53	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 05:53	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 05:53	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-19**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-6**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 05:53	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 05:53	1
<b>cis-1,2-Dichloroethene</b>	<b>10</b>		1.0	0.41	ug/L			06/07/16 05:53	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 05:53	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 05:53	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 05:53	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 05:53	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 05:53	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 05:53	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 05:53	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 05:53	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 05:53	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 05:53	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 05:53	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:53	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 05:53	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 05:53	1
<b>Tetrachloroethene</b>	<b>1.2</b>		1.0	0.37	ug/L			06/07/16 05:53	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 05:53	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 05:53	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 05:53	1
<b>Trichloroethene</b>	<b>2.6</b>		0.50	0.16	ug/L			06/07/16 05:53	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 05:53	1
<b>Vinyl chloride</b>	<b>98</b>		0.50	0.20	ug/L			06/07/16 05:53	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 05:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		71 - 127		06/07/16 05:53	1
4-Bromofluorobenzene (Surr)	108		71 - 120		06/07/16 05:53	1
Dibromofluoromethane	97		70 - 120		06/07/16 05:53	1
Toluene-d8 (Surr)	89		75 - 120		06/07/16 05:53	1

**Client Sample ID: MW-20**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-7**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 06:18	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 06:18	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 06:18	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 06:18	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 06:18	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 06:18	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 06:18	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 06:18	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-20**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-7**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 06:18	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 06:18	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 06:18	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 06:18	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 06:18	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 06:18	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 06:18	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 06:18	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 06:18	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 06:18	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 06:18	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 06:18	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 06:18	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 06:18	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 06:18	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 06:18	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 06:18	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 06:18	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 06:18	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 06:18	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 06:18	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 06:18	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 06:18	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 06:18	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 06:18	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 06:18	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 06:18	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 06:18	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 06:18	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 06:18	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 06:18	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 06:18	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 06:18	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 06:18	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 06:18	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 06:18	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 06:18	1
<b>Tetrachloroethene</b>	<b>3.2</b>		1.0	0.37	ug/L			06/07/16 06:18	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 06:18	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 06:18	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 06:18	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 06:18	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 06:18	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-20**  
**Date Collected: 05/25/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-7**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 06:18	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 06:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		71 - 127					06/07/16 06:18	1
4-Bromofluorobenzene (Surr)	113		71 - 120					06/07/16 06:18	1
Dibromofluoromethane	100		70 - 120					06/07/16 06:18	1
Toluene-d8 (Surr)	91		75 - 120					06/07/16 06:18	1

**Client Sample ID: MW-21**  
**Date Collected: 05/25/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-8**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 06:43	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 06:43	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 06:43	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 06:43	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 06:43	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 06:43	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 06:43	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 06:43	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 06:43	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 06:43	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 06:43	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 06:43	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 06:43	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 06:43	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 06:43	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 06:43	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 06:43	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 06:43	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 06:43	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 06:43	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 06:43	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 06:43	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 06:43	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 06:43	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 06:43	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 06:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 06:43	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 06:43	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 06:43	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 06:43	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 06:43	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-21**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-8**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 06:43	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 06:43	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 06:43	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 06:43	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 06:43	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 06:43	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 06:43	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 06:43	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 06:43	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 06:43	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 06:43	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 06:43	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 06:43	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 06:43	1
<b>Tetrachloroethene</b>	<b>6.3</b>		1.0	0.37	ug/L			06/07/16 06:43	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 06:43	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 06:43	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 06:43	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 06:43	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 06:43	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 06:43	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 06:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		06/07/16 06:43	1
4-Bromofluorobenzene (Surr)	109		71 - 120		06/07/16 06:43	1
Dibromofluoromethane	96		70 - 120		06/07/16 06:43	1
Toluene-d8 (Surr)	89		75 - 120		06/07/16 06:43	1

**Client Sample ID: MW-21A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-9**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 07:08	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 07:08	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 07:08	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 07:08	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 07:08	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 07:08	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 07:08	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 07:08	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 07:08	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:08	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 07:08	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-21A**

**Lab Sample ID: 500-112232-9**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 07:08	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 07:08	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 07:08	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:08	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 07:08	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:08	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 07:08	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 07:08	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 07:08	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 07:08	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:08	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 07:08	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 07:08	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 07:08	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 07:08	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 07:08	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 07:08	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 07:08	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 07:08	1
<b>cis-1,2-Dichloroethene</b>	<b>46</b>		1.0	0.41	ug/L			06/07/16 07:08	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 07:08	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 07:08	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 07:08	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 07:08	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 07:08	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 07:08	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 07:08	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 07:08	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 07:08	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 07:08	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 07:08	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:08	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 07:08	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:08	1
<b>Tetrachloroethene</b>	<b>2.2</b>		1.0	0.37	ug/L			06/07/16 07:08	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 07:08	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 07:08	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 07:08	1
<b>Trichloroethene</b>	<b>6.9</b>		0.50	0.16	ug/L			06/07/16 07:08	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 07:08	1
<b>Vinyl chloride</b>	<b>4.0</b>		0.50	0.20	ug/L			06/07/16 07:08	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 07:08	1

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Client Sample ID: MW-21A

Date Collected: 05/25/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-9

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		06/07/16 07:08	1
4-Bromofluorobenzene (Surr)	112		71 - 120		06/07/16 07:08	1
Dibromofluoromethane	93		70 - 120		06/07/16 07:08	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 07:08	1

## Client Sample ID: B-1

Date Collected: 05/25/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-10

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 07:33	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 07:33	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 07:33	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 07:33	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 07:33	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 07:33	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 07:33	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 07:33	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 07:33	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:33	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 07:33	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 07:33	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 07:33	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 07:33	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:33	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 07:33	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:33	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 07:33	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 07:33	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 07:33	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 07:33	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:33	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 07:33	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 07:33	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 07:33	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 07:33	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 07:33	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 07:33	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 07:33	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 07:33	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 07:33	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 07:33	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 07:33	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 07:33	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 07:33	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-1**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-10**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 07:33	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 07:33	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 07:33	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 07:33	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 07:33	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 07:33	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 07:33	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:33	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 07:33	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:33	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 07:33	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 07:33	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 07:33	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 07:33	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 07:33	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 07:33	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 07:33	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 07:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		71 - 127		06/07/16 07:33	1
4-Bromofluorobenzene (Surr)	110		71 - 120		06/07/16 07:33	1
Dibromofluoromethane	96		70 - 120		06/07/16 07:33	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 07:33	1

**Client Sample ID: B-1A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-11**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 07:58	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 07:58	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 07:58	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 07:58	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 07:58	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 07:58	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 07:58	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 07:58	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 07:58	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:58	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 07:58	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 07:58	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 07:58	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-1A**  
**Date Collected: 05/25/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-11**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 07:58	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:58	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 07:58	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:58	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 07:58	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 07:58	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 07:58	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 07:58	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 07:58	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 07:58	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 07:58	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 07:58	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 07:58	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 07:58	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 07:58	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 07:58	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 07:58	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 07:58	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 07:58	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 07:58	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 07:58	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 07:58	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 07:58	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 07:58	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 07:58	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 07:58	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 07:58	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 07:58	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 07:58	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:58	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 07:58	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 07:58	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 07:58	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 07:58	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 07:58	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 07:58	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 07:58	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 07:58	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 07:58	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 07:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 127		06/07/16 07:58	1
4-Bromofluorobenzene (Surr)	112		71 - 120		06/07/16 07:58	1
Dibromofluoromethane	95		70 - 120		06/07/16 07:58	1
Toluene-d8 (Surr)	92		75 - 120		06/07/16 07:58	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-1B**  
**Date Collected: 05/25/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-12**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 13:55	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 13:55	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 13:55	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 13:55	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 13:55	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 13:55	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 13:55	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 13:55	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 13:55	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 13:55	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 13:55	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 13:55	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 13:55	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 13:55	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 13:55	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 13:55	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 13:55	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 13:55	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 13:55	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 13:55	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 13:55	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 13:55	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 13:55	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 13:55	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 13:55	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 13:55	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 13:55	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 13:55	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 13:55	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 13:55	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 13:55	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 13:55	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 13:55	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 13:55	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 13:55	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 13:55	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 13:55	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 13:55	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 13:55	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 13:55	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 13:55	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 13:55	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Client Sample ID: B-1B

Date Collected: 05/25/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-12

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 13:55	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 13:55	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 13:55	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 13:55	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 13:55	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 13:55	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 13:55	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 13:55	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 13:55	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 13:55	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 13:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		71 - 127					06/07/16 13:55	1
4-Bromofluorobenzene (Surr)	111		71 - 120					06/07/16 13:55	1
Dibromofluoromethane	95		70 - 120					06/07/16 13:55	1
Toluene-d8 (Surr)	89		75 - 120					06/07/16 13:55	1

## Client Sample ID: B-3

Date Collected: 05/26/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-13

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 14:21	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 14:21	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 14:21	1
1,1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 14:21	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 14:21	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 14:21	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 14:21	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 14:21	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 14:21	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 14:21	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 14:21	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 14:21	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 14:21	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 14:21	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 14:21	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 14:21	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 14:21	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 14:21	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 14:21	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 14:21	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 14:21	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 14:21	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 14:21	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-3**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-13**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 14:21	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 14:21	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 14:21	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 14:21	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 14:21	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 14:21	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 14:21	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 14:21	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 14:21	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 14:21	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 14:21	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 14:21	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 14:21	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 14:21	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 14:21	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 14:21	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 14:21	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 14:21	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 14:21	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 14:21	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 14:21	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 14:21	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 14:21	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 14:21	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 14:21	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 14:21	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 14:21	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 14:21	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 14:21	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		06/07/16 14:21	1
4-Bromofluorobenzene (Surr)	105		71 - 120		06/07/16 14:21	1
Dibromofluoromethane	95		70 - 120		06/07/16 14:21	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 14:21	1

**Client Sample ID: B-3A**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-14**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 14:46	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 14:46	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 14:46	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-3A**  
**Date Collected: 05/26/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-14**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 14:46	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 14:46	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 14:46	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 14:46	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 14:46	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 14:46	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 14:46	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 14:46	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 14:46	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 14:46	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 14:46	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 14:46	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 14:46	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 14:46	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 14:46	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 14:46	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 14:46	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 14:46	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 14:46	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 14:46	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 14:46	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 14:46	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 14:46	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 14:46	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 14:46	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 14:46	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 14:46	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 14:46	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 14:46	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 14:46	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 14:46	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 14:46	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 14:46	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 14:46	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 14:46	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 14:46	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 14:46	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 14:46	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 14:46	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 14:46	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 14:46	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 14:46	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-3A**  
**Date Collected: 05/26/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-14**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Tetrachloroethene</b>	<b>0.66</b>	<b>J</b>	1.0	0.37	ug/L			06/07/16 14:46	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 14:46	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 14:46	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 14:46	1
<b>Trichloroethene</b>	<b>0.46</b>	<b>J</b>	0.50	0.16	ug/L			06/07/16 14:46	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 14:46	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 14:46	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 14:46	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)	106		71 - 127					06/07/16 14:46	1
4-Bromofluorobenzene (Surr)	111		71 - 120					06/07/16 14:46	1
Dibromofluoromethane	92		70 - 120					06/07/16 14:46	1
Toluene-d8 (Surr)	91		75 - 120					06/07/16 14:46	1

**Client Sample ID: B-10**  
**Date Collected: 05/25/16 00:00**  
**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-15**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 15:11	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 15:11	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 15:11	1
1,1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 15:11	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 15:11	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 15:11	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 15:11	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 15:11	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 15:11	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 15:11	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 15:11	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 15:11	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 15:11	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 15:11	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 15:11	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 15:11	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 15:11	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 15:11	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 15:11	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 15:11	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 15:11	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 15:11	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 15:11	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 15:11	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 15:11	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 15:11	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-10**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-15**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 15:11	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 15:11	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 15:11	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 15:11	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 15:11	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 15:11	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 15:11	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 15:11	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 15:11	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 15:11	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 15:11	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 15:11	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 15:11	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 15:11	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 15:11	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 15:11	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 15:11	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 15:11	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 15:11	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 15:11	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 15:11	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 15:11	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 15:11	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 15:11	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 15:11	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 15:11	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 15:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		06/07/16 15:11	1
4-Bromofluorobenzene (Surr)	108		71 - 120		06/07/16 15:11	1
Dibromofluoromethane	95		70 - 120		06/07/16 15:11	1
Toluene-d8 (Surr)	89		75 - 120		06/07/16 15:11	1

**Client Sample ID: B-11**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-16**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 15:36	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 15:36	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 15:36	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 15:36	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 15:36	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-11**

**Lab Sample ID: 500-112232-16**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 15:36	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 15:36	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 15:36	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 15:36	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 15:36	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 15:36	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 15:36	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 15:36	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 15:36	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 15:36	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 15:36	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 15:36	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 15:36	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 15:36	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 15:36	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 15:36	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 15:36	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 15:36	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 15:36	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 15:36	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 15:36	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 15:36	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 15:36	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 15:36	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 15:36	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 15:36	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 15:36	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 15:36	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 15:36	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 15:36	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 15:36	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 15:36	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 15:36	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 15:36	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 15:36	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 15:36	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 15:36	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 15:36	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 15:36	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 15:36	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 15:36	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 15:36	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 15:36	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Client Sample ID: B-11

Date Collected: 05/25/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-16

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 15:36	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 15:36	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 15:36	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 15:36	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 15:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127					06/07/16 15:36	1
4-Bromofluorobenzene (Surr)	108		71 - 120					06/07/16 15:36	1
Dibromofluoromethane	93		70 - 120					06/07/16 15:36	1
Toluene-d8 (Surr)	90		75 - 120					06/07/16 15:36	1

## Client Sample ID: B-12

Date Collected: 05/24/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-17

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 13:06	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 13:06	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 13:06	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 13:06	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 13:06	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 13:06	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 13:06	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 13:06	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 13:06	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 13:06	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 13:06	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 13:06	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 13:06	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 13:06	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 13:06	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 13:06	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 13:06	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 13:06	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 13:06	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 13:06	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 13:06	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 13:06	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 13:06	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 13:06	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 13:06	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 13:06	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 13:06	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 13:06	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-12**

**Date Collected: 05/24/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-17**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 13:06	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 13:06	1
<b>cis-1,2-Dichloroethene</b>	<b>3.0</b>		1.0	0.41	ug/L			06/07/16 13:06	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 13:06	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 13:06	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 13:06	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 13:06	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 13:06	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 13:06	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 13:06	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 13:06	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 13:06	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 13:06	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 13:06	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 13:06	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 13:06	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 13:06	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 13:06	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 13:06	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 13:06	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 13:06	1
<b>Trichloroethene</b>	<b>0.74</b>		0.50	0.16	ug/L			06/07/16 13:06	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 13:06	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 13:06	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 13:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		71 - 127		06/07/16 13:06	1
4-Bromofluorobenzene (Surr)	107		71 - 120		06/07/16 13:06	1
Dibromofluoromethane	96		70 - 120		06/07/16 13:06	1
Toluene-d8 (Surr)	90		75 - 120		06/07/16 13:06	1

**Client Sample ID: B-13**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-18**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 16:01	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 16:01	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 16:01	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 16:01	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 16:01	1
<b>1,1-Dichloroethene</b>	<b>0.57 J</b>		1.0	0.39	ug/L			06/07/16 16:01	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 16:01	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 16:01	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 16:01	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-13**

**Lab Sample ID: 500-112232-18**

**Date Collected: 05/26/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 16:01	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 16:01	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 16:01	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 16:01	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 16:01	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 16:01	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 16:01	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 16:01	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 16:01	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 16:01	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 16:01	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 16:01	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 16:01	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 16:01	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 16:01	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 16:01	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 16:01	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 16:01	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 16:01	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 16:01	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 16:01	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 16:01	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 16:01	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 16:01	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 16:01	1
<b>cis-1,2-Dichloroethene</b>	<b>41</b>		1.0	0.41	ug/L			06/07/16 16:01	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 16:01	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 16:01	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 16:01	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 16:01	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 16:01	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 16:01	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 16:01	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 16:01	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 16:01	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 16:01	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 16:01	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 16:01	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 16:01	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 16:01	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 16:01	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 16:01	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 16:01	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 16:01	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 16:01	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 16:01	1
<b>Trichloroethene</b>	<b>32</b>		0.50	0.16	ug/L			06/07/16 16:01	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 16:01	1
<b>Vinyl chloride</b>	<b>2.2</b>		0.50	0.20	ug/L			06/07/16 16:01	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-13**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-18**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 16:01	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)	105		71 - 127					06/07/16 16:01	1
4-Bromofluorobenzene (Surr)	108		71 - 120					06/07/16 16:01	1
Dibromofluoromethane	95		70 - 120					06/07/16 16:01	1
Toluene-d8 (Surr)	89		75 - 120					06/07/16 16:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Tetrachloroethene</b>	<b>440</b>		10	3.7	ug/L			06/07/16 16:26	10
<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)	105		71 - 127					06/07/16 16:26	10
4-Bromofluorobenzene (Surr)	111		71 - 120					06/07/16 16:26	10
Dibromofluoromethane	94		70 - 120					06/07/16 16:26	10
Toluene-d8 (Surr)	91		75 - 120					06/07/16 16:26	10

**Client Sample ID: B-13A**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-19**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 16:51	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 16:51	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 16:51	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 16:51	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 16:51	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 16:51	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 16:51	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 16:51	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 16:51	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 16:51	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 16:51	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 16:51	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 16:51	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 16:51	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 16:51	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 16:51	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 16:51	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 16:51	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 16:51	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 16:51	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 16:51	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 16:51	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 16:51	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-13A**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-19**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 16:51	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 16:51	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 16:51	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 16:51	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 16:51	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 16:51	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 16:51	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 16:51	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 16:51	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 16:51	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 16:51	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 16:51	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 16:51	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 16:51	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 16:51	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 16:51	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 16:51	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 16:51	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 16:51	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 16:51	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 16:51	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 16:51	1
<b>Tetrachloroethene</b>	<b>3.3</b>		1.0	0.37	ug/L			06/07/16 16:51	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 16:51	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 16:51	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 16:51	1
<b>Trichloroethene</b>	<b>0.46 J</b>		0.50	0.16	ug/L			06/07/16 16:51	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 16:51	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 16:51	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 16:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		06/07/16 16:51	1
4-Bromofluorobenzene (Surr)	110		71 - 120		06/07/16 16:51	1
Dibromofluoromethane	96		70 - 120		06/07/16 16:51	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 16:51	1

**Client Sample ID: B-13B**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-20**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 17:16	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 17:16	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 17:16	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-13B**

