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**2017 Monitoring Report**  
**Environmental Remediation**  
**of a**  
**Petroleum Release**

*Site*  
**Perry's Corners**  
**N6097 STH 73**  
**Gilman, WI 54433**

*Prepared for*

**Ruth Olson**  
W5030 Erika's Way  
Medford, WI 54451

*WDNR BRRTS #03-61-168823*  
*PECFA # 54433-9753-97*

Project O4178-003  
August 14, 2017  
Cedar Corporation  
PECFA Participation No. 240179

August 14, 2017

Ms. Carrie Stoltz  
Department of Natural Resources  
107 Sutliff Avenue  
Rhineland, WI 54501

SUBJECT: Perry's Corners, Hannibal – 2017 Monitoring Report  
PECFA #54433-9753-97  
BRRTS #03-61-168823

Dear Ms. Stoltz:

This report summarizes the results of four additional semi-annual rounds of post remediation groundwater monitoring completed in 2015 and 2016. Also included is the report on the hydraulic conductivity measurements completed and previously reported in 2015 as part of the April 2015 DNR recommended and approved Scope of Work.

This report does not document the rehabilitation and connection of the Webster Tavern well to the former Witkowski residence. That work was documented in the Cedar Corporation report "Perry's Corners, Hannibal – 2017 Progress Report" dated July 12, 2017.

Included with this report please find the following figures and tables, some of which were provided in the 2013 ground water progress report but reprinted here for clarity:

- |          |  |
|----------|--|
| Table 1. | Residual Soil Contamination Concentrations (reprint)         |
| Table 2. | Groundwater Elevations and Hydrographs (updated)             |
| Table 3. | Vertical Gradient Calculations (updated)                     |
| Table 4. | PVOC, Naphthalene, and Detected VOC in Groundwater (updated) |
| Table 5. | Free Product Recovery Summary (updated)                      |
| Table 6. | Other VOC Detected in Groundwater (updated)                  |
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- |           |   |
|-----------|---|
| Figure 1. | Topographic Map (1"= 660 ft.)                                 |
| Figure 2. | Aerial Photograph (1"= 165 ft.)                               |
| Figure 3. | Taylor County GIS Property Map                                |
| Figure 4. | Residual Soil Contamination Map                               |
| Figure 5. | Groundwater Flow Map August 2016                              |
| Figure 6. | Mid Depth Piezometer Flow Map August 2016                     |
| Figure 7. | Deep Piezometer Flow Map August 2016                          |
| Figure 8. | Benzene Isoconcentration at Water Table Wells Map August 2016 |
| Figure 9. | Benzene Isoconcentration in Piezometers Map August 2016       |

**Setting:**

Located at the southwest corner of CTH M and STH 73 in Hannibal, WI, Perry's Corners was a retail petroleum delivery station (Figures 1 and 2). After the business closed, the property became Ruth Olson's residence. The original water supply well was abandoned (impacted by petroleum contamination) and a new well drilled prior to the site investigation. Ms. Olson lived on the property through 2009 when she moved to Medford, WI. Glen Webster, owner of the property to the south, bought the Perry's Corners property from Ms. Olson and currently occupies the trailer. The property is bound to the west by wetlands associated with the Fisher River (located to the southwest), agricultural fields to the east, open fields/wetland to the north and G. Webster owned structures to the south (Figure 3). South of the Webster properties is the former M. Witkowski property.

**Previous Remedial Actions:**

The underground storage tanks and dispensing systems were removed in 1998. The tanks were located east of the trailer house with the dispenser located parallel to STH 73 on the east side of the property. At the time of tank closure, leaks were noted under the tanks, piping joints, and dispensers.

In July 2010, a "hot spot" removal was completed in which 1748.37 tons of contaminated soil was excavated for off-site disposal in the Seven Mile Creek Landfill in Eau Claire, WI. A fiber optic communication cable is located in the south right-of-way along CTH M and is immediately north of the tanks, further limiting access to contaminated soils. Residual soil contamination is noted in Table 1 and sample locations on Figure 4. Initial post remediation groundwater monitoring indicated some residual free product and exceedances of contamination in nearby groundwater wells. The Witkowski residence is several hundred feet south of the former Olson property and this and a former onsite well has had persistent contamination of benzene above the NR140 Enforcement Standard.

**Groundwater:**

Groundwater elevations for the observation wells, mid-depth, and deep piezometers are presented in Table 2. Hydrographs for these wells are presented as attachments to Table 2. The 20 wells associated with this case are described below:

Water Table Observation:	MW-1, MW-2, MW-3, MW-4, MW-5 (abandoned), MW-6, MW-7, MW-9, MW-10, MW-11, MW-13
Mid-Depth Piezometers:	MW-2P, MW-4P, MW-6P, MW-8P, MW-12P
Deep Piezometers:	MW-3D, MW-6D, MW-12D, MW-13

Well Nests Include:            MW-2, MW-2P  
   MW-3, MW-3D  
   MW-4, MW-4P  
   MW-6, MW-6P, MW-6D  
   MW-7, MW-8P  
   MW-11, MW-12P, MW-12D  
   MW-13, MW-13D

Vertical gradient calculations for the various well nests are calculated (using the definitions in Table 3) and presented in Table 2. Figures 5, 6, and 7 present the groundwater piezometric elevations at three depths in the shallow groundwater aquifer.

Petroleum product component concentrations in groundwater are summarized in Table 4 (reports are in Appendix B), observed free product in Table 5, and other VOCs in Table 6. Continued exceedances of NR 140 PVOC and naphthalene compounds are noted in the groundwater in those wells previously determined to contain petroleum contaminants. Sporadic free product collects in wells MW-2 and MW-4, over the many years of product measurement and collection, yielding slightly over one gallon of free product collected. Figures 8 and 9 are August 2016 benzene isoconcentration maps.

#### **Discussion:**

Groundwater is shallow (about 10 feet) at this location and is evident in nearby wetlands. Groundwater flow is persistent to the south southwest (Figures 8 and 9). Ground water elevation variations across the monitoring well network are reasonable, consistent and vary in response to precipitation and infiltration. Multiple well aquifer hydraulic conductivities measured in 2015 (Appendix A) with low to very low conductivity measured in the glacial tills. The silty nature of the soils and flat topography combine to yield a very slow horizontal groundwater movement with a downward gradient (Table 2 - vertical gradients) that has pulled the contamination into the aquifer.