**Lab Sample ID: 500-112232-20**

**Date Collected: 05/26/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 17:16	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 17:16	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 17:16	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 17:16	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 17:16	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 17:16	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 17:16	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 17:16	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 17:16	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 17:16	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 17:16	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 17:16	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 17:16	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 17:16	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 17:16	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 17:16	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 17:16	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 17:16	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 17:16	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 17:16	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 17:16	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 17:16	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 17:16	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 17:16	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 17:16	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 17:16	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 17:16	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 17:16	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 17:16	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 17:16	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 17:16	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 17:16	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 17:16	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 17:16	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 17:16	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 17:16	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 17:16	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 17:16	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 17:16	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 17:16	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 17:16	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 17:16	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-13B**

**Lab Sample ID: 500-112232-20**

**Date Collected: 05/26/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Tetrachloroethene</b>	<b>1.2</b>		1.0	0.37	ug/L			06/07/16 17:16	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 17:16	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 17:16	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 17:16	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 17:16	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 17:16	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 17:16	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 17:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>1,2-Dichloroethane-d4 (Surr)</i>	106		71 - 127					06/07/16 17:16	1
<i>4-Bromofluorobenzene (Surr)</i>	114		71 - 120					06/07/16 17:16	1
<i>Dibromofluoromethane</i>	97		70 - 120					06/07/16 17:16	1
<i>Toluene-d8 (Surr)</i>	90		75 - 120					06/07/16 17:16	1

**Client Sample ID: Discharge**

**Lab Sample ID: 500-112232-21**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 17:42	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 17:42	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 17:42	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 17:42	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 17:42	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 17:42	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 17:42	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 17:42	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 17:42	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 17:42	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 17:42	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 17:42	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 17:42	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 17:42	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 17:42	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 17:42	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 17:42	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 17:42	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 17:42	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 17:42	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 17:42	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 17:42	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 17:42	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 17:42	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 17:42	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 17:42	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: Discharge**

**Lab Sample ID: 500-112232-21**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 17:42	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 17:42	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 17:42	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 17:42	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 17:42	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 17:42	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 17:42	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 17:42	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 17:42	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 17:42	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 17:42	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 17:42	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 17:42	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 17:42	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 17:42	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 17:42	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 17:42	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 17:42	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 17:42	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 17:42	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 17:42	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 17:42	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 17:42	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 17:42	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 17:42	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 17:42	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		06/07/16 17:42	1
4-Bromofluorobenzene (Surr)	112		71 - 120		06/07/16 17:42	1
Dibromofluoromethane	95		70 - 120		06/07/16 17:42	1
Toluene-d8 (Surr)	88		75 - 120		06/07/16 17:42	1

**Client Sample ID: MW-18A**

**Lab Sample ID: 500-112232-22**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 18:07	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 18:07	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 18:07	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 18:07	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 18:07	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-18A**

**Lab Sample ID: 500-112232-22**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 18:07	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 18:07	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 18:07	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 18:07	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:07	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 18:07	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 18:07	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 18:07	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 18:07	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:07	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 18:07	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:07	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 18:07	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 18:07	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 18:07	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 18:07	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:07	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 18:07	1
<b>Bromodichloromethane</b>	<b>0.55</b>	<b>J</b>	1.0	0.37	ug/L			06/07/16 18:07	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 18:07	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 18:07	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 18:07	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1
<b>Chloroethane</b>	<b>1.1</b>		1.0	0.51	ug/L			06/07/16 18:07	1
<b>Chloroform</b>	<b>5.8</b>		1.0	0.37	ug/L			06/07/16 18:07	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 18:07	1
<b>cis-1,2-Dichloroethene</b>	<b>0.91</b>	<b>J</b>	1.0	0.41	ug/L			06/07/16 18:07	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 18:07	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 18:07	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 18:07	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 18:07	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 18:07	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 18:07	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 18:07	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 18:07	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 18:07	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 18:07	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 18:07	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:07	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 18:07	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:07	1
<b>Tetrachloroethene</b>	<b>0.86</b>	<b>J</b>	1.0	0.37	ug/L			06/07/16 18:07	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 18:07	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 18:07	1



# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-18A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-22**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 18:07	1
<b>Trichloroethene</b>	<b>0.62</b>		0.50	0.16	ug/L			06/07/16 18:07	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 18:07	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 18:07	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		06/07/16 18:07	1
4-Bromofluorobenzene (Surr)	110		71 - 120		06/07/16 18:07	1
Dibromofluoromethane	96		70 - 120		06/07/16 18:07	1
Toluene-d8 (Surr)	90		75 - 120		06/07/16 18:07	1

**Client Sample ID: MW-19A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-23**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 18:32	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 18:32	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 18:32	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 18:32	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 18:32	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 18:32	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 18:32	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 18:32	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 18:32	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:32	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 18:32	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 18:32	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 18:32	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 18:32	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:32	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 18:32	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:32	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 18:32	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 18:32	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 18:32	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 18:32	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:32	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 18:32	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 18:32	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 18:32	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 18:32	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 18:32	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 18:32	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-19A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-23**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloroform</b>	<b>1.3</b>		1.0	0.37	ug/L			06/07/16 18:32	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 18:32	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 18:32	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 18:32	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 18:32	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 18:32	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 18:32	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 18:32	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 18:32	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 18:32	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 18:32	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 18:32	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 18:32	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 18:32	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:32	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 18:32	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:32	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 18:32	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 18:32	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 18:32	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 18:32	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 18:32	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 18:32	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 18:32	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 18:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		71 - 127		06/07/16 18:32	1
4-Bromofluorobenzene (Surr)	109		71 - 120		06/07/16 18:32	1
Dibromofluoromethane	94		70 - 120		06/07/16 18:32	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 18:32	1

**Client Sample ID: B-1B Dup**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-24**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 18:56	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 18:56	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 18:56	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 18:56	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 18:56	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 18:56	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 18:56	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 18:56	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-1B Dup**

**Lab Sample ID: 500-112232-24**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 18:56	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:56	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 18:56	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 18:56	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 18:56	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 18:56	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:56	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 18:56	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:56	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 18:56	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 18:56	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 18:56	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 18:56	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 18:56	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 18:56	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 18:56	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 18:56	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 18:56	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 18:56	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 18:56	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 18:56	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 18:56	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 18:56	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 18:56	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 18:56	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 18:56	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 18:56	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 18:56	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 18:56	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 18:56	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 18:56	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 18:56	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 18:56	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 18:56	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:56	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 18:56	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 18:56	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 18:56	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 18:56	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 18:56	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 18:56	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 18:56	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 18:56	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-1B Dup**

**Lab Sample ID: 500-112232-24**

**Date Collected: 05/25/16 00:00**

**Matrix: Ground Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 18:56	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 18:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127					06/07/16 18:56	1
4-Bromofluorobenzene (Surr)	108		71 - 120					06/07/16 18:56	1
Dibromofluoromethane	94		70 - 120					06/07/16 18:56	1
Toluene-d8 (Surr)	92		75 - 120					06/07/16 18:56	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-112232-25**

**Date Collected: 05/24/16 00:00**

**Matrix: Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 12:41	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 12:41	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 12:41	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 12:41	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 12:41	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 12:41	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 12:41	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 12:41	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 12:41	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 12:41	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 12:41	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 12:41	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 12:41	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 12:41	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 12:41	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 12:41	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 12:41	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 12:41	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 12:41	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 12:41	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 12:41	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 12:41	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 12:41	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 12:41	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 12:41	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 12:41	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 12:41	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 12:41	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 12:41	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 12:41	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 12:41	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-112232-25**

**Date Collected: 05/24/16 00:00**

**Matrix: Water**

**Date Received: 05/27/16 10:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 12:41	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 12:41	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 12:41	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 12:41	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 12:41	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 12:41	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 12:41	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 12:41	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 12:41	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 12:41	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 12:41	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 12:41	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 12:41	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 12:41	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 12:41	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 12:41	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 12:41	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 12:41	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 12:41	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 12:41	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 12:41	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 12:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		71 - 127		06/07/16 12:41	1
4-Bromofluorobenzene (Surr)	108		71 - 120		06/07/16 12:41	1
Dibromofluoromethane	93		70 - 120		06/07/16 12:41	1
Toluene-d8 (Surr)	91		75 - 120		06/07/16 12:41	1

# Definitions/Glossary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## 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.

## Glossary

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

# QC Association Summary

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## GC/MS VOA

### Analysis Batch: 338648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112232-1	EXW-4	Total/NA	Ground Water	8260B	
500-112232-2	EXW-6	Total/NA	Ground Water	8260B	
500-112232-3	MUNI #3	Total/NA	Ground Water	8260B	
500-112232-4	MW-17	Total/NA	Ground Water	8260B	
500-112232-5	MW-18	Total/NA	Ground Water	8260B	
500-112232-6	MW-19	Total/NA	Ground Water	8260B	
500-112232-7	MW-20	Total/NA	Ground Water	8260B	
500-112232-8	MW-21	Total/NA	Ground Water	8260B	
500-112232-9	MW-21A	Total/NA	Ground Water	8260B	
500-112232-10	B-1	Total/NA	Ground Water	8260B	
500-112232-11	B-1A	Total/NA	Ground Water	8260B	
500-112232-11 MS	B-1A	Total/NA	Ground Water	8260B	
500-112232-11 MSD	B-1A	Total/NA	Ground Water	8260B	
LCS 500-338648/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-338648/6	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 338717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112232-12	B-1B	Total/NA	Ground Water	8260B	
500-112232-13	B-3	Total/NA	Ground Water	8260B	
500-112232-14	B-3A	Total/NA	Ground Water	8260B	
500-112232-15	B-10	Total/NA	Ground Water	8260B	
500-112232-16	B-11	Total/NA	Ground Water	8260B	
500-112232-17	B-12	Total/NA	Ground Water	8260B	
500-112232-18	B-13	Total/NA	Ground Water	8260B	
500-112232-18 - DL	B-13	Total/NA	Ground Water	8260B	
500-112232-19	B-13A	Total/NA	Ground Water	8260B	
500-112232-20	B-13B	Total/NA	Ground Water	8260B	
500-112232-21	Discharge	Total/NA	Ground Water	8260B	
500-112232-22	MW-18A	Total/NA	Ground Water	8260B	
500-112232-23	MW-19A	Total/NA	Ground Water	8260B	
500-112232-24	B-1B Dup	Total/NA	Ground Water	8260B	
500-112232-25	Trip Blank	Total/NA	Water	8260B	
LCS 500-338717/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-338717/28	Method Blank	Total/NA	Water	8260B	

# Surrogate Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

Matrix: Ground Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (71-127)	BFB (71-120)	DBFM (70-120)	TOL (75-120)
500-112232-1	EXW-4	107	106	96	92
500-112232-2	EXW-6	106	110	96	91
500-112232-3	MUNI #3	107	109	94	91
500-112232-4	MW-17	106	109	98	91
500-112232-5	MW-18	105	111	96	89
500-112232-6	MW-19	104	108	97	89
500-112232-7	MW-20	108	113	100	91
500-112232-8	MW-21	105	109	96	89
500-112232-9	MW-21A	105	112	93	91
500-112232-10	B-1	106	110	96	91
500-112232-11	B-1A	102	112	95	92
500-112232-11 MS	B-1A	100	96	94	94
500-112232-11 MSD	B-1A	101	97	96	94
500-112232-12	B-1B	104	111	95	89
500-112232-13	B-3	105	105	95	91
500-112232-14	B-3A	106	111	92	91
500-112232-15	B-10	105	108	95	89
500-112232-16	B-11	105	108	93	90
500-112232-17	B-12	108	107	96	90
500-112232-18	B-13	105	108	95	89
500-112232-18 - DL	B-13	105	111	94	91
500-112232-19	B-13A	103	110	96	91
500-112232-20	B-13B	106	114	97	90
500-112232-21	Discharge	103	112	95	88
500-112232-22	MW-18A	105	110	96	90
500-112232-23	MW-19A	104	109	94	91
500-112232-24	B-1B Dup	105	108	94	92

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (71-127)	BFB (71-120)	DBFM (70-120)	TOL (75-120)
500-112232-25	Trip Blank	104	108	93	91
LCS 500-338648/4	Lab Control Sample	101	97	99	92
LCS 500-338717/4	Lab Control Sample	102	91	97	93
MB 500-338648/6	Method Blank	109	117	97	89
MB 500-338717/28	Method Blank	103	106	93	92

#### Surrogate Legend

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

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# Surrogate Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

TOL = Toluene-d8 (Surr)

1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: MB 500-338648/6**

**Matrix: Water**

**Analysis Batch: 338648**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 00:05	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 00:05	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 00:05	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 00:05	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 00:05	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 00:05	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 00:05	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 00:05	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 00:05	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 00:05	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 00:05	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 00:05	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 00:05	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 00:05	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 00:05	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 00:05	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 00:05	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 00:05	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 00:05	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 00:05	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 00:05	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 00:05	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 00:05	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 00:05	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 00:05	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 00:05	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 00:05	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 00:05	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 00:05	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 00:05	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 00:05	1
cis-1,3-Dichloropropane	<0.42		1.0	0.42	ug/L			06/07/16 00:05	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 00:05	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 00:05	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 00:05	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 00:05	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 00:05	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 00:05	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 00:05	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 00:05	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 00:05	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: MB 500-338648/6**

**Matrix: Water**

**Analysis Batch: 338648**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 00:05	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 00:05	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 00:05	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 00:05	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 00:05	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 00:05	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 00:05	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 00:05	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 00:05	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 00:05	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 00:05	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 00:05	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	109		71 - 127		06/07/16 00:05	1
4-Bromofluorobenzene (Surr)	117		71 - 120		06/07/16 00:05	1
Dibromofluoromethane	97		70 - 120		06/07/16 00:05	1
Toluene-d8 (Surr)	89		75 - 120		06/07/16 00:05	1

**Lab Sample ID: LCS 500-338648/4**

**Matrix: Water**

**Analysis Batch: 338648**

**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	51.1		ug/L		102	70 - 125
1,1,1,2-Tetrachloroethane	50.0	50.9		ug/L		102	68 - 125
1,1,2-Trichloroethane	50.0	51.1		ug/L		102	70 - 125
1,1-Dichloroethane	50.0	53.6		ug/L		107	70 - 125
1,1-Dichloroethene	50.0	49.7		ug/L		99	70 - 125
1,1-Dichloropropene	50.0	52.7		ug/L		105	70 - 125
1,2,3-Trichlorobenzene	50.0	45.6		ug/L		91	58 - 135
1,2,3-Trichloropropane	50.0	54.5		ug/L		109	63 - 125
1,2,4-Trichlorobenzene	50.0	45.1		ug/L		90	64 - 126
1,2,4-Trimethylbenzene	50.0	52.2		ug/L		104	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	53.8		ug/L		108	51 - 125
1,2-Dibromoethane	50.0	51.4		ug/L		103	70 - 125
1,2-Dichlorobenzene	50.0	51.6		ug/L		103	70 - 125
1,2-Dichloroethane	50.0	58.2		ug/L		116	70 - 125
1,2-Dichloropropane	50.0	51.7		ug/L		103	70 - 125
1,3,5-Trimethylbenzene	50.0	52.3		ug/L		105	70 - 125
1,3-Dichlorobenzene	50.0	51.2		ug/L		102	70 - 125
1,3-Dichloropropane	50.0	52.5		ug/L		105	70 - 125
1,4-Dichlorobenzene	50.0	50.7		ug/L		101	70 - 125
2,2-Dichloropropane	50.0	47.6		ug/L		95	62 - 125
2-Chlorotoluene	50.0	53.4		ug/L		107	69 - 125
4-Chlorotoluene	50.0	52.7		ug/L		105	70 - 125
Benzene	50.0	51.6		ug/L		103	70 - 125

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: LCS 500-338648/4**  
**Matrix: Water**  
**Analysis Batch: 338648**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	52.4		ug/L		105	70 - 125
Bromochloromethane	50.0	52.7		ug/L		105	70 - 125
Bromodichloromethane	50.0	54.8		ug/L		110	70 - 125
Bromoform	50.0	48.6		ug/L		97	54 - 128
Bromomethane	50.0	62.7		ug/L		125	40 - 150
Carbon tetrachloride	50.0	52.6		ug/L		105	70 - 125
Chlorobenzene	50.0	51.8		ug/L		104	70 - 125
Chloroethane	50.0	62.8		ug/L		126	60 - 139
Chloroform	50.0	56.1		ug/L		112	70 - 125
Chloromethane	50.0	57.0		ug/L		114	60 - 140
cis-1,2-Dichloroethene	50.0	52.5		ug/L		105	70 - 125
cis-1,3-Dichloropropene	50.0	50.5		ug/L		101	70 - 125
Dibromochloromethane	50.0	53.0		ug/L		106	66 - 125
Dibromomethane	50.0	52.7		ug/L		105	70 - 125
Dichlorodifluoromethane	50.0	54.3		ug/L		109	51 - 140
Ethylbenzene	50.0	49.8		ug/L		100	70 - 125
Hexachlorobutadiene	50.0	46.6		ug/L		93	57 - 140
Isopropylbenzene	50.0	52.7		ug/L		105	70 - 125
Methyl tert-butyl ether	50.0	53.6		ug/L		107	67 - 125
Methylene Chloride	50.0	50.1		ug/L		100	68 - 125
Naphthalene	50.0	50.5		ug/L		101	50 - 136
n-Butylbenzene	50.0	49.9		ug/L		100	70 - 125
N-Propylbenzene	50.0	52.1		ug/L		104	70 - 125
p-Isopropyltoluene	50.0	51.5		ug/L		103	70 - 125
sec-Butylbenzene	50.0	52.6		ug/L		105	70 - 125
Styrene	50.0	51.9		ug/L		104	70 - 125
tert-Butylbenzene	50.0	52.7		ug/L		105	70 - 125
Tetrachloroethene	50.0	47.2		ug/L		94	70 - 125
Toluene	50.0	50.5		ug/L		101	70 - 125
trans-1,2-Dichloroethene	50.0	51.2		ug/L		102	70 - 125
trans-1,3-Dichloropropene	50.0	52.3		ug/L		105	70 - 125
Trichloroethene	50.0	51.9		ug/L		104	70 - 125
Trichlorofluoromethane	50.0	55.7		ug/L		111	60 - 126
Vinyl chloride	50.0	55.2		ug/L		110	70 - 126
Xylenes, Total	100	102		ug/L		102	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		71 - 127
4-Bromofluorobenzene (Surr)	97		71 - 120
Dibromofluoromethane	99		70 - 120
Toluene-d8 (Surr)	92		75 - 120

**Lab Sample ID: 500-112232-11 MS**  
**Matrix: Ground Water**  
**Analysis Batch: 338648**

**Client Sample ID: B-1A**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	<0.46		50.0	47.1		ug/L		94	68 - 125

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

Lab Sample ID: 500-112232-11 MS

Matrix: Ground Water

Analysis Batch: 338648

Client Sample ID: B-1A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	<0.38		50.0	45.6		ug/L		91	70 - 125
1,1,1,2-Tetrachloroethane	<0.40		50.0	50.2		ug/L		100	68 - 125
1,1,2-Trichloroethane	<0.35		50.0	48.3		ug/L		97	70 - 125
1,1-Dichloroethane	<0.41		50.0	47.2		ug/L		94	70 - 125
1,1-Dichloroethene	<0.39		50.0	44.9		ug/L		90	70 - 125
1,1-Dichloropropene	<0.30		50.0	47.5		ug/L		95	70 - 125
1,2,3-Trichlorobenzene	<0.46		50.0	42.8		ug/L		86	58 - 135
1,2,3-Trichloropropane	<0.41		50.0	48.7		ug/L		97	63 - 125
1,2,4-Trichlorobenzene	<0.34		50.0	42.2		ug/L		84	64 - 126
1,2,4-Trimethylbenzene	<0.36		50.0	48.4		ug/L		97	70 - 125
1,2-Dibromo-3-Chloropropane	<2.0		50.0	45.1		ug/L		90	51 - 125
1,2-Dibromoethane	<0.39		50.0	48.4		ug/L		97	70 - 125
1,2-Dichlorobenzene	<0.33		50.0	47.1		ug/L		94	70 - 125
1,2-Dichloroethane	<0.39		50.0	52.3		ug/L		105	70 - 125
1,2-Dichloropropane	<0.43		50.0	47.0		ug/L		94	70 - 125
1,3,5-Trimethylbenzene	<0.25		50.0	48.3		ug/L		97	70 - 125
1,3-Dichlorobenzene	<0.40		50.0	46.6		ug/L		93	70 - 125
1,3-Dichloropropane	<0.36		50.0	51.0		ug/L		102	70 - 125
1,4-Dichlorobenzene	<0.36		50.0	47.0		ug/L		94	70 - 125
2,2-Dichloropropane	<0.44		50.0	41.1		ug/L		82	62 - 125
2-Chlorotoluene	<0.31		50.0	48.3		ug/L		97	69 - 125
4-Chlorotoluene	<0.35		50.0	48.4		ug/L		97	70 - 125
Benzene	<0.15		50.0	45.7		ug/L		91	70 - 125
Bromobenzene	<0.36		50.0	47.9		ug/L		96	70 - 125
Bromochloromethane	<0.43		50.0	45.8		ug/L		92	70 - 125
Bromodichloromethane	<0.37		50.0	49.5		ug/L		99	70 - 125
Bromoform	<0.48		50.0	44.3		ug/L		89	54 - 128
Bromomethane	<0.80		50.0	47.4		ug/L		95	40 - 150
Carbon tetrachloride	<0.38		50.0	47.2		ug/L		94	70 - 125
Chlorobenzene	<0.39		50.0	47.4		ug/L		95	70 - 125
Chloroethane	<0.51		50.0	51.9		ug/L		104	60 - 139
Chloroform	<0.37		50.0	47.4		ug/L		95	70 - 125
Chloromethane	<0.32		50.0	45.5		ug/L		91	60 - 140
cis-1,2-Dichloroethene	<0.41		50.0	44.7		ug/L		89	70 - 125
cis-1,3-Dichloropropene	<0.42		50.0	47.7		ug/L		95	70 - 125
Dibromochloromethane	<0.49		50.0	49.6		ug/L		99	66 - 125
Dibromomethane	<0.27		50.0	47.1		ug/L		94	70 - 125
Dichlorodifluoromethane	<0.67		50.0	44.3		ug/L		89	51 - 140
Ethylbenzene	<0.18		50.0	46.5		ug/L		93	70 - 125
Hexachlorobutadiene	<0.45		50.0	43.0		ug/L		86	57 - 140
Isopropylbenzene	<0.39		50.0	48.4		ug/L		97	70 - 125
Methyl tert-butyl ether	<0.39		50.0	45.7		ug/L		91	67 - 125
Methylene Chloride	<1.6		50.0	43.2		ug/L		86	68 - 125
Naphthalene	<0.34		50.0	46.7		ug/L		93	50 - 136
n-Butylbenzene	<0.39		50.0	46.7		ug/L		93	70 - 125
N-Propylbenzene	<0.41		50.0	48.2		ug/L		96	70 - 125
p-Isopropyltoluene	<0.36		50.0	47.7		ug/L		95	70 - 125
sec-Butylbenzene	<0.40		50.0	49.2		ug/L		98	70 - 125

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: 500-112232-11 MS**  
**Matrix: Ground Water**  
**Analysis Batch: 338648**

**Client Sample ID: B-1A**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Styrene	<0.39		50.0	47.5		ug/L		95	70 - 125
tert-Butylbenzene	<0.40		50.0	48.7		ug/L		97	70 - 125
Tetrachloroethene	<0.37		50.0	45.2		ug/L		90	70 - 125
Toluene	<0.15		50.0	46.7		ug/L		93	70 - 125
trans-1,2-Dichloroethene	<0.35		50.0	45.4		ug/L		91	70 - 125
trans-1,3-Dichloropropene	<0.36		50.0	49.1		ug/L		98	70 - 125
Trichloroethene	<0.16		50.0	45.1		ug/L		90	70 - 125
Trichlorofluoromethane	<0.43		50.0	44.6		ug/L		89	60 - 126
Vinyl chloride	<0.20		50.0	41.7		ug/L		83	70 - 126
Xylenes, Total	<0.22		100	93.4		ug/L		93	70 - 125
		<b>MS</b>	<b>MS</b>						
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	100		71 - 127						
4-Bromofluorobenzene (Surr)	96		71 - 120						
Dibromofluoromethane	94		70 - 120						
Toluene-d8 (Surr)	94		75 - 120						

**Lab Sample ID: 500-112232-11 MSD**  
**Matrix: Ground Water**  
**Analysis Batch: 338648**

**Client Sample ID: B-1A**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	<0.46		50.0	47.9		ug/L		96	68 - 125	2	20
1,1,1-Trichloroethane	<0.38		50.0	47.7		ug/L		95	70 - 125	4	20
1,1,1,2,2-Tetrachloroethane	<0.40		50.0	47.7		ug/L		95	68 - 125	5	20
1,1,1,2-Trichloroethane	<0.35		50.0	49.6		ug/L		99	70 - 125	3	20
1,1-Dichloroethane	<0.41		50.0	46.9		ug/L		94	70 - 125	1	20
1,1-Dichloroethene	<0.39		50.0	44.6		ug/L		89	70 - 125	1	20
1,1-Dichloropropene	<0.30		50.0	48.6		ug/L		97	70 - 125	2	20
1,2,3-Trichlorobenzene	<0.46		50.0	43.5		ug/L		87	58 - 135	1	20
1,2,3-Trichloropropane	<0.41		50.0	47.7		ug/L		95	63 - 125	2	20
1,2,4-Trichlorobenzene	<0.34		50.0	43.4		ug/L		87	64 - 126	3	20
1,2,4-Trimethylbenzene	<0.36		50.0	48.5		ug/L		97	70 - 125	0	20
1,2-Dibromo-3-Chloropropane	<2.0		50.0	47.9		ug/L		96	51 - 125	6	20
1,2-Dibromoethane	<0.39		50.0	47.6		ug/L		95	70 - 125	2	20
1,2-Dichlorobenzene	<0.33		50.0	47.7		ug/L		95	70 - 125	1	20
1,2-Dichloroethane	<0.39		50.0	52.6		ug/L		105	70 - 125	1	20
1,2-Dichloropropane	<0.43		50.0	48.1		ug/L		96	70 - 125	2	20
1,3,5-Trimethylbenzene	<0.25		50.0	48.3		ug/L		97	70 - 125	0	20
1,3-Dichlorobenzene	<0.40		50.0	47.6		ug/L		95	70 - 125	2	20
1,3-Dichloropropane	<0.36		50.0	50.4		ug/L		101	70 - 125	1	20
1,4-Dichlorobenzene	<0.36		50.0	47.3		ug/L		95	70 - 125	1	20
2,2-Dichloropropane	<0.44		50.0	43.3		ug/L		87	62 - 125	5	20
2-Chlorotoluene	<0.31		50.0	48.9		ug/L		98	69 - 125	1	20
4-Chlorotoluene	<0.35		50.0	48.7		ug/L		97	70 - 125	1	20
Benzene	<0.15		50.0	46.1		ug/L		92	70 - 125	1	20
Bromobenzene	<0.36		50.0	47.3		ug/L		95	70 - 125	1	20
Bromochloromethane	<0.43		50.0	46.6		ug/L		93	70 - 125	2	20

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: 500-112232-11 MSD**  
**Matrix: Ground Water**  
**Analysis Batch: 338648**

**Client Sample ID: B-1A**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	<0.37		50.0	50.9		ug/L		102	70 - 125	3	20
Bromoform	<0.48		50.0	44.5		ug/L		89	54 - 128	0	20
Bromomethane	<0.80		50.0	53.3		ug/L		107	40 - 150	12	20
Carbon tetrachloride	<0.38		50.0	48.3		ug/L		97	70 - 125	2	20
Chlorobenzene	<0.39		50.0	48.0		ug/L		96	70 - 125	1	20
Chloroethane	<0.51		50.0	53.4		ug/L		107	60 - 139	3	20
Chloroform	<0.37		50.0	49.4		ug/L		99	70 - 125	4	20
Chloromethane	<0.32		50.0	46.2		ug/L		92	60 - 140	2	20
cis-1,2-Dichloroethene	<0.41		50.0	45.5		ug/L		91	70 - 125	2	20
cis-1,3-Dichloropropene	<0.42		50.0	47.7		ug/L		95	70 - 125	0	20
Dibromochloromethane	<0.49		50.0	50.0		ug/L		100	66 - 125	1	20
Dibromomethane	<0.27		50.0	48.5		ug/L		97	70 - 125	3	20
Dichlorodifluoromethane	<0.67		50.0	43.2		ug/L		86	51 - 140	3	20
Ethylbenzene	<0.18		50.0	47.7		ug/L		95	70 - 125	3	20
Hexachlorobutadiene	<0.45		50.0	45.2		ug/L		90	57 - 140	5	20
Isopropylbenzene	<0.39		50.0	48.6		ug/L		97	70 - 125	0	20
Methyl tert-butyl ether	<0.39		50.0	45.4		ug/L		91	67 - 125	1	20
Methylene Chloride	<1.6		50.0	44.6		ug/L		89	68 - 125	3	20
Naphthalene	<0.34		50.0	46.0		ug/L		92	50 - 136	1	20
n-Butylbenzene	<0.39		50.0	47.4		ug/L		95	70 - 125	1	20
N-Propylbenzene	<0.41		50.0	48.2		ug/L		96	70 - 125	0	20
p-Isopropyltoluene	<0.36		50.0	47.8		ug/L		96	70 - 125	0	20
sec-Butylbenzene	<0.40		50.0	49.3		ug/L		99	70 - 125	0	20
Styrene	<0.39		50.0	47.7		ug/L		95	70 - 125	1	20
tert-Butylbenzene	<0.40		50.0	49.1		ug/L		98	70 - 125	1	20
Tetrachloroethene	<0.37		50.0	45.8		ug/L		92	70 - 125	1	20
Toluene	<0.15		50.0	47.6		ug/L		95	70 - 125	2	20
trans-1,2-Dichloroethene	<0.35		50.0	45.9		ug/L		92	70 - 125	1	20
trans-1,3-Dichloropropene	<0.36		50.0	48.5		ug/L		97	70 - 125	1	20
Trichloroethene	<0.16		50.0	46.7		ug/L		93	70 - 125	4	20
Trichlorofluoromethane	<0.43		50.0	48.6		ug/L		97	60 - 126	9	20
Vinyl chloride	<0.20		50.0	43.6		ug/L		87	70 - 126	4	20
Xylenes, Total	<0.22		100	95.5		ug/L		96	70 - 125	2	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	101		71 - 127
4-Bromofluorobenzene (Surr)	97		71 - 120
Dibromofluoromethane	96		70 - 120
Toluene-d8 (Surr)	94		75 - 120

**Lab Sample ID: MB 500-338717/28**  
**Matrix: Water**  
**Analysis Batch: 338717**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			06/07/16 12:16	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/16 12:16	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/16 12:16	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: MB 500-338717/28**  
**Matrix: Water**  
**Analysis Batch: 338717**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/16 12:16	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/16 12:16	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			06/07/16 12:16	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/16 12:16	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			06/07/16 12:16	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/16 12:16	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/16 12:16	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/16 12:16	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/16 12:16	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/16 12:16	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/16 12:16	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/16 12:16	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			06/07/16 12:16	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/16 12:16	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			06/07/16 12:16	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			06/07/16 12:16	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			06/07/16 12:16	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/16 12:16	1
Bromobenzene	<0.36		1.0	0.36	ug/L			06/07/16 12:16	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/16 12:16	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			06/07/16 12:16	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/16 12:16	1
Bromomethane	<0.80		2.0	0.80	ug/L			06/07/16 12:16	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/16 12:16	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/16 12:16	1
Chloroform	<0.37		1.0	0.37	ug/L			06/07/16 12:16	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/16 12:16	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/16 12:16	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/16 12:16	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			06/07/16 12:16	1
Dibromomethane	<0.27		1.0	0.27	ug/L			06/07/16 12:16	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			06/07/16 12:16	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/16 12:16	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			06/07/16 12:16	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			06/07/16 12:16	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/16 12:16	1
Naphthalene	<0.34		1.0	0.34	ug/L			06/07/16 12:16	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			06/07/16 12:16	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			06/07/16 12:16	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 12:16	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/16 12:16	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: MB 500-338717/28**  
**Matrix: Water**  
**Analysis Batch: 338717**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			06/07/16 12:16	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/16 12:16	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/16 12:16	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/16 12:16	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/16 12:16	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/16 12:16	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/16 12:16	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/07/16 12:16	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			06/07/16 12:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		06/07/16 12:16	1
4-Bromofluorobenzene (Surr)	106		71 - 120		06/07/16 12:16	1
Dibromofluoromethane	93		70 - 120		06/07/16 12:16	1
Toluene-d8 (Surr)	92		75 - 120		06/07/16 12:16	1

**Lab Sample ID: LCS 500-338717/4**  
**Matrix: Water**  
**Analysis Batch: 338717**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	51.1		ug/L		102	68 - 125
1,1,1-Trichloroethane	50.0	50.2		ug/L		100	70 - 125
1,1,1,2-Tetrachloroethane	50.0	47.1		ug/L		94	68 - 125
1,1,2-Trichloroethane	50.0	49.4		ug/L		99	70 - 125
1,1-Dichloroethane	50.0	51.7		ug/L		103	70 - 125
1,1-Dichloroethene	50.0	47.5		ug/L		95	70 - 125
1,1-Dichloropropene	50.0	50.1		ug/L		100	70 - 125
1,2,3-Trichlorobenzene	50.0	44.1		ug/L		88	58 - 135
1,2,3-Trichloropropane	50.0	48.3		ug/L		97	63 - 125
1,2,4-Trichlorobenzene	50.0	46.3		ug/L		93	64 - 126
1,2,4-Trimethylbenzene	50.0	49.9		ug/L		100	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	45.7		ug/L		91	51 - 125
1,2-Dibromoethane	50.0	48.8		ug/L		98	70 - 125
1,2-Dichlorobenzene	50.0	48.8		ug/L		98	70 - 125
1,2-Dichloroethane	50.0	54.9		ug/L		110	70 - 125
1,2-Dichloropropane	50.0	48.8		ug/L		98	70 - 125
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	70 - 125
1,3-Dichlorobenzene	50.0	48.1		ug/L		96	70 - 125
1,3-Dichloropropane	50.0	50.3		ug/L		101	70 - 125
1,4-Dichlorobenzene	50.0	49.2		ug/L		98	70 - 125
2,2-Dichloropropane	50.0	48.8		ug/L		98	62 - 125
2-Chlorotoluene	50.0	49.5		ug/L		99	69 - 125
4-Chlorotoluene	50.0	49.8		ug/L		100	70 - 125
Benzene	50.0	48.9		ug/L		98	70 - 125
Bromobenzene	50.0	48.0		ug/L		96	70 - 125
Bromochloromethane	50.0	49.2		ug/L		98	70 - 125
Bromodichloromethane	50.0	50.7		ug/L		101	70 - 125

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

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

**Lab Sample ID: LCS 500-338717/4**

**Matrix: Water**

**Analysis Batch: 338717**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	50.0	45.3		ug/L		91	54 - 128
Bromomethane	50.0	57.2		ug/L		114	40 - 150
Carbon tetrachloride	50.0	51.5		ug/L		103	70 - 125
Chlorobenzene	50.0	50.3		ug/L		101	70 - 125
Chloroethane	50.0	58.0		ug/L		116	60 - 139
Chloroform	50.0	52.0		ug/L		104	70 - 125
Chloromethane	50.0	48.6		ug/L		97	60 - 140
cis-1,2-Dichloroethene	50.0	50.0		ug/L		100	70 - 125
cis-1,3-Dichloropropene	50.0	49.8		ug/L		100	70 - 125
Dibromochloromethane	50.0	51.5		ug/L		103	66 - 125
Dibromomethane	50.0	49.4		ug/L		99	70 - 125
Dichlorodifluoromethane	50.0	46.9		ug/L		94	51 - 140
Ethylbenzene	50.0	50.0		ug/L		100	70 - 125
Hexachlorobutadiene	50.0	45.2		ug/L		90	57 - 140
Isopropylbenzene	50.0	49.8		ug/L		100	70 - 125
Methyl tert-butyl ether	50.0	49.2		ug/L		98	67 - 125
Methylene Chloride	50.0	48.0		ug/L		96	68 - 125
Naphthalene	50.0	46.9		ug/L		94	50 - 136
n-Butylbenzene	50.0	50.4		ug/L		101	70 - 125
N-Propylbenzene	50.0	49.7		ug/L		99	70 - 125
p-Isopropyltoluene	50.0	50.2		ug/L		100	70 - 125
sec-Butylbenzene	50.0	50.7		ug/L		101	70 - 125
Styrene	50.0	50.8		ug/L		102	70 - 125
tert-Butylbenzene	50.0	49.8		ug/L		100	70 - 125
Tetrachloroethene	50.0	49.2		ug/L		98	70 - 125
Toluene	50.0	49.7		ug/L		99	70 - 125
trans-1,2-Dichloroethene	50.0	49.8		ug/L		100	70 - 125
trans-1,3-Dichloropropene	50.0	50.6		ug/L		101	70 - 125
Trichloroethene	50.0	49.0		ug/L		98	70 - 125
Trichlorofluoromethane	50.0	54.3		ug/L		109	60 - 126
Vinyl chloride	50.0	46.6		ug/L		93	70 - 126
Xylenes, Total	100	102		ug/L		102	70 - 125