Mid depth and deep piezometer aquifer flow maps (Figures 6 & 7) continue to indicate a slow moving aquifer with a south southwest ward flow tendency.

The silty soils overlie fractured granitic bedrock complicating groundwater flow and contaminant movement in the area. This is observed by the contamination of the Witkowski well which is much further from the source than the much closer Olson/Webster wells suggesting significant heterogeneity of the bedrock groundwater movement.

Benzene appears to be the most mobile contaminant with observations of the compound in water table, mid depth and deep piezometers. There is no correlation between the observed concentration and depth, but there is a correlation between the concentrations and distance from the source area.

Soil and groundwater contamination are present along CTH M (MW-2, MW-2P) and STH 73 (MW-3, MW-4, and MW-4P). This area is in the road rights-of-way and along CTH M under an underground fiber optic cable. These areas were not accessible during the July 2010 contamination removal action.



Groundwater contamination continues to be present near the excavation noting that limited plume movement has occurred since the investigation began and the 2010 source hot spot removal. Figures 8 and 9 present the benzene isoconcentrations for the water table and piezometer wells respectively. Wells MW-2 and MW-4 have the highest observation well concentrations while MW-8P has the highest concentration in the piezometers. This suggests that the water table fringe soils in wells MW-2 and MW-4 wells are impacted with petroleum product (in fact the only free product observed on site is in these two wells) while the contamination appears to have migrated southwestward and downward into MW-8P as expected given the monitored flow direction and vertical gradients.

Residual groundwater contamination in these wells is a result of the former tank and dispenser system and the concentrations have varied slightly but with no specific visible trend. Well MW-2P appears to present an increasing benzene trend. A similar trend but at lower concentrations are observed in well MW-3.

Wells MW-6P and MW-8P continue to yield contaminated groundwater with concentrations of similar magnitudes as previously observed.

Decreases in groundwater contamination are noted in wells MW-1, MW-12P, and MW-13D. Groundwater in other wells is noted to be free of detection of contaminants above the PAL for tested PVOC.

No detections of contaminants have been noted in the Olson well.

The former Witkowski well continues to present groundwater with benzene concentrations above the Enforcement Standard. It was recently disconnected from service and an alternate well (Webster/Tavern well) connected for the residential use.

#### **Case Elements to Consider:**

- Nineteen of the twenty wells drilled to evaluate this case remain present onsite.
- Groundwater monitoring indicates sporadic presence of free product and high concentrations of petroleum compounds in several monitoring wells.
- Ongoing monitoring has identified a stagnant trend in groundwater concentrations.
- The Witkowski well has been disconnected and replaced by the Webster Tavern well.

#### **Remedial Action Options:**

1. Groundwater conditions at this site are unlikely to improve quickly due to the low groundwater movement under natural attenuation. The most effective element of natural attenuation is groundwater movement that dissipates the contaminants thereby improving conditions for the biological reduction of the hydrocarbon contaminants. Alternate approaches to enhance hydrocarbon reduction include chemical injection, air sparging, and bacteria fertilization of the aquifer. The technical success of these

options is considered low due to the low hydraulic conductivity and slow movement of the aquifer, although a full evaluation of these options is beyond the scope of the current work.

2. Long-term annual monitoring of wells MW-2, MW-4, MW-6P, and MW-8P could provide ongoing information of the plume characteristics. As hydrocarbon contamination is persistent under the observed conditions, it is unlikely the contamination will degrade quickly; therefore, any proposed annual monitoring should be assessed after three years to evaluate groundwater quality conditions and consider other possible options.
3. Abandonment of all monitoring wells and case closure.

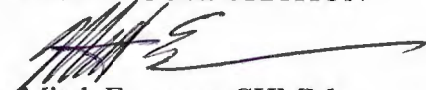
**Recommendations:**

1. Residual soil contamination is within 12 feet of surface in contact with ground water but is in the highway rights-of-way for CTH M and STH 73. Notification of the presence of the contaminated soil is required to Taylor County and the Wisconsin DOT to protect future persons working in these areas.
2. Residual groundwater contamination remains on the former Olson (now Webster) property both in water table observation wells and in mid-depth piezometers. Removal of the tank and dispenser system and accessible contaminated soils has been completed and in some wells decreasing groundwater trends have been observed. Based on current groundwater data, groundwater quality has been adequately evaluated by the monitoring well network. It is recommended that all monitoring wells be abandoned.
3. Additional PECFA funding for this site utilized in 2017 upgraded and connected an alternate well (Webster/Tavern) for the Witkowski residence, providing a petroleum contamination free water supply for this third party location. No additional residential well installation is recommended at this time, however, future potable wells on affected properties should be evaluated for potential petroleum contamination.
4. Although ground water conditions have not dramatically improved, they have stabilized to some extent indicating minor contaminant movement within the plume but no expansion of the plume has been observed in those wells adjacent to the source area. Consideration should be given to grant case closure. And development of cost estimates for well abandonment and case closure should be prepared.

If you have any questions please feel free to call me at 715-235-9081.