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	102		71 - 127
4-Bromofluorobenzene (Surr)	91		71 - 120
Dibromofluoromethane	97		70 - 120
Toluene-d8 (Surr)	93		75 - 120

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: EXW-4**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-1**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 03:49	TCT	TAL CHI

**Client Sample ID: EXW-6**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-2**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 04:14	TCT	TAL CHI

**Client Sample ID: MUNI #3**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-3**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 04:39	TCT	TAL CHI

**Client Sample ID: MW-17**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-4**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 05:03	TCT	TAL CHI

**Client Sample ID: MW-18**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-5**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 05:29	TCT	TAL CHI

**Client Sample ID: MW-19**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-6**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 05:53	TCT	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: MW-20**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-7**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 06:18	TCT	TAL CHI

**Client Sample ID: MW-21**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-8**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 06:43	TCT	TAL CHI

**Client Sample ID: MW-21A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-9**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 07:08	TCT	TAL CHI

**Client Sample ID: B-1**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-10**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 07:33	TCT	TAL CHI

**Client Sample ID: B-1A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-11**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338648	06/07/16 07:58	TCT	TAL CHI

**Client Sample ID: B-1B**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-12**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 13:55	JMP	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Client Sample ID: B-3

Date Collected: 05/26/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 14:21	JMP	TAL CHI

## Client Sample ID: B-3A

Date Collected: 05/26/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-14

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 14:46	JMP	TAL CHI

## Client Sample ID: B-10

Date Collected: 05/25/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-15

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 15:11	JMP	TAL CHI

## Client Sample ID: B-11

Date Collected: 05/25/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-16

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 15:36	JMP	TAL CHI

## Client Sample ID: B-12

Date Collected: 05/24/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-17

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 13:06	JMP	TAL CHI

## Client Sample ID: B-13

Date Collected: 05/26/16 00:00

Date Received: 05/27/16 10:30

## Lab Sample ID: 500-112232-18

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 16:01	JMP	TAL CHI
Total/NA	Analysis	8260B	DL	10	338717	06/07/16 16:26	JMP	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: B-13A**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-19**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 16:51	JMP	TAL CHI

**Client Sample ID: B-13B**

**Date Collected: 05/26/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-20**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 17:16	JMP	TAL CHI

**Client Sample ID: Discharge**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-21**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 17:42	JMP	TAL CHI

**Client Sample ID: MW-18A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-22**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 18:07	JMP	TAL CHI

**Client Sample ID: MW-19A**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-23**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 18:32	JMP	TAL CHI

**Client Sample ID: B-1B Dup**

**Date Collected: 05/25/16 00:00**

**Date Received: 05/27/16 10:30**

**Lab Sample ID: 500-112232-24**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 18:56	JMP	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-112232-25**

**Date Collected: 05/24/16 00:00**

**Matrix: Water**

**Date Received: 05/27/16 10:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	338717	06/07/16 12:41	JMP	TAL CHI

**Laboratory References:**

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

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# Certification Summary

Client: MSA Professional Services, Inc  
Project/Site: Minoqua Cleaners - 8267019

TestAmerica Job ID: 500-112232-1

## Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-16 *

- 1
- 2
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- 10
- 11
- 12
- 13
- 14
- 15

\* Certification renewal pending - certification considered valid.



# TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60  
Phone: 708.534.5200 Fax: 708.534



500-112232 COC

Report To: *Dick Luster* (optional)  
Contact: *MBA Professional*  
Company: *MBA Professional*  
Address: *1230 South Blvd*  
Address: *Paradee, WI 52913*  
Phone: *608-356-2771*  
Fax:  
E-Mail:

Bill To: (optional)  
Contact:  
Company: *Same*  
Address:  
Address:  
Phone:  
Fax:  
PO#/Reference#

## Chain of Custody Record

Lab Job #: *500-112232*

Chain of Custody Number:

Page *1* of *3*

Temperature: °C of Cooler: *21*

Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	Preservative	Parameter	Project Location/State	Lab Project #	Sampler	Lab PM	Project Name	Client	Client Project #	Preservative Key	Comments
			Date	Time													
1		EXW-4	5/25/16	26/16	3	GW	X		Milwaukee, WI		David Fitzsimmons		Municipal Cleaners	MBA Professional	26267019	1. HCL, Cool to 4°	
2		EXW-6			3		X									2. H2SO4, Cool to 4°	
3		MW-17	5/26		3		X									3. HNO3, Cool to 4°	
4		MW-18	5/25		3		X									4. NaOH, Cool to 4°	
5		MW-19			3		X									5. NaOH/Zn, Cool to 4°	
6		MW-20			3		X									6. NaHSO4	
7		MW-21			3		X									7. Cool to 4°	
8		MW-21A			3		X									8. None	
9		B-1			3		X									9. Other	

Turnaround Time Required (Business Days):  1 Day  2 Days  5 Days  7 Days  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: *David Fitzsimmons* Company: *MBA* Date: *5/26/16* Time: \_\_\_\_\_  
 Received By: *Shawn Scott* Company: *TA-CHE* Date: *5/27/16* Time: *1030*

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:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To: Dick Jester (optional)  
 Contact: \_\_\_\_\_  
 Company: M&S Professional  
 Address: 1230 South Blvd  
 Address: Barron WI 53913  
 Phone: 608-306-2771  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: Same  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-112232  
 Chain of Custody Number: \_\_\_\_\_  
 Page 2 of 3  
 Temperature °C of Cooler: \_\_\_\_\_

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
11		B-1A	5/25/12	10:16	3	6W	X
12		B-1B	5/26		3		X
13		B-3	5/26		3		X
14		B-3A	5/26		3		X
15		B-1D	5/26		3		X
16		B-11	5/26		3		X
17		B-12	5/26		3		X
18		B-13	5/26		3		X
19		B-13A			3		X
20		B-13B			3		X

Turnaround Time Required (Business Days): 2 Days

Requested Due Date: 5/26/12

Relinquished By: David Spimmans Company: M&S Date: 5/26/12 Time: \_\_\_\_\_

Relinquished By: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished By: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

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

Received By: Shirley Company: TA-CRT Date: 5/27/12 Time: 1030

Received By: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received By: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

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

Matrix Key		Client Comments	Lab Comments:
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			

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To: Dick [unclear] (optional)  
 Contact: MSA Professional  
 Company: MSA Professional  
 Address: 1230 South Blvd.  
 Address: Batesville, MS 38913  
 Phone: 666-366-2771  
 Fax:  
 E-Mail:

Bill To: (optional)  
 Contact:  
 Company:  
 Address: Same  
 Address:  
 Phone:  
 Fax:  
 PO#/Reference#

## Chain of Custody Record

Lab Job #: 500-112232  
 Chain of Custody Number:  
 Page 3 of 3  
 Temperature °C of Cooler:

Client		Client Project #		Preservative		Parameter		Comments	
MSA Professional		8267019						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		Project Location/State		Lab Project #		Lab PM			
Minnesota Clean MS		Minnesota, MN				David Fitzsimmons			
Lab ID	MIS/MSD	Sample ID	Sampling		# of Containers	Matrix			
			Date	Time					
21		Discharge	5/25-26/10		3	GW	X	VOC 8267019	
22		mw-18A	↓		3		X		
23		mw-19A	↓		3		X		
24		B-1B Dup	↓		3		X		
25		Thing Blank	↓		2		X		

Turnaround Time Required (Business Days): 1 Day, 2 Days, 5 Days, 7 Days, 10 Days, 15 Days, Other

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: David Fitzsimmons, Company: MSA, Date: 5/26/10, Time: 10:30  
 Received By: Sheri Scotts, Company: TR-CHI, Date: 5/27/10, Time: 10:30

Relinquished By: \_\_\_\_\_, Company: \_\_\_\_\_, Date: \_\_\_\_\_, Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_, Company: \_\_\_\_\_, Date: \_\_\_\_\_, Time: \_\_\_\_\_

Relinquished By: \_\_\_\_\_, Company: \_\_\_\_\_, Date: \_\_\_\_\_, Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_, Company: \_\_\_\_\_, Date: \_\_\_\_\_, Time: \_\_\_\_\_

Lab Courier: \_\_\_\_\_  
 Shipped: Fed X  
 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: MSA Professional Services, Inc

Job Number: 500-112232-1

**Login Number: 112232**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	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.	True	
Cooler Temperature is recorded.	True	2.1
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 (excluding tests with immediate HTs)	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	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	False	Headspace larger than 1/4" in one or more vials, one vial with accpt. headspace
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: 500-120366-1  
Client Project/Site: Minocqua Cleaners - 8267019

For:  
MSA Professional Services, Inc  
1230 South Blvd  
Baraboo, Wisconsin 53913

Attn: Mr. Richard Lyster



Authorized for release by:  
11/29/2016 11:17:17 AM

Sandie Fredrick, Project Manager II  
(920)261-1660  
[sandie.fredrick@testamericainc.com](mailto:sandie.fredrick@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



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: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Job ID: 500-120366-1**

**Laboratory: TestAmerica Chicago**

## Narrative

**Job Narrative**  
**500-120366-1**

## Comments

No additional comments.

## Receipt

The samples were received on 11/18/2016 8:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

## GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) for 362626 recovered outside control limits for the following analyte: 1,3-Dichloropropane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data has been reported.

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

# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Client Sample ID: EXW-4

## Lab Sample ID: 500-120366-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.5		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	1.4		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: EXW-6

## Lab Sample ID: 500-120366-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	8.1		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	9.5		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	1.1		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: Muni #3

## Lab Sample ID: 500-120366-3

No Detections.

## Client Sample ID: MW-17

## Lab Sample ID: 500-120366-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	64		1.0	0.41	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.3		1.0	0.35	ug/L	1		8260B	Total/NA
Vinyl chloride	42		0.50	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-18

## Lab Sample ID: 500-120366-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.52	J	1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.91	J	1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	1.1		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-19

## Lab Sample ID: 500-120366-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.2		1.0	0.37	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.7		1.0	0.35	ug/L	1		8260B	Total/NA
Trichloroethene	45		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	31		0.50	0.20	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	260		10	4.1	ug/L	10		8260B	Total/NA

## Client Sample ID: MW-21

## Lab Sample ID: 500-120366-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	10		1.0	0.37	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-21A

## Lab Sample ID: 500-120366-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	31		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.4		1.0	0.37	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.52	J	1.0	0.35	ug/L	1		8260B	Total/NA
Trichloroethene	2.8		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	3.2		0.50	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Client Sample ID: B-1

Lab Sample ID: 500-120366-9

No Detections.

## Client Sample ID: B-1A

Lab Sample ID: 500-120366-10

No Detections.

## Client Sample ID: B-1B

Lab Sample ID: 500-120366-11

No Detections.

## Client Sample ID: B-3

Lab Sample ID: 500-120366-12

No Detections.

## Client Sample ID: B-3A

Lab Sample ID: 500-120366-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.2		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.42	J	0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: B-10

Lab Sample ID: 500-120366-14

No Detections.

## Client Sample ID: B-11

Lab Sample ID: 500-120366-15

No Detections.

## Client Sample ID: B-12

Lab Sample ID: 500-120366-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	0.47	J	0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: B-13

Lab Sample ID: 500-120366-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.80	J	1.0	0.39	ug/L	1		8260B	Total/NA
Tetrachloroethene	150		1.0	0.37	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	2.2		1.0	0.35	ug/L	1		8260B	Total/NA
Trichloroethene	73		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	38		0.50	0.20	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	250		10	4.1	ug/L	10		8260B	Total/NA

## Client Sample ID: B-13A

Lab Sample ID: 500-120366-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.4		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.36	J	0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: B-13B

Lab Sample ID: 500-120366-19

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Client Sample ID: B-13B (Continued)

Lab Sample ID: 500-120366-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.62	J	1.0	0.37	ug/L	1		8260B	Total/NA

## Client Sample ID: Discharge Pipe

Lab Sample ID: 500-120366-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.1		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.60	J	1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.92		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-18A

Lab Sample ID: 500-120366-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1.3		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.60		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: MW-19A

Lab Sample ID: 500-120366-22

No Detections.

## Client Sample ID: B-10 Dup

Lab Sample ID: 500-120366-23

No Detections.

## Client Sample ID: Trip Blank

Lab Sample ID: 500-120366-24

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Method Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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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: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-120366-1	EXW-4	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-2	EXW-6	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-3	Muni #3	Ground Water	11/17/16 00:00	11/18/16 08:45
500-120366-4	MW-17	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-5	MW-18	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-6	MW-19	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-7	MW-21	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-8	MW-21A	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-9	B-1	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-10	B-1A	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-11	B-1B	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-12	B-3	Ground Water	11/17/16 00:00	11/18/16 08:45
500-120366-13	B-3A	Ground Water	11/17/16 00:00	11/18/16 08:45
500-120366-14	B-10	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-15	B-11	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-16	B-12	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-17	B-13	Ground Water	11/17/16 00:00	11/18/16 08:45
500-120366-18	B-13A	Ground Water	11/17/16 00:00	11/18/16 08:45
500-120366-19	B-13B	Ground Water	11/17/16 00:00	11/18/16 08:45
500-120366-20	Discharge Pipe	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-21	MW-18A	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-22	MW-19A	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-23	B-10 Dup	Ground Water	11/16/16 00:00	11/18/16 08:45
500-120366-24	Trip Blank	Water	11/16/16 00:00	11/18/16 08:45

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: EXW-4**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-1**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 20:12	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 20:12	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 20:12	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 20:12	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 20:12	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 20:12	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 20:12	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 20:12	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 20:12	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 20:12	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 20:12	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 20:12	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 20:12	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 20:12	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 20:12	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 20:12	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 20:12	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 20:12	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 20:12	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 20:12	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 20:12	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 20:12	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 20:12	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 20:12	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 20:12	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 20:12	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 20:12	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 20:12	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 20:12	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 20:12	1
<b>cis-1,2-Dichloroethene</b>	<b>1.5</b>		1.0	0.41	ug/L			11/27/16 20:12	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 20:12	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 20:12	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 20:12	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 20:12	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 20:12	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 20:12	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 20:12	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 20:12	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 20:12	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 20:12	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 20:12	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: EXW-4**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-1**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 20:12	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 20:12	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 20:12	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/27/16 20:12	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 20:12	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/27/16 20:12	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 20:12	1
<b>Trichloroethene</b>	<b>1.4</b>		0.50	0.16	ug/L			11/27/16 20:12	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 20:12	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/27/16 20:12	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 20:12	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)	101		71 - 127					11/27/16 20:12	1
4-Bromofluorobenzene (Surr)	111		71 - 120					11/27/16 20:12	1
Dibromofluoromethane	87		70 - 120					11/27/16 20:12	1
Toluene-d8 (Surr)	96		75 - 120					11/27/16 20:12	1

**Client Sample ID: EXW-6**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-2**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 20:37	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 20:37	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 20:37	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 20:37	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 20:37	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 20:37	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 20:37	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 20:37	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 20:37	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 20:37	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 20:37	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 20:37	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 20:37	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 20:37	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 20:37	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 20:37	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 20:37	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 20:37	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 20:37	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 20:37	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 20:37	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 20:37	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 20:37	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: EXW-6**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-2**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 20:37	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 20:37	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 20:37	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 20:37	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 20:37	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 20:37	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 20:37	1
<b>cis-1,2-Dichloroethene</b>	<b>17</b>		1.0	0.41	ug/L			11/27/16 20:37	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 20:37	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 20:37	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 20:37	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 20:37	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 20:37	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 20:37	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 20:37	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 20:37	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 20:37	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 20:37	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 20:37	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 20:37	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 20:37	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 20:37	1
<b>Tetrachloroethene</b>	<b>8.1</b>		1.0	0.37	ug/L			11/27/16 20:37	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 20:37	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/27/16 20:37	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 20:37	1
<b>Trichloroethene</b>	<b>9.5</b>		0.50	0.16	ug/L			11/27/16 20:37	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 20:37	1
<b>Vinyl chloride</b>	<b>1.1</b>		0.50	0.20	ug/L			11/27/16 20:37	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 127		11/27/16 20:37	1
4-Bromofluorobenzene (Surr)	107		71 - 120		11/27/16 20:37	1
Dibromofluoromethane	87		70 - 120		11/27/16 20:37	1
Toluene-d8 (Surr)	95		75 - 120		11/27/16 20:37	1

**Client Sample ID: Muni #3**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-3**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/29/16 05:36	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/29/16 05:36	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/29/16 05:36	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: Muni #3**

**Lab Sample ID: 500-120366-3**

**Date Collected: 11/17/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/29/16 05:36	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/29/16 05:36	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/29/16 05:36	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/29/16 05:36	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/29/16 05:36	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/29/16 05:36	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/29/16 05:36	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/29/16 05:36	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/29/16 05:36	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/29/16 05:36	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/29/16 05:36	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/29/16 05:36	1
1,3-Dichloropropane	<0.36 *		1.0	0.36	ug/L			11/29/16 05:36	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/29/16 05:36	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/29/16 05:36	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/29/16 05:36	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/29/16 05:36	1
Benzene	<0.15		0.50	0.15	ug/L			11/29/16 05:36	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/29/16 05:36	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/29/16 05:36	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/29/16 05:36	1
Bromoform	<0.48		1.0	0.48	ug/L			11/29/16 05:36	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/29/16 05:36	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/29/16 05:36	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/29/16 05:36	1
Chloroform	<0.37		1.0	0.37	ug/L			11/29/16 05:36	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/29/16 05:36	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/29/16 05:36	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/29/16 05:36	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/29/16 05:36	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/29/16 05:36	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/29/16 05:36	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/29/16 05:36	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/29/16 05:36	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/29/16 05:36	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/29/16 05:36	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/29/16 05:36	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/29/16 05:36	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/29/16 05:36	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/29/16 05:36	1
Styrene	<0.39		1.0	0.39	ug/L			11/29/16 05:36	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/29/16 05:36	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: Muni #3**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-3**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/29/16 05:36	1
Toluene	<0.15		0.50	0.15	ug/L			11/29/16 05:36	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/29/16 05:36	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/29/16 05:36	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/29/16 05:36	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/29/16 05:36	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/29/16 05:36	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/29/16 05:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		71 - 127					11/29/16 05:36	1
4-Bromofluorobenzene (Surr)	112		71 - 120					11/29/16 05:36	1
Dibromofluoromethane	88		70 - 120					11/29/16 05:36	1
Toluene-d8 (Surr)	94		75 - 120					11/29/16 05:36	1