Respectfully submitted,

CEDAR CORPORATION



Mitch Evenson, CHMM  
Project Manager

TABLE 1  
 POST REMEDIAL ACTION SOIL ANALYTICAL RESULTS  
 FORMER PERRY'S CORNERS  
 HANNIBAL, WI  
 Results reported in Mg/Kg

					Benzene	E - Benzene	MTBE	Naphthalene	Toluene	1,2,4 TMB	1,3,5 TMB	Xylenes		
Wis Adm. Code NR720 RCL Direct Contact (Industrial)		A			7.4	37	293	26	818	219	182	258		
Wis Adm. Code NR720 RCL Direct Contact (Non Industrial)		B			1.49	7.47	59.40	5.15	818.00	89.80	182.00	258.00		
Wis Adm. Code NR720 RCL Groundwater Pathway		C			0.0051	1.5700	0.0270	0.6587	1.1072	1.3793		3.9400		
Sample Location	Sample Depth	Sample Date	Laboratory ID	FID/PID (IU)										
EX-1	3'	7/12/2010	WTG0477-01	NA	<b>0.048 C</b>	0.21	<30	0.49	0.25	<b>1.5 C</b>	<b>0.38 C</b>	0.94		
EX-2	4'	7/12/2010	WTG0477-02	NA	<0.028	0.062	<0.028	0.12	0.05	0.22	0.49	0.20		
EX-3	4'	7/12/2010	WTG0477-03	NA	<b>0.056 C</b>	<0.031	<0.031	<0.062	<0.031	<0.031	<0.031	<110		
EX-4	6'	7/12/2010	WTG0477-04	NA	<b>55 C</b>	<b>120 C</b>	<2.700	<b>41 C</b>	<b>390 C</b>	<b>260 C</b>	<b>76 C</b>	<b>630 C</b>		
EX-5	16'	7/12/2010	WTG0477-05	NA	<b>0.96 C</b>	0.14	<0.028	0.10	0.06	<b>0.14 C</b>	<b>33 C</b>	0.42		
EX-6	6'	7/12/2010	WTG0477-06	NA	<b>33 C</b>	<b>110 C</b>	<2.700	<b>40 C</b>	<b>370 C</b>	<b>260 C</b>	<b>76 C</b>	<b>610 C</b>		
EX-7	6'	7/12/2010	WTG0477-07	NA	<b>0.038 C</b>	<0.028	<0.028	<0.056	0.06	<0.028	<0.028	<0.095		
EX-8	4'	7/12/2010	WTG0477-08	NA	<b>6.3 B,C</b>	<b>66 A,B,C</b>	<1.300	<b>35 A,B,C</b>	<b>140 C</b>	<b>220 A,B,C</b>	<b>66 C</b>	<b>440 A,B,C</b>		
EX-9	16'	7/12/2010	WTG0477-09	NA	<b>0.92 C</b>	0.18	<0.027	0.18	<b>1.3 C</b>	0.38	0.11	1.10		
EX-10	16'	7/12/2010	WTG0477-10	NA	<b>0.71 C</b>	0.11	<0.027	0.11	0.92	0.20	0.05	0.62		
EX-11	6'	7/12/2010	WTG0477-11	NA	<b>7.7 C</b>	<b>62 C</b>	<1.300	<b>26 C</b>	<b>170 C</b>	<b>180 C</b>	<b>53 C</b>	<b>410 C</b>		
EX-12	6'	7/12/2010	WTG0477-12	NA	<b>14 C</b>	<b>66 C</b>	<1.400	<b>26 C</b>	<b>150 C</b>	<b>190 C</b>	<b>55 C</b>	<b>320 C</b>		
EX-13	6'	7/12/2010	WTG0477-13	NA	<b>4.2 C</b>	<b>32 C</b>	<0.540	<b>15 C</b>	<b>64 C</b>	<b>96 C</b>	<b>28 C</b>	<b>170 C</b>		
EX-14	6'	7/12/2010	WTG0477-14	NA	<b>5.8 C</b>	<b>45 C</b>	<0.690	<b>19 C</b>	<b>100 C</b>	<b>120 C</b>	<b>36 C</b>	<b>240 C</b>		
EX-15	16'	7/12/2010	WTG0477-15	NA	<b>0.69 C</b>	1.30	<0.027	<b>1.3 C</b>	0.16	0.28	0.10	0.43		
EX-16	6'	7/13/2010	WTG0477-16	NA	<b>0.24 C</b>	<b>3.9 C</b>	<0.150	<b>13 C</b>	0.33	<b>34 C</b>	<b>12 C</b>	<b>8.7 C</b>		
EX-17	6'	7/13/2010	WTG0477-17	NA	<b>0.048 C</b>	1.50	<0.027	<b>6.3 C</b>	0.09	<b>16 C</b>	<b>5.4 C</b>	2.60		
EX-18	16'	7/13/2010	WTG0477-18	NA	<b>0.069 C</b>	<0.028	<0.028	<0.056	<0.028	<0.028	<0.028	<0.095		
EX-19	6'	7/13/2010	WTG0477-19	NA	<0.028	<0.028	<0.028	<0.057	<0.028	<0.028	<0.028	<0.097		
EX-20	6'	7/13/2010	WTG0477-20	NA	<0.028	<0.028	<0.028	<0.056	<0.028	<0.028	<0.028	<0.095		
EX-21	16'	7/13/2010	WTG0477-21	NA	<b>0.11 C</b>	<0.028	<0.028	<0.056	<0.028	<0.028	<0.028	<0.095		
MTBE = Methyl tert butyl ether TMB = Trimethylbenzene					E-Benzene = Ethylbenzene 1,2-DCA = 1,2 Dichloroethane Values in Bold Typeface exceed listed table value.					ug/Kg= micrograms per kilogram = ppb = parts per billion mg/Kg= milligrams per kilogram = ppm = parts per million				
										IU = Instrument Units NA = Not Analyzed NS = No Standard Established				

**TABLE 2. OLSON - PERRY'S CORNERS  
HANNIBAL, WI  
BRRTS #03-61-168823  
PECFA #54433-9753-97-A  
MONITORING WELL DATA**