**Client Sample ID: MW-17**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-4**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 21:02	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 21:02	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 21:02	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 21:02	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 21:02	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 21:02	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 21:02	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 21:02	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 21:02	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:02	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 21:02	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 21:02	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 21:02	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 21:02	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:02	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 21:02	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:02	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 21:02	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 21:02	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 21:02	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 21:02	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:02	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 21:02	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 21:02	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 21:02	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 21:02	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-17**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-4**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 21:02	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 21:02	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 21:02	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 21:02	1
<b>cis-1,2-Dichloroethene</b>	<b>64</b>		1.0	0.41	ug/L			11/27/16 21:02	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 21:02	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 21:02	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 21:02	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 21:02	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 21:02	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 21:02	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 21:02	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 21:02	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 21:02	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 21:02	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 21:02	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:02	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 21:02	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:02	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/27/16 21:02	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 21:02	1
<b>trans-1,2-Dichloroethene</b>	<b>2.3</b>		1.0	0.35	ug/L			11/27/16 21:02	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 21:02	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/27/16 21:02	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 21:02	1
<b>Vinyl chloride</b>	<b>42</b>		0.50	0.20	ug/L			11/27/16 21:02	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 127		11/27/16 21:02	1
4-Bromofluorobenzene (Surr)	109		71 - 120		11/27/16 21:02	1
Dibromofluoromethane	86		70 - 120		11/27/16 21:02	1
Toluene-d8 (Surr)	95		75 - 120		11/27/16 21:02	1

**Client Sample ID: MW-18**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 21:28	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 21:28	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 21:28	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 21:28	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 21:28	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-18**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 21:28	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 21:28	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 21:28	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 21:28	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:28	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 21:28	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 21:28	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 21:28	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 21:28	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:28	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 21:28	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:28	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 21:28	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 21:28	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 21:28	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 21:28	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:28	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 21:28	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 21:28	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 21:28	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 21:28	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 21:28	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 21:28	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 21:28	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 21:28	1
<b>cis-1,2-Dichloroethene</b>	<b>0.52</b>	<b>J</b>	1.0	0.41	ug/L			11/27/16 21:28	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 21:28	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 21:28	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 21:28	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 21:28	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 21:28	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 21:28	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 21:28	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 21:28	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 21:28	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 21:28	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 21:28	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:28	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 21:28	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:28	1
<b>Tetrachloroethene</b>	<b>0.91</b>	<b>J</b>	1.0	0.37	ug/L			11/27/16 21:28	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 21:28	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/27/16 21:28	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-18**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-5**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 21:28	1
<b>Trichloroethene</b>	<b>1.1</b>		0.50	0.16	ug/L			11/27/16 21:28	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 21:28	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/27/16 21:28	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		11/27/16 21:28	1
4-Bromofluorobenzene (Surr)	109		71 - 120		11/27/16 21:28	1
Dibromofluoromethane	89		70 - 120		11/27/16 21:28	1
Toluene-d8 (Surr)	95		75 - 120		11/27/16 21:28	1

**Client Sample ID: MW-19**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-6**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 21:53	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 21:53	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 21:53	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 21:53	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 21:53	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 21:53	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 21:53	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 21:53	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 21:53	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:53	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 21:53	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 21:53	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 21:53	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 21:53	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:53	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 21:53	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:53	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 21:53	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 21:53	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 21:53	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 21:53	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 21:53	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 21:53	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 21:53	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 21:53	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 21:53	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 21:53	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 21:53	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-19**

**Lab Sample ID: 500-120366-6**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 21:53	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 21:53	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 21:53	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 21:53	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 21:53	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 21:53	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 21:53	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 21:53	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 21:53	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 21:53	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 21:53	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 21:53	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 21:53	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:53	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 21:53	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 21:53	1
<b>Tetrachloroethene</b>	<b>1.2</b>		1.0	0.37	ug/L			11/27/16 21:53	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 21:53	1
<b>trans-1,2-Dichloroethene</b>	<b>2.7</b>		1.0	0.35	ug/L			11/27/16 21:53	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 21:53	1
<b>Trichloroethene</b>	<b>45</b>		0.50	0.16	ug/L			11/27/16 21:53	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 21:53	1
<b>Vinyl chloride</b>	<b>31</b>		0.50	0.20	ug/L			11/27/16 21:53	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		71 - 127		11/27/16 21:53	1
4-Bromofluorobenzene (Surr)	109		71 - 120		11/27/16 21:53	1
Dibromofluoromethane	87		70 - 120		11/27/16 21:53	1
Toluene-d8 (Surr)	95		75 - 120		11/27/16 21:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>260</b>		10	4.1	ug/L			11/27/16 22:18	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		11/27/16 22:18	10
4-Bromofluorobenzene (Surr)	109		71 - 120		11/27/16 22:18	10
Dibromofluoromethane	87		70 - 120		11/27/16 22:18	10
Toluene-d8 (Surr)	94		75 - 120		11/27/16 22:18	10

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-21**

**Lab Sample ID: 500-120366-7**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 22:43	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 22:43	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 22:43	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 22:43	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 22:43	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 22:43	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 22:43	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 22:43	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 22:43	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 22:43	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 22:43	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 22:43	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 22:43	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 22:43	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 22:43	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 22:43	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 22:43	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 22:43	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 22:43	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 22:43	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 22:43	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 22:43	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 22:43	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 22:43	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 22:43	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 22:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 22:43	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 22:43	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 22:43	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 22:43	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/27/16 22:43	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 22:43	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 22:43	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 22:43	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 22:43	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 22:43	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 22:43	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 22:43	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 22:43	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 22:43	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 22:43	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 22:43	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-21**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-7**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 22:43	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 22:43	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 22:43	1
<b>Tetrachloroethene</b>	<b>10</b>		1.0	0.37	ug/L			11/27/16 22:43	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 22:43	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/27/16 22:43	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 22:43	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/27/16 22:43	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 22:43	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/27/16 22:43	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 22:43	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)	105		71 - 127					11/27/16 22:43	1
4-Bromofluorobenzene (Surr)	112		71 - 120					11/27/16 22:43	1
Dibromofluoromethane	89		70 - 120					11/27/16 22:43	1
Toluene-d8 (Surr)	93		75 - 120					11/27/16 22:43	1

**Client Sample ID: MW-21A**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-8**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 23:09	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 23:09	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 23:09	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 23:09	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 23:09	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 23:09	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 23:09	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 23:09	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 23:09	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:09	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 23:09	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 23:09	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 23:09	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 23:09	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:09	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 23:09	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:09	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 23:09	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 23:09	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 23:09	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 23:09	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:09	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 23:09	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-21A**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-8**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 23:09	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 23:09	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 23:09	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 23:09	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 23:09	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 23:09	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 23:09	1
<b>cis-1,2-Dichloroethene</b>	<b>31</b>		1.0	0.41	ug/L			11/27/16 23:09	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 23:09	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 23:09	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 23:09	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 23:09	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 23:09	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 23:09	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 23:09	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 23:09	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 23:09	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 23:09	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 23:09	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:09	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 23:09	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:09	1
<b>Tetrachloroethene</b>	<b>1.4</b>		1.0	0.37	ug/L			11/27/16 23:09	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 23:09	1
<b>trans-1,2-Dichloroethene</b>	<b>0.52 J</b>		1.0	0.35	ug/L			11/27/16 23:09	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 23:09	1
<b>Trichloroethene</b>	<b>2.8</b>		0.50	0.16	ug/L			11/27/16 23:09	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 23:09	1
<b>Vinyl chloride</b>	<b>3.2</b>		0.50	0.20	ug/L			11/27/16 23:09	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 23:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 127		11/27/16 23:09	1
4-Bromofluorobenzene (Surr)	108		71 - 120		11/27/16 23:09	1
Dibromofluoromethane	90		70 - 120		11/27/16 23:09	1
Toluene-d8 (Surr)	96		75 - 120		11/27/16 23:09	1

**Client Sample ID: B-1**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-9**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 23:34	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 23:34	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 23:34	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-1**

**Lab Sample ID: 500-120366-9**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 23:34	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 23:34	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 23:34	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 23:34	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 23:34	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 23:34	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:34	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 23:34	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 23:34	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 23:34	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 23:34	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:34	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 23:34	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:34	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 23:34	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 23:34	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 23:34	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 23:34	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:34	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 23:34	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 23:34	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 23:34	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 23:34	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 23:34	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 23:34	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 23:34	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 23:34	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/27/16 23:34	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 23:34	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 23:34	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 23:34	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 23:34	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 23:34	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 23:34	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 23:34	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 23:34	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 23:34	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 23:34	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 23:34	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:34	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 23:34	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:34	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Client Sample ID: B-1

Date Collected: 11/16/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-9

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/27/16 23:34	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 23:34	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/27/16 23:34	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 23:34	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/27/16 23:34	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 23:34	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/27/16 23:34	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 23:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127					11/27/16 23:34	1
4-Bromofluorobenzene (Surr)	109		71 - 120					11/27/16 23:34	1
Dibromofluoromethane	90		70 - 120					11/27/16 23:34	1
Toluene-d8 (Surr)	93		75 - 120					11/27/16 23:34	1

## Client Sample ID: B-1A

Date Collected: 11/16/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-10

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 23:59	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 23:59	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 23:59	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 23:59	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 23:59	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 23:59	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 23:59	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 23:59	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 23:59	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:59	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 23:59	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 23:59	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 23:59	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 23:59	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:59	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 23:59	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:59	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 23:59	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 23:59	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 23:59	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 23:59	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 23:59	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 23:59	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 23:59	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 23:59	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 23:59	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-1A**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-10**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 23:59	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 23:59	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 23:59	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 23:59	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/27/16 23:59	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/27/16 23:59	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 23:59	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 23:59	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 23:59	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 23:59	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 23:59	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 23:59	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 23:59	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 23:59	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 23:59	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 23:59	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:59	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 23:59	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 23:59	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/27/16 23:59	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 23:59	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/27/16 23:59	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 23:59	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/27/16 23:59	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 23:59	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/27/16 23:59	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 127		11/27/16 23:59	1
4-Bromofluorobenzene (Surr)	111		71 - 120		11/27/16 23:59	1
Dibromofluoromethane	87		70 - 120		11/27/16 23:59	1
Toluene-d8 (Surr)	95		75 - 120		11/27/16 23:59	1

**Client Sample ID: B-1B**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-11**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 00:25	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 00:25	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 00:25	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 00:25	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 00:25	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-1B**

**Lab Sample ID: 500-120366-11**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 00:25	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 00:25	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 00:25	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 00:25	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 00:25	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 00:25	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 00:25	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 00:25	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 00:25	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 00:25	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 00:25	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 00:25	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 00:25	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 00:25	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 00:25	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 00:25	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 00:25	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 00:25	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 00:25	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 00:25	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 00:25	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 00:25	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 00:25	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 00:25	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 00:25	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 00:25	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 00:25	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 00:25	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 00:25	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 00:25	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 00:25	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 00:25	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 00:25	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 00:25	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 00:25	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 00:25	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 00:25	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 00:25	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 00:25	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 00:25	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 00:25	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 00:25	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 00:25	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Client Sample ID: B-1B

Date Collected: 11/16/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-11

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 00:25	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 00:25	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 00:25	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 00:25	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 127		11/28/16 00:25	1
4-Bromofluorobenzene (Surr)	109		71 - 120		11/28/16 00:25	1
Dibromofluoromethane	87		70 - 120		11/28/16 00:25	1
Toluene-d8 (Surr)	95		75 - 120		11/28/16 00:25	1

## Client Sample ID: B-3

Date Collected: 11/17/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-12

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 11:09	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 11:09	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 11:09	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 11:09	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 11:09	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 11:09	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 11:09	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 11:09	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 11:09	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:09	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 11:09	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 11:09	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 11:09	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 11:09	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:09	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 11:09	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:09	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 11:09	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 11:09	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 11:09	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 11:09	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:09	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 11:09	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 11:09	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 11:09	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 11:09	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 11:09	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 11:09	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-3**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-12**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 11:09	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 11:09	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 11:09	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 11:09	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 11:09	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 11:09	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 11:09	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 11:09	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 11:09	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 11:09	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 11:09	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 11:09	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 11:09	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 11:09	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:09	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 11:09	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:09	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 11:09	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 11:09	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 11:09	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 11:09	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 11:09	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 11:09	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 11:09	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 11:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		11/28/16 11:09	1
4-Bromofluorobenzene (Surr)	111		71 - 120		11/28/16 11:09	1
Dibromofluoromethane	87		70 - 120		11/28/16 11:09	1
Toluene-d8 (Surr)	95		75 - 120		11/28/16 11:09	1

**Client Sample ID: B-3A**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-13**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 11:34	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 11:34	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 11:34	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 11:34	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 11:34	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 11:34	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 11:34	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 11:34	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-3A**  
**Date Collected: 11/17/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-13**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 11:34	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:34	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 11:34	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 11:34	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 11:34	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 11:34	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:34	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 11:34	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:34	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 11:34	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 11:34	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 11:34	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 11:34	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:34	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 11:34	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 11:34	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 11:34	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 11:34	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 11:34	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 11:34	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 11:34	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 11:34	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 11:34	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 11:34	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 11:34	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 11:34	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 11:34	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 11:34	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 11:34	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 11:34	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 11:34	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 11:34	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 11:34	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 11:34	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:34	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 11:34	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:34	1
<b>Tetrachloroethene</b>	<b>1.2</b>		1.0	0.37	ug/L			11/28/16 11:34	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 11:34	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 11:34	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 11:34	1
<b>Trichloroethene</b>	<b>0.42 J</b>		0.50	0.16	ug/L			11/28/16 11:34	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 11:34	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-3A**  
**Date Collected: 11/17/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-13**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 11:34	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 11:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 127					11/28/16 11:34	1
4-Bromofluorobenzene (Surr)	112		71 - 120					11/28/16 11:34	1
Dibromofluoromethane	90		70 - 120					11/28/16 11:34	1
Toluene-d8 (Surr)	95		75 - 120					11/28/16 11:34	1

**Client Sample ID: B-10**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-14**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 00:50	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 00:50	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 00:50	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 00:50	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 00:50	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 00:50	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 00:50	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 00:50	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 00:50	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 00:50	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 00:50	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 00:50	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 00:50	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 00:50	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 00:50	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 00:50	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 00:50	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 00:50	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 00:50	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 00:50	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 00:50	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 00:50	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 00:50	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 00:50	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 00:50	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 00:50	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 00:50	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 00:50	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 00:50	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 00:50	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 00:50	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-10**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-14**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 00:50	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 00:50	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 00:50	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 00:50	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 00:50	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 00:50	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 00:50	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 00:50	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 00:50	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 00:50	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 00:50	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 00:50	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 00:50	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 00:50	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 00:50	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 00:50	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 00:50	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 00:50	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 00:50	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 00:50	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 00:50	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 00:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 127		11/28/16 00:50	1
4-Bromofluorobenzene (Surr)	111		71 - 120		11/28/16 00:50	1
Dibromofluoromethane	89		70 - 120		11/28/16 00:50	1
Toluene-d8 (Surr)	96		75 - 120		11/28/16 00:50	1

**Client Sample ID: B-11**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-15**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 01:15	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 01:15	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 01:15	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 01:15	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 01:15	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 01:15	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 01:15	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 01:15	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 01:15	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 01:15	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 01:15	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-11**

**Lab Sample ID: 500-120366-15**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 01:15	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 01:15	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 01:15	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 01:15	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 01:15	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 01:15	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 01:15	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 01:15	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 01:15	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 01:15	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 01:15	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 01:15	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 01:15	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 01:15	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 01:15	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 01:15	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 01:15	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 01:15	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 01:15	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 01:15	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 01:15	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 01:15	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 01:15	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 01:15	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 01:15	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 01:15	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 01:15	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 01:15	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 01:15	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 01:15	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 01:15	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 01:15	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 01:15	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 01:15	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 01:15	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 01:15	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 01:15	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 01:15	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 01:15	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 01:15	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 01:15	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 01:15	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Client Sample ID: B-11

Date Collected: 11/16/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-15

Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		71 - 127		11/28/16 01:15	1
4-Bromofluorobenzene (Surr)	110		71 - 120		11/28/16 01:15	1
Dibromofluoromethane	87		70 - 120		11/28/16 01:15	1
Toluene-d8 (Surr)	93		75 - 120		11/28/16 01:15	1

## Client Sample ID: B-12

Date Collected: 11/16/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-16

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 01:40	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 01:40	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 01:40	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 01:40	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 01:40	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 01:40	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 01:40	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 01:40	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 01:40	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 01:40	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 01:40	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 01:40	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 01:40	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 01:40	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 01:40	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 01:40	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 01:40	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 01:40	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 01:40	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 01:40	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 01:40	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 01:40	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 01:40	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 01:40	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 01:40	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 01:40	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 01:40	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 01:40	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 01:40	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 01:40	1
<b>cis-1,2-Dichloroethene</b>	<b>1.8</b>		1.0	0.41	ug/L			11/28/16 01:40	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 01:40	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 01:40	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 01:40	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 01:40	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-12**

**Lab Sample ID: 500-120366-16**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 01:40	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 01:40	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 01:40	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 01:40	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 01:40	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 01:40	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 01:40	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 01:40	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 01:40	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 01:40	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 01:40	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 01:40	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 01:40	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 01:40	1
<b>Trichloroethene</b>	<b>0.47</b>	<b>J</b>	0.50	0.16	ug/L			11/28/16 01:40	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 01:40	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 01:40	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 01:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		11/28/16 01:40	1
4-Bromofluorobenzene (Surr)	112		71 - 120		11/28/16 01:40	1
Dibromofluoromethane	92		70 - 120		11/28/16 01:40	1
Toluene-d8 (Surr)	93		75 - 120		11/28/16 01:40	1

**Client Sample ID: B-13**

**Lab Sample ID: 500-120366-17**

**Date Collected: 11/17/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 11:59	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 11:59	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 11:59	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 11:59	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 11:59	1
<b>1,1-Dichloroethene</b>	<b>0.80</b>	<b>J</b>	1.0	0.39	ug/L			11/28/16 11:59	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 11:59	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 11:59	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 11:59	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 11:59	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:59	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 11:59	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 11:59	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 11:59	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 11:59	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 11:59	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-13**

**Lab Sample ID: 500-120366-17**

**Date Collected: 11/17/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 11:59	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:59	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 11:59	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:59	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 11:59	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 11:59	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 11:59	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 11:59	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 11:59	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 11:59	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 11:59	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 11:59	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 11:59	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 11:59	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:59	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 11:59	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 11:59	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 11:59	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 11:59	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 11:59	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 11:59	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 11:59	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 11:59	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 11:59	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 11:59	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:59	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 11:59	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 11:59	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 11:59	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 11:59	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 11:59	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 11:59	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:59	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 11:59	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 11:59	1
<b>Tetrachloroethene</b>	<b>150</b>		1.0	0.37	ug/L			11/28/16 11:59	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 11:59	1
<b>trans-1,2-Dichloroethene</b>	<b>2.2</b>		1.0	0.35	ug/L			11/28/16 11:59	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 11:59	1
<b>Trichloroethene</b>	<b>73</b>		0.50	0.16	ug/L			11/28/16 11:59	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 11:59	1
<b>Vinyl chloride</b>	<b>38</b>		0.50	0.20	ug/L			11/28/16 11:59	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 11:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		11/28/16 11:59	1
4-Bromofluorobenzene (Surr)	110		71 - 120		11/28/16 11:59	1
Dibromofluoromethane	89		70 - 120		11/28/16 11:59	1
Toluene-d8 (Surr)	93		75 - 120		11/28/16 11:59	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Client Sample ID: B-13

Date Collected: 11/17/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-17

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	250		10	4.1	ug/L			11/28/16 12:24	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 127					11/28/16 12:24	10
4-Bromofluorobenzene (Surr)	112		71 - 120					11/28/16 12:24	10
Dibromofluoromethane	88		70 - 120					11/28/16 12:24	10
Toluene-d8 (Surr)	94		75 - 120					11/28/16 12:24	10

## Client Sample ID: B-13A

Date Collected: 11/17/16 00:00

Date Received: 11/18/16 08:45

## Lab Sample ID: 500-120366-18

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 12:49	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 12:49	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 12:49	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 12:49	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 12:49	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 12:49	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 12:49	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 12:49	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 12:49	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 12:49	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 12:49	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 12:49	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 12:49	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 12:49	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 12:49	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 12:49	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 12:49	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 12:49	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 12:49	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 12:49	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 12:49	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 12:49	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 12:49	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 12:49	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 12:49	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 12:49	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 12:49	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 12:49	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 12:49	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 12:49	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 12:49	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 12:49	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-13A**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-18**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 12:49	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 12:49	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 12:49	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 12:49	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 12:49	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 12:49	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 12:49	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 12:49	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 12:49	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 12:49	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 12:49	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 12:49	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 12:49	1
<b>Tetrachloroethene</b>	<b>1.4</b>		1.0	0.37	ug/L			11/28/16 12:49	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 12:49	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 12:49	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 12:49	1
<b>Trichloroethene</b>	<b>0.36 J</b>		0.50	0.16	ug/L			11/28/16 12:49	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 12:49	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 12:49	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 12:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		71 - 127		11/28/16 12:49	1
4-Bromofluorobenzene (Surr)	111		71 - 120		11/28/16 12:49	1
Dibromofluoromethane	85		70 - 120		11/28/16 12:49	1
Toluene-d8 (Surr)	96		75 - 120		11/28/16 12:49	1

**Client Sample ID: B-13B**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-19**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 13:14	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 13:14	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 13:14	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 13:14	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 13:14	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 13:14	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 13:14	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 13:14	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 13:14	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 13:14	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 13:14	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-13B**  
**Date Collected: 11/17/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-19**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 13:14	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 13:14	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 13:14	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 13:14	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 13:14	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 13:14	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 13:14	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 13:14	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 13:14	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 13:14	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 13:14	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 13:14	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 13:14	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 13:14	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 13:14	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 13:14	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 13:14	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 13:14	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 13:14	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 13:14	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 13:14	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 13:14	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 13:14	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 13:14	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 13:14	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 13:14	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 13:14	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 13:14	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 13:14	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 13:14	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 13:14	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 13:14	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 13:14	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 13:14	1
<b>Tetrachloroethene</b>	<b>0.62</b>	<b>J</b>	1.0	0.37	ug/L			11/28/16 13:14	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 13:14	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 13:14	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 13:14	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 13:14	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 13:14	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 13:14	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 13:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		71 - 127		11/28/16 13:14	1

TestAmerica Chicago



# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-13B**  
**Date Collected: 11/17/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-19**  
**Matrix: Ground Water**

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		71 - 120		11/28/16 13:14	1
Dibromofluoromethane	89		70 - 120		11/28/16 13:14	1
Toluene-d8 (Surr)	97		75 - 120		11/28/16 13:14	1

**Client Sample ID: Discharge Pipe**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-20**  
**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 02:05	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 02:05	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 02:05	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 02:05	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 02:05	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 02:05	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 02:05	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 02:05	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 02:05	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:05	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 02:05	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 02:05	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 02:05	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 02:05	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:05	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 02:05	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:05	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 02:05	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 02:05	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 02:05	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 02:05	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:05	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 02:05	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 02:05	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 02:05	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 02:05	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 02:05	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 02:05	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 02:05	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 02:05	1
<b>cis-1,2-Dichloroethene</b>	<b>2.1</b>		1.0	0.41	ug/L			11/28/16 02:05	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 02:05	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 02:05	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 02:05	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 02:05	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: Discharge Pipe**

**Lab Sample ID: 500-120366-20**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 02:05	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 02:05	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 02:05	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 02:05	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 02:05	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 02:05	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 02:05	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:05	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 02:05	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:05	1
<b>Tetrachloroethene</b>	<b>0.60</b>	<b>J</b>	1.0	0.37	ug/L			11/28/16 02:05	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 02:05	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 02:05	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 02:05	1
<b>Trichloroethene</b>	<b>0.92</b>		0.50	0.16	ug/L			11/28/16 02:05	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 02:05	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 02:05	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 02:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		11/28/16 02:05	1
4-Bromofluorobenzene (Surr)	112		71 - 120		11/28/16 02:05	1
Dibromofluoromethane	89		70 - 120		11/28/16 02:05	1
Toluene-d8 (Surr)	93		75 - 120		11/28/16 02:05	1

**Client Sample ID: MW-18A**

**Lab Sample ID: 500-120366-21**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 02:31	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 02:31	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 02:31	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 02:31	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 02:31	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 02:31	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 02:31	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 02:31	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 02:31	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:31	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 02:31	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 02:31	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 02:31	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-18A**

**Lab Sample ID: 500-120366-21**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 02:31	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:31	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 02:31	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:31	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 02:31	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 02:31	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 02:31	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 02:31	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:31	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 02:31	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 02:31	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 02:31	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 02:31	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 02:31	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 02:31	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 02:31	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 02:31	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 02:31	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 02:31	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 02:31	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 02:31	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 02:31	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 02:31	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 02:31	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 02:31	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 02:31	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 02:31	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 02:31	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 02:31	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:31	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 02:31	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:31	1
<b>Tetrachloroethene</b>	<b>1.3</b>		1.0	0.37	ug/L			11/28/16 02:31	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 02:31	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 02:31	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 02:31	1
<b>Trichloroethene</b>	<b>0.60</b>		0.50	0.16	ug/L			11/28/16 02:31	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 02:31	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 02:31	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 02:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 127		11/28/16 02:31	1
4-Bromofluorobenzene (Surr)	112		71 - 120		11/28/16 02:31	1
Dibromofluoromethane	88		70 - 120		11/28/16 02:31	1
Toluene-d8 (Surr)	95		75 - 120		11/28/16 02:31	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-19A**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-22**

**Matrix: Ground Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 02:56	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 02:56	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 02:56	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 02:56	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 02:56	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 02:56	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 02:56	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 02:56	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 02:56	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:56	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 02:56	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 02:56	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 02:56	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 02:56	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:56	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 02:56	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:56	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 02:56	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 02:56	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 02:56	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 02:56	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 02:56	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 02:56	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 02:56	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 02:56	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 02:56	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 02:56	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 02:56	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 02:56	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 02:56	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 02:56	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 02:56	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 02:56	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 02:56	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 02:56	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 02:56	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 02:56	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 02:56	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 02:56	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 02:56	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 02:56	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 02:56	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-19A**

**Lab Sample ID: 500-120366-22**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:56	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 02:56	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 02:56	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 02:56	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 02:56	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 02:56	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 02:56	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 02:56	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 02:56	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 02:56	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 02:56	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)	104		71 - 127					11/28/16 02:56	1
4-Bromofluorobenzene (Surr)	109		71 - 120					11/28/16 02:56	1
Dibromofluoromethane	90		70 - 120					11/28/16 02:56	1
Toluene-d8 (Surr)	95		75 - 120					11/28/16 02:56	1

**Client Sample ID: B-10 Dup**

**Lab Sample ID: 500-120366-23**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 03:21	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 03:21	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 03:21	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 03:21	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 03:21	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 03:21	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 03:21	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 03:21	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 03:21	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 03:21	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 03:21	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 03:21	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 03:21	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 03:21	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 03:21	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 03:21	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 03:21	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 03:21	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 03:21	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 03:21	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 03:21	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 03:21	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 03:21	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-10 Dup**

**Lab Sample ID: 500-120366-23**

**Date Collected: 11/16/16 00:00**

**Matrix: Ground Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 03:21	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 03:21	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 03:21	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 03:21	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 03:21	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 03:21	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 03:21	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 03:21	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 03:21	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 03:21	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 03:21	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 03:21	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 03:21	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 03:21	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 03:21	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 03:21	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 03:21	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 03:21	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 03:21	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 03:21	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 03:21	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 03:21	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 03:21	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 03:21	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 03:21	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 03:21	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 03:21	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 03:21	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 03:21	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 03:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		71 - 127		11/28/16 03:21	1
4-Bromofluorobenzene (Surr)	109		71 - 120		11/28/16 03:21	1
Dibromofluoromethane	89		70 - 120		11/28/16 03:21	1
Toluene-d8 (Surr)	95		75 - 120		11/28/16 03:21	1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-120366-24**

**Date Collected: 11/16/16 00:00**

**Matrix: Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 03:46	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 03:46	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 03:46	1

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# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-120366-24**

**Date Collected: 11/16/16 00:00**

**Matrix: Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 03:46	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 03:46	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 03:46	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 03:46	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 03:46	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 03:46	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 03:46	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 03:46	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 03:46	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 03:46	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 03:46	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 03:46	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 03:46	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 03:46	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 03:46	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 03:46	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 03:46	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 03:46	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 03:46	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 03:46	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 03:46	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 03:46	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 03:46	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 03:46	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 03:46	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 03:46	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 03:46	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 03:46	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 03:46	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 03:46	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 03:46	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 03:46	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 03:46	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 03:46	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 03:46	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 03:46	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 03:46	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 03:46	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 03:46	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 03:46	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 03:46	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 03:46	1

TestAmerica Chicago

# Client Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-120366-24**

**Date Collected: 11/16/16 00:00**

**Matrix: Water**

**Date Received: 11/18/16 08:45**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 03:46	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 03:46	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 03:46	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 03:46	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 03:46	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 03:46	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 03:46	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 03:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		11/28/16 03:46	1
4-Bromofluorobenzene (Surr)	111		71 - 120		11/28/16 03:46	1
Dibromofluoromethane	89		70 - 120		11/28/16 03:46	1
Toluene-d8 (Surr)	95		75 - 120		11/28/16 03:46	1



# Definitions/Glossary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## 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 is outside acceptance limits.

## Glossary

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

# QC Association Summary

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## GC/MS VOA

### Analysis Batch: 362510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-120366-1	EXW-4	Total/NA	Ground Water	8260B	
500-120366-2	EXW-6	Total/NA	Ground Water	8260B	
500-120366-4	MW-17	Total/NA	Ground Water	8260B	
500-120366-5	MW-18	Total/NA	Ground Water	8260B	
500-120366-6	MW-19	Total/NA	Ground Water	8260B	
500-120366-6 - DL	MW-19	Total/NA	Ground Water	8260B	
500-120366-7	MW-21	Total/NA	Ground Water	8260B	
500-120366-8	MW-21A	Total/NA	Ground Water	8260B	
500-120366-9	B-1	Total/NA	Ground Water	8260B	
500-120366-10	B-1A	Total/NA	Ground Water	8260B	
500-120366-11	B-1B	Total/NA	Ground Water	8260B	
500-120366-14	B-10	Total/NA	Ground Water	8260B	
500-120366-15	B-11	Total/NA	Ground Water	8260B	
500-120366-16	B-12	Total/NA	Ground Water	8260B	
500-120366-20	Discharge Pipe	Total/NA	Ground Water	8260B	
500-120366-21	MW-18A	Total/NA	Ground Water	8260B	
500-120366-22	MW-19A	Total/NA	Ground Water	8260B	
500-120366-23	B-10 Dup	Total/NA	Ground Water	8260B	
500-120366-24	Trip Blank	Total/NA	Water	8260B	
MB 500-362510/6	Method Blank	Total/NA	Water	8260B	
LCS 500-362510/4	Lab Control Sample	Total/NA	Water	8260B	

### Analysis Batch: 362539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-120366-12	B-3	Total/NA	Ground Water	8260B	
500-120366-13	B-3A	Total/NA	Ground Water	8260B	
500-120366-17	B-13	Total/NA	Ground Water	8260B	
500-120366-17 - DL	B-13	Total/NA	Ground Water	8260B	
500-120366-18	B-13A	Total/NA	Ground Water	8260B	
500-120366-19	B-13B	Total/NA	Ground Water	8260B	
MB 500-362539/7	Method Blank	Total/NA	Water	8260B	
LCS 500-362539/5	Lab Control Sample	Total/NA	Water	8260B	

### Analysis Batch: 362626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-120366-3	Muni #3	Total/NA	Ground Water	8260B	
MB 500-362626/6	Method Blank	Total/NA	Water	8260B	
LCS 500-362626/4	Lab Control Sample	Total/NA	Water	8260B	

# Surrogate Summary

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

Matrix: Ground Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (71-127)	BFB (71-120)	DBFM (70-120)	TOL (75-120)
500-120366-1	EXW-4	101	111	87	96
500-120366-2	EXW-6	102	107	87	95
500-120366-3	Muni #3	100	112	88	94
500-120366-4	MW-17	101	109	86	95
500-120366-5	MW-18	103	109	89	95
500-120366-6	MW-19	100	109	87	95
500-120366-6 - DL	MW-19	105	109	87	94
500-120366-7	MW-21	105	112	89	93
500-120366-8	MW-21A	102	108	90	96
500-120366-9	B-1	103	109	90	93
500-120366-10	B-1A	101	111	87	95
500-120366-11	B-1B	101	109	87	95
500-120366-12	B-3	103	111	87	95
500-120366-13	B-3A	102	112	90	95
500-120366-14	B-10	102	111	89	96
500-120366-15	B-11	107	110	87	93
500-120366-16	B-12	105	112	92	93
500-120366-17	B-13	103	110	89	93
500-120366-17 - DL	B-13	101	112	88	94
500-120366-18	B-13A	100	111	85	96
500-120366-19	B-13B	101	111	89	97
500-120366-20	Discharge Pipe	103	112	89	93
500-120366-21	MW-18A	102	112	88	95
500-120366-22	MW-19A	104	109	90	95
500-120366-23	B-10 Dup	104	109	89	95

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (71-127)	BFB (71-120)	DBFM (70-120)	TOL (75-120)
500-120366-24	Trip Blank	103	111	89	95
LCS 500-362510/4	Lab Control Sample	98	103	85	98
LCS 500-362539/5	Lab Control Sample	100	104	87	98
LCS 500-362626/4	Lab Control Sample	97	107	86	99
MB 500-362510/6	Method Blank	99	109	87	98
MB 500-362539/7	Method Blank	106	112	89	96
MB 500-362626/6	Method Blank	105	114	88	96

#### Surrogate Legend

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

TestAmerica Chicago

# Surrogate Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

TOL = Toluene-d8 (Surr)

1

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# QC Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

Lab Sample ID: MB 500-362510/6

Matrix: Water

Analysis Batch: 362510

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/27/16 19:46	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/27/16 19:46	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/27/16 19:46	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/27/16 19:46	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/27/16 19:46	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/27/16 19:46	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/27/16 19:46	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/27/16 19:46	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/27/16 19:46	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/27/16 19:46	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/27/16 19:46	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/27/16 19:46	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/27/16 19:46	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/27/16 19:46	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/27/16 19:46	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/27/16 19:46	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/27/16 19:46	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/27/16 19:46	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/27/16 19:46	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/27/16 19:46	1
Benzene	<0.15		0.50	0.15	ug/L			11/27/16 19:46	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/27/16 19:46	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/27/16 19:46	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/27/16 19:46	1
Bromoform	<0.48		1.0	0.48	ug/L			11/27/16 19:46	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/27/16 19:46	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/27/16 19:46	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/27/16 19:46	1
Chloroform	<0.37		1.0	0.37	ug/L			11/27/16 19:46	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/27/16 19:46	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/27/16 19:46	1
cis-1,3-Dichloropropane	<0.42		1.0	0.42	ug/L			11/27/16 19:46	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/27/16 19:46	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/27/16 19:46	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/27/16 19:46	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/27/16 19:46	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/27/16 19:46	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/27/16 19:46	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/27/16 19:46	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/27/16 19:46	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/27/16 19:46	1

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

**Lab Sample ID: MB 500-362510/6**  
**Matrix: Water**  
**Analysis Batch: 362510**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/27/16 19:46	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 19:46	1
Styrene	<0.39		1.0	0.39	ug/L			11/27/16 19:46	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/27/16 19:46	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/27/16 19:46	1
Toluene	<0.15		0.50	0.15	ug/L			11/27/16 19:46	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/27/16 19:46	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/27/16 19:46	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/27/16 19:46	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/27/16 19:46	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/27/16 19:46	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/27/16 19:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		71 - 127		11/27/16 19:46	1
4-Bromofluorobenzene (Surr)	109		71 - 120		11/27/16 19:46	1
Dibromofluoromethane	87		70 - 120		11/27/16 19:46	1
Toluene-d8 (Surr)	98		75 - 120		11/27/16 19:46	1

**Lab Sample ID: LCS 500-362510/4**  
**Matrix: Water**  
**Analysis Batch: 362510**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	47.1		ug/L		94	68 - 125
1,1,1-Trichloroethane	50.0	45.9		ug/L		92	70 - 125
1,1,1,2-Tetrachloroethane	50.0	51.9		ug/L		104	68 - 125
1,1,2-Trichloroethane	50.0	52.8		ug/L		106	70 - 125
1,1-Dichloroethane	50.0	49.8		ug/L		100	70 - 125
1,1-Dichloroethene	50.0	43.6		ug/L		87	70 - 125
1,1-Dichloropropene	50.0	53.6		ug/L		107	70 - 125
1,2,3-Trichlorobenzene	50.0	44.0		ug/L		88	58 - 135
1,2,3-Trichloropropane	50.0	53.6		ug/L		107	63 - 125
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	64 - 126
1,2,4-Trimethylbenzene	50.0	47.3		ug/L		95	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	52.2		ug/L		104	51 - 125
1,2-Dibromoethane	50.0	51.3		ug/L		103	70 - 125
1,2-Dichlorobenzene	50.0	45.3		ug/L		91	70 - 125
1,2-Dichloroethane	50.0	51.6		ug/L		103	70 - 125
1,2-Dichloropropane	50.0	53.5		ug/L		107	70 - 125
1,3,5-Trimethylbenzene	50.0	48.0		ug/L		96	70 - 125
1,3-Dichlorobenzene	50.0	45.6		ug/L		91	70 - 125
1,3-Dichloropropane	50.0	59.7		ug/L		119	70 - 125
1,4-Dichlorobenzene	50.0	44.9		ug/L		90	70 - 125
2,2-Dichloropropane	50.0	50.8		ug/L		102	62 - 125
2-Chlorotoluene	50.0	51.7		ug/L		103	69 - 125
4-Chlorotoluene	50.0	51.7		ug/L		103	70 - 125
Benzene	50.0	48.5		ug/L		97	70 - 125