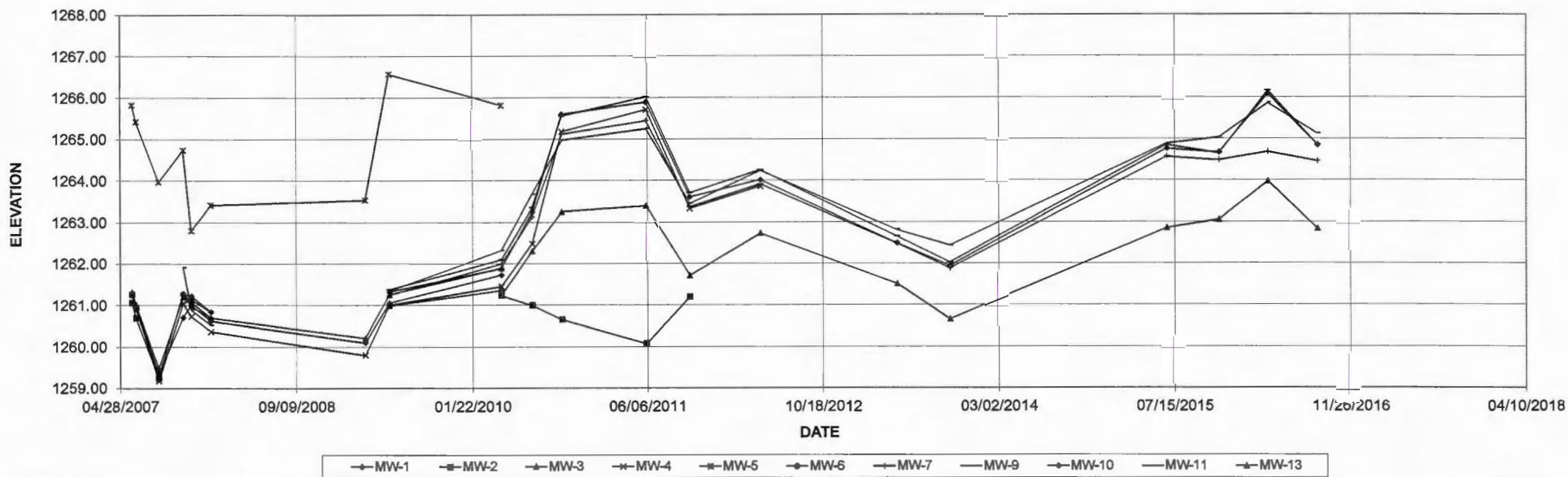
NOTE : ALL ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL (MSL)

WELL	MW-1	MW-2	MW-2P	MW-3	MW-3D	MW-4	MW-4P	MW-5	MW-6	MW-6P	MW-6D	MW-7	MW-8P	MW-9	MW-10	MW-11	MW-12P	MW-12D	MW-13	MW-13D
UNIQUE WELL ID	OX191	OX192	VW800	OX193	OX189	OX194	VW801	OX195	OX178	VW802	OX188	OX179	OX180	OX191	OX192	OX193	OX194	OX190	VW809	VW808
CASING ELEV.	1270.61	1271.61	1271.54	1272.25	1272.03	1271.93	1271.72	1270.42	1271.39	1271.28	1271.43	1272.33	1273.14	1271.30	1272.25	1270.63	1270.32	1270.68	1269.62	1269.29
GROUND ELEV.	1271.06	1272.00	1272.00	1272.82	1272.79	1272.46	1272.46	1270.94	1272.01	1272.01	1272.03	1269.93	1270.79	1271.38	1272.30	1269.16	1268.96	1268.43	1266.74	1266.73
SCREEN TOP ELEV.	1260.61	1263.61	1241.54	1262.75	1188.93	1262.93	1241.72	1261.42	1262.39	1241.28	1206.28	1264.33	1243.14	1266.30	1264.25	1265.63	1240.32	1221.13	1262.97	1200.88
SCREEN BOTTOM ELEV.	1250.61	1253.61	1236.54	1252.75	1183.93	1252.93	1236.72	1251.42	1252.39	1236.28	1201.28	1254.33	1238.14	1256.30	1254.25	1255.63	1235.32	1216.13	1252.97	1195.88
DATE																				
05/31/2007	1261.30	1261.06		1261.31		1261.27		1265.83	1261.25			1261.32	1261.26							
06/12/2007	1260.95	1260.69		1261.01		1260.95		1265.43	1260.92			1260.90	1260.89							
08/15/2007	1259.36	1259.24		1259.48		1259.18		1263.97	1259.29			1259.27	1259.29							
10/23/2007	1260.71	1261.23		1261.19		1261.04		1264.74	1261.27			1261.28	1261.23	1261.06	1261.25	1261.91	1261.44			
11/15/2007	1261.00	1260.99		1261.07		1260.73		1262.80	1261.08			1260.97	1260.96	1261.14	1261.22	1260.89	1260.80			
1/9/2008	1260.62	1260.65		1260.70		1260.37		1263.41				1260.70	1260.70	1260.84	1260.84	1260.52	1260.50			
3/25/2009	1260.10	1260.07	1260.23	1260.21		1259.80	1260.13	1263.53		1260.15			1260.29				1260.25			
6/1/2009	1261.05	1261.19	1261.12	1261.25		1261.00	1261.14	1266.57	1260.99	1261.15		1261.24	1261.19	1261.37	1261.32	1261.34	1261.16			
4/15/2010	1261.73	1261.73	1261.81	1261.89	1261.72	1261.45	1261.87	1265.82	1261.35	1261.86	1256.32	1261.99	1261.92	1262.09	1261.88	1262.32	1261.96	1261.79	1261.24	1261.02
7/13/2010	1261.76	1262.93	1263.03	1262.28	1260.03	1262.48	1263.07		1262.36	1262.90	1254.98	1263.13	1263.06	1263.34	1263.24	1263.67	1263.05	1262.90	1262.30	1261.65
10/6/2010	1265.09	1265.40	1265.21	1265.73	1261.92	1265.18	1265.28		1264.86	1263.66	1251.72	1265.12	1265.15	1265.56	1265.60	1264.98	1264.70	1264.74	1263.25	1262.54
6/3/2011	1265.34	1266.20	1265.62	1266.13	1262.09	1265.71	1265.70					1265.44	1265.49	1266.01	1265.89	1265.25	1264.97	1265.03	1263.39	1262.43
10/4/2011	1263.28	1263.00	1263.43	1263.85	1262.93	1263.32	1263.45	Abandoned	1262.99	1263.34	1250.08	1263.36	1263.33	1263.70	1263.60	1263.44	1263.01	1263.03	1261.71	1261.11
4/24/2012	1263.74	1263.98	1263.82	1264.18	1263.54	1263.86	1263.85		1263.46	1263.84	1255.90	1263.91	1263.86	1264.25	1264.01	1264.24	1263.68	1263.56	1262.73	1261.94
5/16/2013	1262.26	1262.69	1262.34	1263.06	1262.20	1262.46	1262.45		1262.13	1262.48	1249.73	1262.48	1262.42	1262.65	1262.49	1262.81	1262.29	1262.16	1261.51	1260.80
10/14/2013	1261.80	1260.69	1261.68	1262.35	1261.61	1261.94	1261.99		1261.91	1261.89	1252.36	1261.88	1261.83	1262.02	1261.94	1262.43	1261.60	1261.53	1260.65	1260.14
6/23/2015	1264.48	1264.84	1264.42	1265.10	1264.20	1264.72	1264.67		1264.49	1264.56	1251.47	1264.57	1264.56	1264.85	1264.76	1264.88	1264.18	1264.19	1262.85	1262.39
11/19/2015	1264.33	1264.16	1264.30	1264.69	1264.26	1264.46	1264.52		1264.49	1264.41	1254.06	1264.48	1264.42	1264.65	1264.67	1265.03	1264.16	1264.13	1263.05	1262.65
4/7/2016	1265.64	1265.81	1265.62	1266.18	1265.32	1265.86	1265.84		1265.70	1265.71	1253.06	1264.68	1265.72	1266.15	1266.08	1265.86	1265.10	1265.23	1263.97	1263.30
8/25/2016	1264.47	1264.38	1264.42	1265.23	1264.23	1264.65	1264.64		1264.54	1264.55	1255.33	1264.46	1264.55	1264.85	1264.85	1265.12	1264.21	1264.20	1262.83	1262.34

TABLE 3. PIEZOMETER VERTICAL GRADIENT CALCULATIONS

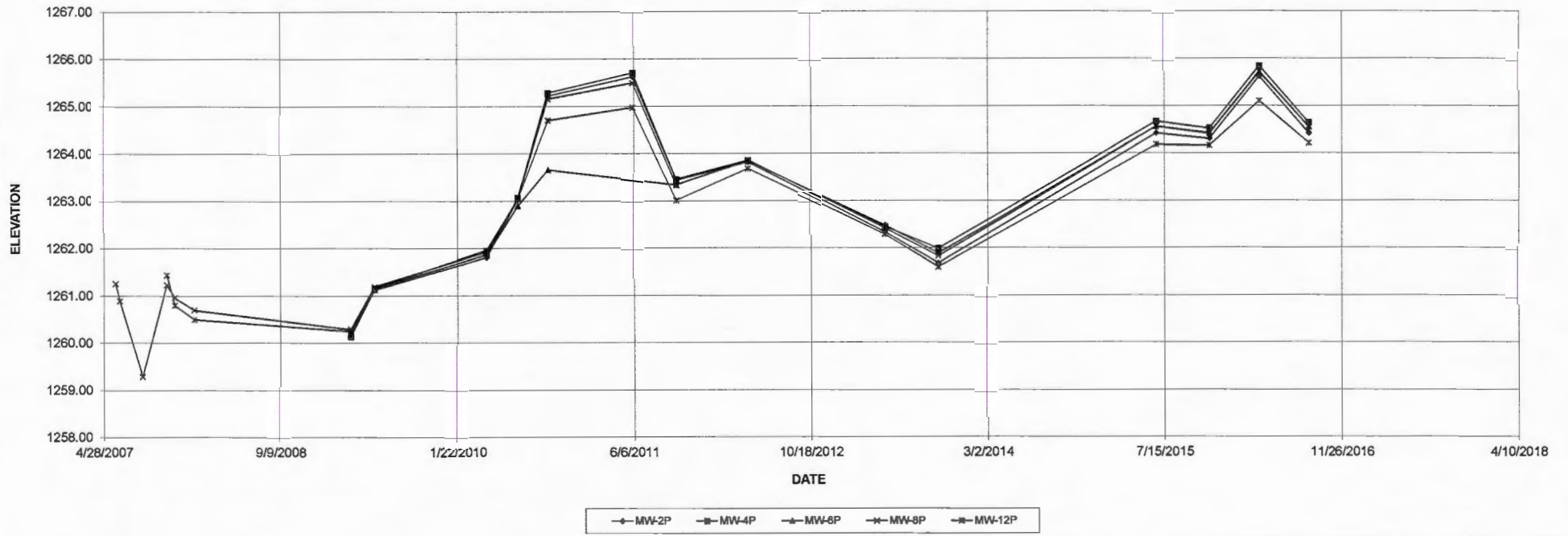
WELL NEST	2 / 2P	3 / 3D	4 / 4P	6 / 6P	6P / 6D	6 / 6D	7 / 8P	11 / 12P	12P / 12D	11 / 12D	13 / 13D
Well Construction Factor	-1239.04	-1186.43	-1239.22	-1238.78	-1203.78	-1203.78	-1240.64	-1237.82	-1218.63	-1218.63	-1198.38
DATE											
05/31/2007							-0.003				
06/12/2007							0.000				
08/15/2007							0.001				
10/23/2007							-0.002	-0.020			
11/15/2007							0.000	-0.004			
1/9/2008							0.000	-0.001			
3/25/2009	0.008		0.016				-	-			
6/1/2009	-0.003		0.006		0.007		-0.002	-0.008			
4/15/2010	0.004	-0.002	0.019		0.023	-0.095	-0.096	-0.015	-0.004	-0.012	-0.003
7/13/2010	0.004	-0.030	0.025		0.023	-0.134	-0.144	-0.024	-0.003	-0.017	-0.010
10/6/2010	-0.007	-0.048	0.004		-0.046	-0.199	-0.274	-0.010	0.001	-0.005	-0.011
6/3/2011	-0.021	-0.051	0.000		0.000	0.000	0.000	-0.010	0.001	-0.005	-0.015
10/4/2011	0.018	-0.012	0.005		0.014	-0.223	-0.279	-0.017	0.000	-0.009	-0.009
4/24/2012	-0.006	-0.008	0.000		0.015	-0.132	-0.145	-0.021	-0.003	-0.015	-0.012
5/16/2013	-0.015	-0.011	0.000		0.015	-0.217	-0.270	-0.021	-0.003	-0.015	-0.011