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

**Lab Sample ID: LCS 500-362510/4**  
**Matrix: Water**  
**Analysis Batch: 362510**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	50.0		ug/L		100	70 - 125
Bromochloromethane	50.0	41.1		ug/L		82	70 - 125
Bromodichloromethane	50.0	51.6		ug/L		103	70 - 125
Bromoform	50.0	51.2		ug/L		102	54 - 128
Bromomethane	50.0	35.1		ug/L		70	40 - 150
Carbon tetrachloride	50.0	43.7		ug/L		87	70 - 125
Chlorobenzene	50.0	50.8		ug/L		102	70 - 125
Chloroethane	50.0	37.9		ug/L		76	60 - 139
Chloroform	50.0	49.7		ug/L		99	70 - 125
Chloromethane	50.0	48.1		ug/L		96	60 - 140
cis-1,2-Dichloroethene	50.0	44.5		ug/L		89	70 - 125
cis-1,3-Dichloropropene	50.0	56.8		ug/L		114	70 - 125
Dibromochloromethane	50.0	48.1		ug/L		96	66 - 125
Dibromomethane	50.0	48.8		ug/L		98	70 - 125
Dichlorodifluoromethane	50.0	52.2		ug/L		104	51 - 140
Ethylbenzene	50.0	48.7		ug/L		97	70 - 125
Hexachlorobutadiene	50.0	55.8		ug/L		112	57 - 140
Isopropylbenzene	50.0	48.1		ug/L		96	70 - 125
Methyl tert-butyl ether	50.0	45.4		ug/L		91	67 - 125
Methylene Chloride	50.0	43.9		ug/L		88	68 - 125
Naphthalene	50.0	38.5		ug/L		77	50 - 136
n-Butylbenzene	50.0	48.2		ug/L		96	70 - 125
N-Propylbenzene	50.0	51.3		ug/L		103	70 - 125
p-Isopropyltoluene	50.0	45.1		ug/L		90	70 - 125
sec-Butylbenzene	50.0	47.7		ug/L		95	70 - 125
Styrene	50.0	50.5		ug/L		101	70 - 125
tert-Butylbenzene	50.0	45.2		ug/L		90	70 - 125
Tetrachloroethene	50.0	51.3		ug/L		103	70 - 125
Toluene	50.0	52.2		ug/L		104	70 - 125
trans-1,2-Dichloroethene	50.0	44.4		ug/L		89	70 - 125
trans-1,3-Dichloropropene	50.0	56.7		ug/L		113	70 - 125
Trichloroethene	50.0	43.9		ug/L		88	70 - 125
Trichlorofluoromethane	50.0	48.4		ug/L		97	60 - 126
Vinyl chloride	50.0	45.1		ug/L		90	70 - 126
Xylenes, Total	100	103		ug/L		103	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		71 - 127
4-Bromofluorobenzene (Surr)	103		71 - 120
Dibromofluoromethane	85		70 - 120
Toluene-d8 (Surr)	98		75 - 120

**Lab Sample ID: MB 500-362539/7**  
**Matrix: Water**  
**Analysis Batch: 362539**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 10:19	1

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

**Lab Sample ID: MB 500-362539/7**  
**Matrix: Water**  
**Analysis Batch: 362539**

**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-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 10:19	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 10:19	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 10:19	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 10:19	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 10:19	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 10:19	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 10:19	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 10:19	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 10:19	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 10:19	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 10:19	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 10:19	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 10:19	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 10:19	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 10:19	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 10:19	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 10:19	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 10:19	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 10:19	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 10:19	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 10:19	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 10:19	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 10:19	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 10:19	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 10:19	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 10:19	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 10:19	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 10:19	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 10:19	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 10:19	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 10:19	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 10:19	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 10:19	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 10:19	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 10:19	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 10:19	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 10:19	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 10:19	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 10:19	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 10:19	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 10:19	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

**Lab Sample ID: MB 500-362539/7**  
**Matrix: Water**  
**Analysis Batch: 362539**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 10:19	1
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 10:19	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 10:19	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 10:19	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 10:19	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 10:19	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 10:19	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 10:19	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 10:19	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 10:19	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 10:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		71 - 127		11/28/16 10:19	1
4-Bromofluorobenzene (Surr)	112		71 - 120		11/28/16 10:19	1
Dibromofluoromethane	89		70 - 120		11/28/16 10:19	1
Toluene-d8 (Surr)	96		75 - 120		11/28/16 10:19	1

**Lab Sample ID: LCS 500-362539/5**  
**Matrix: Water**  
**Analysis Batch: 362539**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	42.5		ug/L		85	68 - 125
1,1,1-Trichloroethane	50.0	43.3		ug/L		87	70 - 125
1,1,1,2,2-Tetrachloroethane	50.0	49.2		ug/L		98	68 - 125
1,1,1,2-Trichloroethane	50.0	49.2		ug/L		98	70 - 125
1,1-Dichloroethane	50.0	47.0		ug/L		94	70 - 125
1,1-Dichloroethene	50.0	41.8		ug/L		84	70 - 125
1,1-Dichloropropene	50.0	50.5		ug/L		101	70 - 125
1,2,3-Trichlorobenzene	50.0	41.1		ug/L		82	58 - 135
1,2,3-Trichloropropane	50.0	50.8		ug/L		102	63 - 125
1,2,4-Trichlorobenzene	50.0	42.7		ug/L		85	64 - 126
1,2,4-Trimethylbenzene	50.0	44.5		ug/L		89	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	46.2		ug/L		92	51 - 125
1,2-Dibromoethane	50.0	48.1		ug/L		96	70 - 125
1,2-Dichlorobenzene	50.0	41.7		ug/L		83	70 - 125
1,2-Dichloroethane	50.0	48.6		ug/L		97	70 - 125
1,2-Dichloropropane	50.0	49.9		ug/L		100	70 - 125
1,3,5-Trimethylbenzene	50.0	44.7		ug/L		89	70 - 125
1,3-Dichlorobenzene	50.0	42.2		ug/L		84	70 - 125
1,3-Dichloropropane	50.0	57.3		ug/L		115	70 - 125
1,4-Dichlorobenzene	50.0	41.4		ug/L		83	70 - 125
2,2-Dichloropropane	50.0	49.7		ug/L		99	62 - 125
2-Chlorotoluene	50.0	48.3		ug/L		97	69 - 125
4-Chlorotoluene	50.0	48.6		ug/L		97	70 - 125
Benzene	50.0	45.5		ug/L		91	70 - 125
Bromobenzene	50.0	46.1		ug/L		92	70 - 125

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

**Lab Sample ID: LCS 500-362539/5**  
**Matrix: Water**  
**Analysis Batch: 362539**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromochloromethane	50.0	38.2		ug/L		76	70 - 125
Bromodichloromethane	50.0	48.4		ug/L		97	70 - 125
Bromoform	50.0	48.3		ug/L		97	54 - 128
Bromomethane	50.0	39.8		ug/L		80	40 - 150
Carbon tetrachloride	50.0	41.0		ug/L		82	70 - 125
Chlorobenzene	50.0	47.5		ug/L		95	70 - 125
Chloroethane	50.0	48.2		ug/L		96	60 - 139
Chloroform	50.0	45.4		ug/L		91	70 - 125
Chloromethane	50.0	54.4		ug/L		109	60 - 140
cis-1,2-Dichloroethene	50.0	41.1		ug/L		82	70 - 125
cis-1,3-Dichloropropene	50.0	54.0		ug/L		108	70 - 125
Dibromochloromethane	50.0	45.6		ug/L		91	66 - 125
Dibromomethane	50.0	46.1		ug/L		92	70 - 125
Dichlorodifluoromethane	50.0	60.0		ug/L		120	51 - 140
Ethylbenzene	50.0	46.0		ug/L		92	70 - 125
Hexachlorobutadiene	50.0	50.5		ug/L		101	57 - 140
Isopropylbenzene	50.0	45.4		ug/L		91	70 - 125
Methyl tert-butyl ether	50.0	43.4		ug/L		87	67 - 125
Methylene Chloride	50.0	41.4		ug/L		83	68 - 125
Naphthalene	50.0	36.2		ug/L		72	50 - 136
n-Butylbenzene	50.0	45.8		ug/L		92	70 - 125
N-Propylbenzene	50.0	48.5		ug/L		97	70 - 125
p-Isopropyltoluene	50.0	42.3		ug/L		85	70 - 125
sec-Butylbenzene	50.0	45.3		ug/L		91	70 - 125
Styrene	50.0	47.3		ug/L		95	70 - 125
tert-Butylbenzene	50.0	42.7		ug/L		85	70 - 125
Tetrachloroethene	50.0	48.7		ug/L		97	70 - 125
Toluene	50.0	48.8		ug/L		98	70 - 125
trans-1,2-Dichloroethene	50.0	41.1		ug/L		82	70 - 125
trans-1,3-Dichloropropene	50.0	54.7		ug/L		109	70 - 125
Trichloroethene	50.0	41.2		ug/L		82	70 - 125
Trichlorofluoromethane	50.0	51.3		ug/L		103	60 - 126
Vinyl chloride	50.0	49.9		ug/L		100	70 - 126
Xylenes, Total	100	96.7		ug/L		97	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		71 - 127
4-Bromofluorobenzene (Surr)	104		71 - 120
Dibromofluoromethane	87		70 - 120
Toluene-d8 (Surr)	98		75 - 120

**Lab Sample ID: MB 500-362626/6**  
**Matrix: Water**  
**Analysis Batch: 362626**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/28/16 22:31	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/28/16 22:31	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

Lab Sample ID: MB 500-362626/6

Matrix: Water

Analysis Batch: 362626

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/28/16 22:31	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/28/16 22:31	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/28/16 22:31	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/28/16 22:31	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/28/16 22:31	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/28/16 22:31	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/28/16 22:31	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/28/16 22:31	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/28/16 22:31	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/28/16 22:31	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/28/16 22:31	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/28/16 22:31	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/28/16 22:31	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/28/16 22:31	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/28/16 22:31	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/28/16 22:31	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/28/16 22:31	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/28/16 22:31	1
Benzene	<0.15		0.50	0.15	ug/L			11/28/16 22:31	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/28/16 22:31	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/28/16 22:31	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/28/16 22:31	1
Bromoform	<0.48		1.0	0.48	ug/L			11/28/16 22:31	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/28/16 22:31	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/28/16 22:31	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/28/16 22:31	1
Chloroform	<0.37		1.0	0.37	ug/L			11/28/16 22:31	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/28/16 22:31	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/28/16 22:31	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/28/16 22:31	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/28/16 22:31	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/28/16 22:31	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/28/16 22:31	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/28/16 22:31	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/28/16 22:31	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/28/16 22:31	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/28/16 22:31	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/28/16 22:31	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/28/16 22:31	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/28/16 22:31	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 22:31	1

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# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

**Lab Sample ID: MB 500-362626/6**  
**Matrix: Water**  
**Analysis Batch: 362626**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Styrene	<0.39		1.0	0.39	ug/L			11/28/16 22:31	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/28/16 22:31	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/28/16 22:31	1
Toluene	<0.15		0.50	0.15	ug/L			11/28/16 22:31	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/28/16 22:31	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/28/16 22:31	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/28/16 22:31	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/28/16 22:31	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/28/16 22:31	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/28/16 22:31	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	105		71 - 127		11/28/16 22:31	1
4-Bromofluorobenzene (Surr)	114		71 - 120		11/28/16 22:31	1
Dibromofluoromethane	88		70 - 120		11/28/16 22:31	1
Toluene-d8 (Surr)	96		75 - 120		11/28/16 22:31	1

**Lab Sample ID: LCS 500-362626/4**  
**Matrix: Water**  
**Analysis Batch: 362626**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
1,1,1,2-Tetrachloroethane	50.0	48.9		ug/L		98	68 - 125
1,1,1-Trichloroethane	50.0	48.8		ug/L		98	70 - 125
1,1,1,2-Tetrachloroethane	50.0	57.5		ug/L		115	68 - 125
1,1,2-Trichloroethane	50.0	55.6		ug/L		111	70 - 125
1,1-Dichloroethane	50.0	53.1		ug/L		106	70 - 125
1,1-Dichloroethene	50.0	44.5		ug/L		89	70 - 125
1,1-Dichloropropene	50.0	55.6		ug/L		111	70 - 125
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	58 - 135
1,2,3-Trichloropropane	50.0	58.2		ug/L		116	63 - 125
1,2,4-Trichlorobenzene	50.0	47.9		ug/L		96	64 - 126
1,2,4-Trimethylbenzene	50.0	52.3		ug/L		105	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	51.6		ug/L		103	51 - 125
1,2-Dibromoethane	50.0	53.2		ug/L		106	70 - 125
1,2-Dichlorobenzene	50.0	49.9		ug/L		100	70 - 125
1,2-Dichloroethane	50.0	55.4		ug/L		111	70 - 125
1,2-Dichloropropane	50.0	57.7		ug/L		115	70 - 125
1,3,5-Trimethylbenzene	50.0	52.8		ug/L		106	70 - 125
1,3-Dichlorobenzene	50.0	49.1		ug/L		98	70 - 125
1,3-Dichloropropane	50.0	65.8	*	ug/L		132	70 - 125
1,4-Dichlorobenzene	50.0	47.8		ug/L		96	70 - 125
2,2-Dichloropropane	50.0	54.2		ug/L		108	62 - 125
2-Chlorotoluene	50.0	58.1		ug/L		116	69 - 125
4-Chlorotoluene	50.0	57.1		ug/L		114	70 - 125
Benzene	50.0	51.7		ug/L		103	70 - 125
Bromobenzene	50.0	55.6		ug/L		111	70 - 125
Bromochloromethane	50.0	43.4		ug/L		87	70 - 125

TestAmerica Chicago

# QC Sample Results

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

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

**Lab Sample ID: LCS 500-362626/4**

**Matrix: Water**

**Analysis Batch: 362626**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	50.0	54.5		ug/L		109	70 - 125
Bromoform	50.0	52.4		ug/L		105	54 - 128
Bromomethane	50.0	39.1		ug/L		78	40 - 150
Carbon tetrachloride	50.0	45.5		ug/L		91	70 - 125
Chlorobenzene	50.0	55.0		ug/L		110	70 - 125
Chloroethane	50.0	42.6		ug/L		85	60 - 139
Chloroform	50.0	53.5		ug/L		107	70 - 125
Chloromethane	50.0	50.9		ug/L		102	60 - 140
cis-1,2-Dichloroethene	50.0	47.8		ug/L		96	70 - 125
cis-1,3-Dichloropropene	50.0	60.1		ug/L		120	70 - 125
Dibromochloromethane	50.0	51.0		ug/L		102	66 - 125
Dibromomethane	50.0	51.4		ug/L		103	70 - 125
Dichlorodifluoromethane	50.0	52.4		ug/L		105	51 - 140
Ethylbenzene	50.0	52.4		ug/L		105	70 - 125
Hexachlorobutadiene	50.0	57.2		ug/L		114	57 - 140
Isopropylbenzene	50.0	53.7		ug/L		107	70 - 125
Methyl tert-butyl ether	50.0	46.8		ug/L		94	67 - 125
Methylene Chloride	50.0	47.5		ug/L		95	68 - 125
Naphthalene	50.0	41.5		ug/L		83	50 - 136
n-Butylbenzene	50.0	51.4		ug/L		103	70 - 125
N-Propylbenzene	50.0	56.7		ug/L		113	70 - 125
p-Isopropyltoluene	50.0	48.9		ug/L		98	70 - 125
sec-Butylbenzene	50.0	52.5		ug/L		105	70 - 125
Styrene	50.0	54.4		ug/L		109	70 - 125
tert-Butylbenzene	50.0	50.6		ug/L		101	70 - 125
Tetrachloroethene	50.0	54.4		ug/L		109	70 - 125
Toluene	50.0	56.1		ug/L		112	70 - 125
trans-1,2-Dichloroethene	50.0	46.7		ug/L		93	70 - 125
trans-1,3-Dichloropropene	50.0	61.8		ug/L		124	70 - 125
Trichloroethene	50.0	46.3		ug/L		93	70 - 125
Trichlorofluoromethane	50.0	47.7		ug/L		95	60 - 126
Vinyl chloride	50.0	46.3		ug/L		93	70 - 126
Xylenes, Total	100	110		ug/L		110	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		71 - 127
4-Bromofluorobenzene (Surr)	107		71 - 120
Dibromofluoromethane	86		70 - 120
Toluene-d8 (Surr)	99		75 - 120

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: EXW-4**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-1**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 20:12	PMF	TAL CHI

**Client Sample ID: EXW-6**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-2**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 20:37	PMF	TAL CHI

**Client Sample ID: Muni #3**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-3**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362626	11/29/16 05:36	PMF	TAL CHI

**Client Sample ID: MW-17**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-4**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 21:02	PMF	TAL CHI

**Client Sample ID: MW-18**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-5**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 21:28	PMF	TAL CHI

**Client Sample ID: MW-19**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-6**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 21:53	PMF	TAL CHI
Total/NA	Analysis	8260B	DL	10	362510	11/27/16 22:18	PMF	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: MW-21**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-7**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 22:43	PMF	TAL CHI

**Client Sample ID: MW-21A**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-8**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 23:09	PMF	TAL CHI

**Client Sample ID: B-1**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-9**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 23:34	PMF	TAL CHI

**Client Sample ID: B-1A**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-10**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/27/16 23:59	PMF	TAL CHI

**Client Sample ID: B-1B**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-11**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 00:25	PMF	TAL CHI

**Client Sample ID: B-3**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-12**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362539	11/28/16 11:09	PMF	TAL CHI

TestAmerica Chicago

# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-3A**  
**Date Collected: 11/17/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-13**  
**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362539	11/28/16 11:34	PMF	TAL CHI

**Client Sample ID: B-10**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-14**  
**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 00:50	PMF	TAL CHI

**Client Sample ID: B-11**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-15**  
**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 01:15	PMF	TAL CHI

**Client Sample ID: B-12**  
**Date Collected: 11/16/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-16**  
**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 01:40	PMF	TAL CHI