**GROUND WATER HYDROGRAPH  
WATER TABLE OBSERVATION WELLS**





### GROUND WATER HYDROGRAPH MEDIUM DEPTH PIZOMETERS



### GROUND WATER HYDROGRAPH DEEP PIZOMETERS

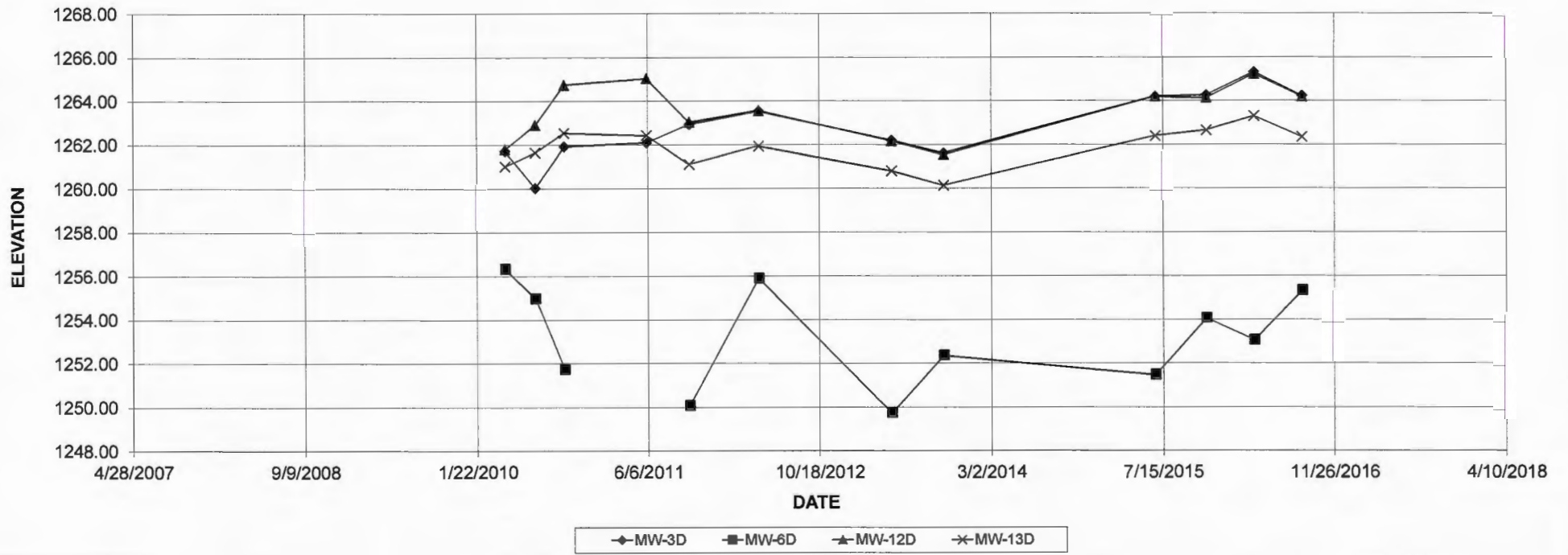
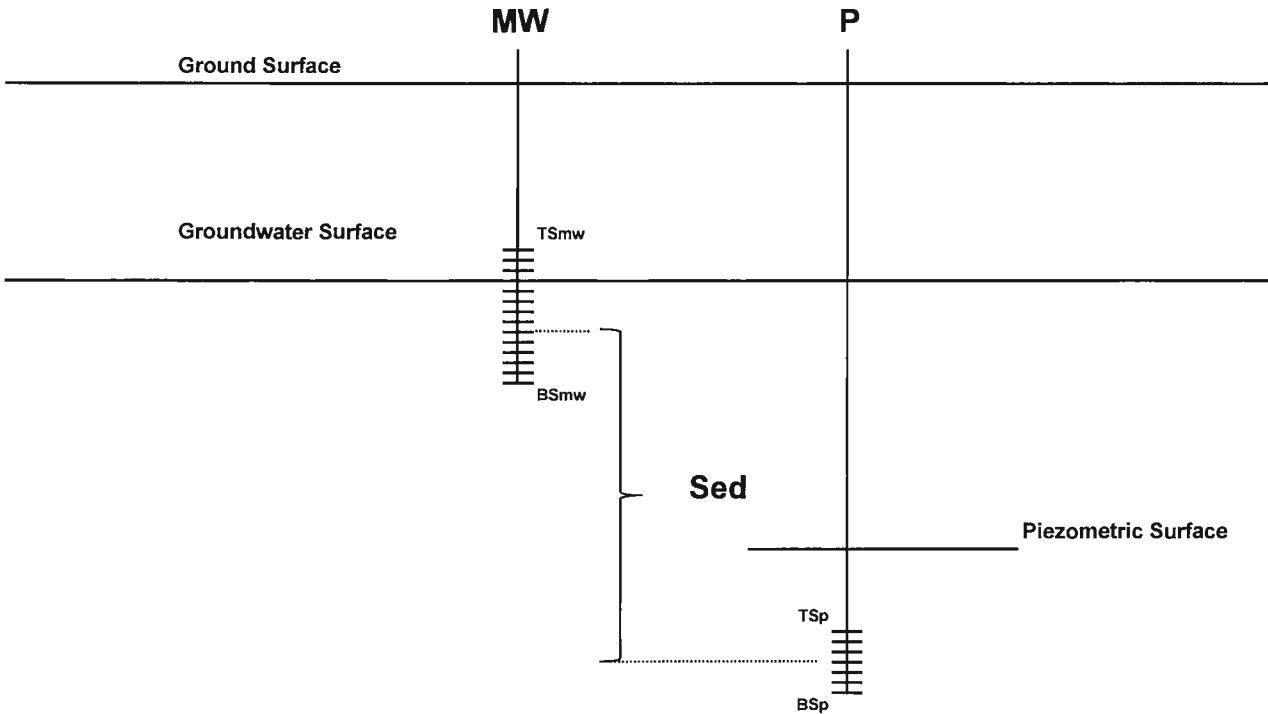


TABLE 3

VERTICAL HYDRAULIC GRADIENT CALCULATION METHOD



Equation

$$G_v = \frac{-(GWE_{mw} - GWE_p)}{Sed} = \frac{-(GWE_{mw} - GWE_p)}{(BS_{mw} + (TS_{mw} - BS_{mw})/2) - (BSp + (TSp - BSp)/2)}$$

Abbreviation definitions

- Gv = Vertical Hydraulic Gradient    ft = feet
- GWE = Ground Water Elevation    msl = mean sea level
- TS = Top of Screen    SEd = Screen elevation
- BS = Bottom of Screen    p = piezometer
- mw = monitoring well

**TABLE 4**  
**Olson - Perry's Corners, N6097 STH 73, Gilman, WI**  
**PVOC's + Naphthalene Compounds**  
**BRRTS No. 03-61-168823**

Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			5	700	60	100	800	480	2000
NR 140 PAL			0.5	140	12	10	160	96	400
MW-1	05/31/07	1261.30	11000	2,200	<80	460	1,500	1,170	4,100
	08/15/07	1259.36	5800	1,500	<23	340	3,900	1,660	6,300
	10/23/07	1260.71	8000	1,700	<0.23	390	1,300	1,530	4,900
	1/9/2008	1260.62	8000	1,500	<5	270	770	1,160	4,000
	3/25/2009	1260.10	5900	1,900	<23	340	550	1,250	2,900
	6/1/2009	1261.05	2200	790	<0.50	130	900	550	1,400
	4/15/2010	1261.73	7000	1,900	<23	360	640	1,390	3,200
	7/13/2010	1260.76	3900	1,300	<23	250	330	740	1,700
	10/6/2010	1265.09	1600	620	<4.6	140	120	249	510
	6/3/2011	1265.34	27	43	<0.23	9	4	12	29
	10/4/2011	1263.28	41	120	<0.23	24	7.4	15.5	30
	4/24/2012	1263.74	29.6	88.6	27.4	16.8	41.2	34.4	100
	5/16/2013	1262.26	200	330	130	86	280	168	520
	10/14/2013	1261.80	15	41	13	31	6.8	60	36
	6/23/2015	1264.48	56	220	15	52	14	197	270
	11/19/2015	1264.33	4.1	17	20	16	2.4	3.9	18
	4/7/2016	1265.64	13	98	22	35	160	67.8	300
	8/25/2016	1264.47	3.8	19	7.1	13	1.8	15.3	26
MW-2	05/31/07	1261.06							
	08/15/07	1259.24	21000	3,700	<23	1,200	41,000	6,400	20,000
	10/23/07	1260.99	13000	3,500	<92	1,100	38,000	5,200	21,000
	1/9/2008	1260.65	12000	2,400	<9.2	710	22,000	4,400	17,000
	3/25/2009	1260.07	10000	2,000	<92	910	28,000	4,100	21,000
	6/1/2009	1261.19	26000	1,900	<2.0	440	40,000	2,540	15,000
	4/15/2010	1261.73	FREE PRODUCT						
	7/14/2010	1262.93	FREE PRODUCT						
	10/6/2010	1265.40	FREE PRODUCT						
	6/3/2011	1265.20	17,000	2,600	<23	910	41,000	4,460	17,000
	10/4/2011	1262.90	FREE PRODUCT						
	4/24/2012	1263.98	FREE PRODUCT						
	5/16/2013	1262.69	FREE PRODUCT						
	10/14/2013	1260.69	17,000	2,700	75	1,900	39,000	11,500	26,000
	6/23/2015	1264.84	19,000	3,800	290	1,600	43,000	6,600	26,000
	11/19/2015	1264.16	16,000	4,600	980	3,300	92,000	9,300	31,000
	4/7/2016	1265.81	16,000	3,400	630	1,700	35,000	5,400	24,000
	8/25/2016	1264.38	15,000	3,400	970	2,400	35,000	6,000	25,000
MW-2P	3/25/2009	1260.23	70	5.8	<0.50	0.84	39	7.1	31
	6/1/2009	1261.12	570	71	<0.50	9.6	160	85	460
	4/15/2010	1261.81	400	6	<1.8	<4	<2	6	9.4
	7/14/2010	1263.03	1800	160	<1.2	26	41	105	150
	10/6/2010	1265.21	1100	49	<4.6	20	14	37	53
	6/3/2011	1265.62	2500	140	<0.23	23	55	68	130
	10/4/2011	1263.43	620	25	<2.3	6	54	15.9	52
	4/24/2012	1263.82	2180	164	175	32.8	66.4	88.3	151
	5/16/2013	1262.34	3800	19	210	56	61	111	200
	10/14/2013	1261.68	1400	58	14	12	33	45	63
	6/23/2015	1264.42	2800	96	16	33	86	65.9	120
	11/19/2015	1264.30	33	3.3	1.3	<2.4	2.4	2.77	4.1
	4/7/2016	1265.62	390	17	16	<24	27	12	31
	8/25/2016	1264.42	1500	180	98	61	220	108	260