**Client Sample ID: B-13**  
**Date Collected: 11/17/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-17**  
**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362539	11/28/16 11:59	PMF	TAL CHI
Total/NA	Analysis	8260B	DL	10	362539	11/28/16 12:24	PMF	TAL CHI

**Client Sample ID: B-13A**  
**Date Collected: 11/17/16 00:00**  
**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-18**  
**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362539	11/28/16 12:49	PMF	TAL CHI

TestAmerica Chicago



# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

**Client Sample ID: B-13B**

**Date Collected: 11/17/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-19**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362539	11/28/16 13:14	PMF	TAL CHI

**Client Sample ID: Discharge Pipe**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-20**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 02:05	PMF	TAL CHI

**Client Sample ID: MW-18A**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-21**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 02:31	PMF	TAL CHI

**Client Sample ID: MW-19A**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-22**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 02:56	PMF	TAL CHI

**Client Sample ID: B-10 Dup**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-23**

**Matrix: Ground Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 03:21	PMF	TAL CHI

**Client Sample ID: Trip Blank**

**Date Collected: 11/16/16 00:00**

**Date Received: 11/18/16 08:45**

**Lab Sample ID: 500-120366-24**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	362510	11/28/16 03:46	PMF	TAL CHI

**Laboratory References:**

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

# Certification Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners - 8267019

TestAmerica Job ID: 500-120366-1

## Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

1

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# TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL  
Phone: 708.534.5200 Fax: 708.534.5201



500-120386 COC

Report To (optional)

Contact: Dick Lester  
Company: MSA  
Address: 1730 South Blvd  
Princeton, NJ 08540  
Phone: 608-326-2271  
Fax: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

Bill To (optional)

Contact: \_\_\_\_\_  
Company: Samuel  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-120366  
Chain of Custody Number: \_\_\_\_\_  
Page 1 of 3  
Temperature °C of Cooler: 2.5

Client		Client Project #		Preservative		Preservative Key	
Project Name		Lab Project #		Parameter			
Project Location/State		Lab PM		Sampler			
MSA Professional		8267019				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	
Munising Cleaners							
Munising, WI							
DOLLO Fitzsimmons							
Lab ID	MS/MSD	Sample ID	Sampling Date	Time	# of Containers		Matrix
1		EXW-4	11/16	11/16-17/16	3		6W
2		EXW-6	11/16		3		1
3		Muni #3	11/17		3		1
4		MW-17	11/16		3		1
5		MW-18			3		1
6		MW-19			3	1	
7		MW-21			3	1	
8		MW-21A			3	1	
9		B-1			3	1	
10		B-1A			3	1	

Turnaround Time Required (Business Days): 1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other

Requested Due Date: 11/17/16

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

Relinquished By: <u>MSA</u> Company: <u>MSA</u> Date: <u>11/17/16</u> Time: <u>11/17/16</u>	Received By: <u>MSA</u> Company: <u>MSA</u> Date: <u>11/18/16</u> Time: <u>0845</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: _____

**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: \_\_\_\_\_

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To: (optional) Dick Luster  
 Contact: MSA Professional  
 Company: MSA Professional  
 Address: 1230 South Blvd  
Providence, RI 02913  
 Address: POB-356-2771  
 Phone: 401-356-2771  
 Fax:  
 E-Mail:

Bill To: (optional)  
 Contact:  
 Company:  
 Address: Same  
 Address:  
 Phone:  
 Fax:  
 PO#/Reference#

## Chain of Custody Record

Lab Job #: 500-120366  
 Chain of Custody Number:  
 Page 2 of 3  
 Temperature °C of Cooler:

Client		Client Project #		Preservative		Parameter		Comments	
MSA Professional		8267019						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 #		# of Containers		Matrix			
Minique Cleaners									
Project Location/State		Lab PM		Date		Time			
Providence, RI		David Fitzsimmons							
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix			
11		B-1B	11/16	7/16	3	1	VOL	X	
12		B-3	11/17		3		X		
13		B-3A			3		X		
14		B-10	11/16		3		X		
15		B-11			3		X		
16		B-12			3		X		
17		B-13	11/17		3		X		
18		B-13A			3		X		
19		B-13B			3		X		
20		Discharge Pipe	11/16		3		X		

Turnaround Time Required (Business Days): 1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other  
 Requested Due Date: 11/17/16  
 Sample Disposal:  Return to Client  Disposal by Lab  Archive for 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: David Fitzsimmons Company: MSA Date: 11/17/16 Time:  
 Relinquished By: David Luster Company: TR-CHE Date: 11/18/16 Time: 0845  
 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:

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To: Dick Lester (optional) Bill To: \_\_\_\_\_ (optional)  
 Contact: MSP Professional Contact: \_\_\_\_\_  
 Company: MSP Professional Company: \_\_\_\_\_  
 Address: 1230 South Blvd Address: \_\_\_\_\_  
 Address: Brynolton, NY 13913 Address: Seneca  
 Phone: 607-351-2771 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_ Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_ PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-120366  
 Chain of Custody Number: \_\_\_\_\_  
 Page 3 of 3  
 Temperature °C of Cooler: \_\_\_\_\_

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		VDL Colored		
Project Location/State		Lab PM		Date	Time					
Sampler										
Lab ID	MS/MSD	Sample ID							Comments	
21		mw-18A		11/16/16	7/14	3	6W	X		
22		mw-19A				3	1	X		
23		B-10 Sup				3	1	X		
24		trip blank				2	2	X		

Turnaround Time Required (Business Days): 1 Day 2 Days 3 Days 7 Days 10 Days 15 Days Other

Requested Due Date: 11/15/16

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>[Signature]</u> Company: <u>MSP</u> Date: <u>11/15/16</u> Time: _____	Received By: <u>[Signature]</u> Company: <u>TR-ERT</u> Date: <u>11/18/16</u> Time: <u>0845</u>	Lab Courier: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Shipped: <u>Fed X</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Hand Delivered: _____

- Matrix Key
- 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: \_\_\_\_\_

## Login Sample Receipt Checklist

Client: MSA Professional Services, Inc

Job Number: 500-120366-1

**Login Number: 120366**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	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.	True	
Cooler Temperature is recorded.	True	2.5
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 (excluding tests with immediate HTs)	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	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	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 Knoxville  
5815 Middlebrook Pike  
Knoxville, TN 37921  
Tel: (865)291-3000

TestAmerica Job ID: 140-5344-1  
Client Project/Site: Minocqua Cleaners

For:  
MSA Professional Services, Inc  
1230 South Blvd  
Baraboo, Wisconsin 53913

Attn: Mr. Richard Lyster



Authorized for release by:  
7/27/2016 11:07:52 AM

Sandie Fredrick, Project Manager II  
(920)261-1660  
[sandie.fredrick@testamericainc.com](mailto:sandie.fredrick@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



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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# Definitions/Glossary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Qualifiers

### Air - 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.

## Glossary

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

# Case Narrative

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

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**Job ID: 140-5344-1**

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**Laboratory: TestAmerica Knoxville**

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**Narrative**

**Job Narrative**  
**140-5344-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 7/15/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**

Method(s) TO 15 LL, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

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



# Detection Summary

Client: MSA Professional Services, Inc  
 Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Client Sample ID: SUB SLAB

## Lab Sample ID: 140-5344-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	1200		8.2	1.6	ppb v/v	12.24		TO-15	Total/NA
Trichloroethene	1.6	J	8.2	1.5	ppb v/v	12.24		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	8100		55	11	ug/m3	12.24		TO-15	Total/NA
Trichloroethene	8.8	J	44	7.9	ug/m3	12.24		TO-15	Total/NA

## Client Sample ID: DEEP VAPOR

## Lab Sample ID: 140-5344-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	3.1		2.0	0.40	ppb v/v	1		TO-15	Total/NA
Trichloroethene	0.47	J	2.0	0.36	ppb v/v	1		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	21		14	2.7	ug/m3	1		TO-15	Total/NA
Trichloroethene	2.5	J	11	1.9	ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Knoxville



# Client Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Client Sample ID: SUB SLAB

Date Collected: 07/14/16 10:21

Date Received: 07/15/16 09:45

Sample Container: Summa Canister 6L

## Lab Sample ID: 140-5344-1

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<2.4		8.2	2.4	ppb v/v			07/20/16 04:30	12.24
1,1-Dichloroethene	<1.4		8.2	1.4	ppb v/v			07/20/16 04:30	12.24
<b>Tetrachloroethene</b>	<b>1200</b>		8.2	1.6	ppb v/v			07/20/16 04:30	12.24
trans-1,2-Dichloroethene	<2.0		8.2	2.0	ppb v/v			07/20/16 04:30	12.24
<b>Trichloroethene</b>	<b>1.6</b>	<b>J</b>	8.2	1.5	ppb v/v			07/20/16 04:30	12.24
Vinyl chloride	<2.9		8.2	2.9	ppb v/v			07/20/16 04:30	12.24

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<9.7		32	9.7	ug/m3			07/20/16 04:30	12.24
1,1-Dichloroethene	<5.5		32	5.5	ug/m3			07/20/16 04:30	12.24
<b>Tetrachloroethene</b>	<b>8100</b>		55	11	ug/m3			07/20/16 04:30	12.24
trans-1,2-Dichloroethene	<8.1		32	8.1	ug/m3			07/20/16 04:30	12.24
<b>Trichloroethene</b>	<b>8.8</b>	<b>J</b>	44	7.9	ug/m3			07/20/16 04:30	12.24
Vinyl chloride	<7.4		21	7.4	ug/m3			07/20/16 04:30	12.24

## Client Sample ID: DEEP VAPOR

Date Collected: 07/14/16 10:12

Date Received: 07/15/16 09:45

Sample Container: Summa Canister 6L

## Lab Sample ID: 140-5344-2

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.60		2.0	0.60	ppb v/v			07/19/16 14:54	1
1,1-Dichloroethene	<0.34		2.0	0.34	ppb v/v			07/19/16 14:54	1
<b>Tetrachloroethene</b>	<b>3.1</b>		2.0	0.40	ppb v/v			07/19/16 14:54	1
trans-1,2-Dichloroethene	<0.50		2.0	0.50	ppb v/v			07/19/16 14:54	1
<b>Trichloroethene</b>	<b>0.47</b>	<b>J</b>	2.0	0.36	ppb v/v			07/19/16 14:54	1
Vinyl chloride	<0.71		2.0	0.71	ppb v/v			07/19/16 14:54	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<2.4		7.9	2.4	ug/m3			07/19/16 14:54	1
1,1-Dichloroethene	<1.3		7.9	1.3	ug/m3			07/19/16 14:54	1
<b>Tetrachloroethene</b>	<b>21</b>		14	2.7	ug/m3			07/19/16 14:54	1
trans-1,2-Dichloroethene	<2.0		7.9	2.0	ug/m3			07/19/16 14:54	1
<b>Trichloroethene</b>	<b>2.5</b>	<b>J</b>	11	1.9	ug/m3			07/19/16 14:54	1
Vinyl chloride	<1.8		5.1	1.8	ug/m3			07/19/16 14:54	1

# Default Detection Limits

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	RL	MDL	Units	Method
1,1-Dichloroethene	0.20	0.034	ppb v/v	TO-15
1,1-Dichloroethene	0.79	0.13	ug/m3	TO-15
cis-1,2-Dichloroethene	0.20	0.060	ppb v/v	TO-15
cis-1,2-Dichloroethene	0.79	0.24	ug/m3	TO-15
Tetrachloroethene	0.20	0.040	ppb v/v	TO-15
Tetrachloroethene	1.4	0.27	ug/m3	TO-15
trans-1,2-Dichloroethene	0.20	0.050	ppb v/v	TO-15
trans-1,2-Dichloroethene	0.79	0.20	ug/m3	TO-15
Trichloroethene	0.20	0.036	ppb v/v	TO-15
Trichloroethene	1.1	0.19	ug/m3	TO-15
Vinyl chloride	0.20	0.071	ppb v/v	TO-15
Vinyl chloride	0.51	0.18	ug/m3	TO-15

# QC Sample Results

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-5890/4**

**Matrix: Air**

**Analysis Batch: 5890**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.060		0.20	0.060	ppb v/v			07/19/16 13:04	1
1,1-Dichloroethene	<0.034		0.20	0.034	ppb v/v			07/19/16 13:04	1
Tetrachloroethene	<0.040		0.20	0.040	ppb v/v			07/19/16 13:04	1
trans-1,2-Dichloroethene	<0.050		0.20	0.050	ppb v/v			07/19/16 13:04	1
Trichloroethene	<0.036		0.20	0.036	ppb v/v			07/19/16 13:04	1
Vinyl chloride	<0.071		0.20	0.071	ppb v/v			07/19/16 13:04	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.24		0.79	0.24	ug/m3			07/19/16 13:04	1
1,1-Dichloroethene	<0.13		0.79	0.13	ug/m3			07/19/16 13:04	1
Tetrachloroethene	<0.27		1.4	0.27	ug/m3			07/19/16 13:04	1
trans-1,2-Dichloroethene	<0.20		0.79	0.20	ug/m3			07/19/16 13:04	1
Trichloroethene	<0.19		1.1	0.19	ug/m3			07/19/16 13:04	1
Vinyl chloride	<0.18		0.51	0.18	ug/m3			07/19/16 13:04	1

**Lab Sample ID: LCS 140-5890/1002**

**Matrix: Air**

**Analysis Batch: 5890**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	2.00	2.20		ppb v/v		110	70 - 130
1,1-Dichloroethene	2.00	2.13		ppb v/v		106	70 - 130
Tetrachloroethene	2.00	1.86		ppb v/v		93	70 - 130
trans-1,2-Dichloroethene	2.00	2.15		ppb v/v		107	70 - 130
Trichloroethene	2.00	2.04		ppb v/v		102	70 - 130
Vinyl chloride	2.00	2.19		ppb v/v		110	70 - 130

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	7.9	8.72		ug/m3		110	70 - 130
1,1-Dichloroethene	7.9	8.45		ug/m3		106	70 - 130
Tetrachloroethene	14	12.6		ug/m3		93	70 - 130
trans-1,2-Dichloroethene	7.9	8.53		ug/m3		107	70 - 130
Trichloroethene	11	10.9		ug/m3		102	70 - 130
Vinyl chloride	5.1	5.61		ug/m3		110	70 - 130

TestAmerica Knoxville

# QC Association Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Air - GC/MS VOA

### Analysis Batch: 5890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-5344-1	SUB SLAB	Total/NA	Air	TO-15	
140-5344-2	DEEP VAPOR	Total/NA	Air	TO-15	
MB 140-5890/4	Method Blank	Total/NA	Air	TO-15	
LCS 140-5890/1002	Lab Control Sample	Total/NA	Air	TO-15	

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# Lab Chronicle

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Client Sample ID: SUB SLAB

Date Collected: 07/14/16 10:21

Date Received: 07/15/16 09:45

Lab Sample ID: 140-5344-1

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		12.24	60 mL	500 mL	5890	07/20/16 04:30	HMT	TAL KNX
Instrument ID: MJ										

## Client Sample ID: DEEP VAPOR

Date Collected: 07/14/16 10:12

Date Received: 07/15/16 09:45

Lab Sample ID: 140-5344-2

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	20 mL	500 mL	5890	07/19/16 14:54	HMT	TAL KNX
Instrument ID: MJ										

## Client Sample ID: Method Blank

Date Collected: N/A

Date Received: N/A

Lab Sample ID: MB 140-5890/4

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	200 mL	500 mL	5890	07/19/16 13:04	HMT	TAL KNX
Instrument ID: MJ										

## Client Sample ID: Lab Control Sample

Date Collected: N/A

Date Received: N/A

Lab Sample ID: LCS 140-5890/1002

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	500 mL	500 mL	5890	07/19/16 11:07	HMT	TAL KNX
Instrument ID: MJ										

### Laboratory References:

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000



# Certification Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

## Laboratory: TestAmerica Knoxville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	998044300	08-31-16

## Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-16 *

\* Certification renewal pending - certification considered valid.



# Method Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

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Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL KNX

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**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

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# Sample Summary

Client: MSA Professional Services, Inc  
Project/Site: Minocqua Cleaners

TestAmerica Job ID: 140-5344-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-5344-1	SUB SLAB	Air	07/14/16 10:21	07/15/16 09:45
140-5344-2	DEEP VAPOR	Air	07/14/16 10:12	07/15/16 09:45

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TAL Knoxville  
5815 Middlebrook Pike  
Knoxville, TN 37921


phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

# TestAmerica

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Contact Information</b> Company: MSA Professional Address: 1330 South Blvd. City/State/Zip: Knoxville, TN 37913 Phone: 607-356-2771 FAX:		<b>Project Manager:</b> Dick Luster Phone: 607-355-8901 Site Contact: TAL Contact:		Sampled By: <b>DADIO FITZKIMMONS</b> 1 of 1 COCs															
<b>Project Name:</b> Municipal Cleaners <b>Site/location:</b> Municipal, TN PO #		<b>Analysis Turnaround Time</b> Standard (Specify) Rush (Specify)		 140-5344 Chain of Custody															
Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	Other (Please specify in notes section)											
								TO-15*	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas		
Sub Slab	7/4/16	0951	1021	-28.0	-4.0	10246	09098	X											
Deep Vapor	7/4/16	0942	1012	-29.5	-6.0	11097	11170	X											
<b>Sampled by:</b>		<b>Temperature (Fahrenheit)</b> Ambient		<b>Pressure (inches of Hg)</b> Ambient		Received @ ambient, 1 box FedEx SpTrk# 8081 0424 2269 Custody seal intact KW 7/15/16													
<b>Special Instructions/QC Requirements &amp; Comments:</b> * Please analyze for parameters on enclosed list via EPA Method TO-15 Thanks												Canisters Shipped by: <b>Alan Fitzkimon</b> Date/Time: 7/14/16 12:00		Canisters Received by: <b>DK</b> Date/Time: 7/15/16 0945					
Samples Relinquished by:												Received by:		Relinquished by:					

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## Login Sample Receipt Checklist

Client: MSA Professional Services, Inc

Job Number: 140-5344-1

**Login Number: 5344**  
**List Number: 1**  
**Creator: Wilson, Ken**

**List Source: TestAmerica Knoxville**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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 (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	N/A	This is checked in the lab.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

## TestAmerica Knoxville - Air Canister Initial Pressure Check

Gauge ID:         G5          
 Date:       7/18/2016      

<b>Analyst</b>	<b>Sample ID</b>	<b>Asset #</b>	<b>Cleaning Job</b>	<b>Cert</b>	<b>Size (L)</b>	<b>Pressure @ Receipt (-in Hg or +psig)</b>	<b>Time</b>	<b>Comments</b>
AFB	140-5344-a-1	09698	5196	B	6	-5.3	1145	
AFB	140-5344-a-2	11170	5196	B	6	-6.3	1146	

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