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**BRRTS No. 03-61-168823**

Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			<b>5</b>	<b>700</b>	<b>60</b>	<b>100</b>	<b>800</b>	<b>480</b>	<b>2000</b>
NR 140 PAL			0.5	140	12	10	160	96	400
MW-3	05/31/07	1261.31	<b>110</b>	4.40	<0.50	<0.25	0.61	0.49	2.50
	08/15/07	1259.48	<b>100</b>	3.80	<0.23	<0.5	0.79	1.14	3.20
	10/23/07	1261.19	<b>64</b>	2.10	<0.23	<0.5	1.10	<0.44	2.20
	1/9/2008	1260.70	<b>190</b>	6	<0.23	<0.5	1	0.24	5.5
	3/25/2009	1260.21	<b>220</b>	8.4	<1.2	<2.5	<1.2	<2.15	6.8
	6/1/2009	1261.25	<b>230</b>	16	<0.50	1.7	2.6	22.3	6.3
	4/15/2010	1261.89	<b>310</b>	36	<0.92	<2	3.1	<1.76	8.3
	7/14/2010	1262.28	<b>330</b>	66	<0.92	<2.0	6.8	<1.76	8.9
	10/6/2010	1265.73	<b>420</b>	160	<1.2	<b>130</b>	<b>540</b>	<b>560</b>	2,300
	6/3/2011	1266.13	<b>200</b>	330	<0.23	69	300	434	1,200
	10/4/2011	1263.85	<b>130</b>	570	<2.3	67	67	<b>540</b>	950
	4/24/2012	1264.18	<b>161</b>	475	<b>94.5</b>	<b>115</b>	26.5	264	655
	5/16/2013	1263.06	<b>110</b>	370	<b>110</b>	<b>190</b>	13	<b>610</b>	1,700
	10/14/2013	1262.35	<b>180</b>	360	<b>67</b>	61	7.1	<b>480</b>	350
	6/23/2015	1265.10	<b>28</b>	120	32	20	4.7	63	88
	11/19/2015	1264.69	<b>60</b>	62	98	94	13	396	310
	4/7/2016	1266.18	<b>19</b>	84	48	48	6.5	23.8	70
	8/25/2016	1265.23	4.9	35	16	17	2.7	38.8	49
MW-3D	4/15/2010	1261.72	<0.25	<0.25	<0.25	<0.25	0.49	<0.25	<0.25
	7/14/2010	1260.03	<0.25	<0.22	<0.23	<0.50	0.83	<0.44	<0.39
	10/6/2010	1261.92	<0.25	<0.22	<0.23	<0.50	1.7	<0.44	<0.39
	6/3/2011	1262.09	0.43	0.41	4.7	3.7	1.60	1.06	2
	10/4/2011	1262.93	0.26	<0.22	1.7	<0.50	1.7	<0.44	<0.39
	4/24/2012	1263.54	0.44	0.49	0.37	<2.5	0.51	0.72	0.36
	5/16/2013	1262.20	0.7	<0.37	0.86	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1261.61	<0.36	<0.37	0.87	<2.4	<0.33	<0.67	<0.58
	6/23/2015	1264.20	Not Sampled						
	11/19/2015	1264.26	Not Sampled						
	4/7/2016	1265.32	Not Sampled						
	8/25/2016	1264.23	Not Sampled						
MW-4	05/31/07	1261.27	<b>5000</b>	<b>2,100</b>	<40	<b>580</b>	86	<b>760</b>	1,700
	08/15/07	1259.18	<b>4300</b>	<b>3,700</b>	<23	<b>1,800</b>	340	<b>10,100</b>	7,500
	10/23/07	1261.04	<b>4700</b>	<b>1,800</b>	<9.2	<b>790</b>	330	<b>2,680</b>	3,900
	1/9/2008	1260.37	<b>4400</b>	<b>1,500</b>	<9.2	<b>650</b>	250	<b>1910</b>	3200
	3/25/2009	1259.80	<b>2000</b>	<b>910</b>	<9.2	<b>490</b>	240	<b>1430</b>	2300
	6/1/2009	1261.00	<b>3200</b>	<b>1400</b>	<25	<b>440</b>	240	<b>1590</b>	3200
	4/15/2010	1261.45	FREE PRODUCT						
	7/14/2010	1262.48	FREE PRODUCT						
	10/6/2010	1265.18	FREE PRODUCT						
	6/3/2011	1265.71	<b>2500</b>	<b>880</b>	<0.23	<b>450</b>	340	<b>1,680</b>	3,100
	10/4/2011	1263.32	FREE PRODUCT						
	4/24/2012	1263.86	<b>3340</b>	<b>1,580</b>	<b>200</b>	<b>840</b>	393	<b>2,422</b>	4,210
	5/16/2013	1262.46	FREE PRODUCT						
	10/14/2013	1261.94	<b>4200</b>	<b>710</b>	38	<b>550</b>	<b>920</b>	<b>2100</b>	<b>2700</b>
	6/23/2015	1264.72	<b>6300</b>	<b>1300</b>	46	<b>570</b>	<b>1700</b>	<b>2150</b>	<b>3900</b>
	11/19/2015	1264.46	<b>3300</b>	540	72	<b>1000</b>	710	<b>1520</b>	<b>2100</b>
	4/7/2016	1265.86	<b>2900</b>	490	<b>98</b>	<b>1100</b>	530	<b>1380</b>	<b>2100</b>
	8/25/2016	1264.65	<b>4500</b>	<b>770</b>	<b>74</b>	<b>970</b>	<b>890</b>	<b>1460</b>	<b>2400</b>

**TABLE 4**  
**Olson - Perry's Corners, N6097 STH 73, Gilman, WI**  
**PVOC's + Naphthalene Compounds**  
**BRRTS No. 03-61-168823**

Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			<b>5</b>	<b>700</b>	<b>60</b>	<b>100</b>	<b>800</b>	<b>480</b>	<b>2000</b>
NR 140 PAL			<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>
MW-4P	3/25/2009	1260.13	<b>180</b>	110	0.77	26	9.3	4.7	8.5
	6/1/2009	1261.14	<b>980</b>	<b>560</b>	<0.50	93	35	13.9	29
	4/15/2010	1261.87	<b>290</b>	<b>34</b>	<0.92	<b>6.5</b>	<b>9.4</b>	<1.76	4.1
	7/14/2010	1263.07	<b>470</b>	<b>120</b>	<0.92	<b>17</b>	<b>15</b>	<1.76	5
	10/6/2010	1265.28	<b>300</b>	<b>150</b>	<0.92	<b>38</b>	<b>8.9</b>	<1.76	3.2
	6/3/2011	1265.70	<b>190</b>	<b>86</b>	<0.23	<b>19</b>	<b>3.50</b>	<b>0.35</b>	<b>2.40</b>
	10/4/2011	1263.45	<b>780</b>	<b>260</b>	<0.46	<b>69</b>	<b>25</b>	<b>7.4</b>	<b>44</b>
	4/24/2012	1263.85	<b>737</b>	<b>223</b>	<b>100</b>	<b>38.5</b>	<b>16</b>	<b>3.1</b>	<b>24.7</b>
	5/16/2013	1262.45	<b>1600</b>	<b>210</b>	<b>130</b>	<b>41</b>	<b>21</b>	<b>6.8</b>	<b>23</b>
	10/14/2013	1261.99	<b>920</b>	<b>350</b>	<b>21</b>	<b>59</b>	<b>28</b>	<b>14.3</b>	<b>53</b>
	6/23/2015	1264.67	<b>1700</b>	<b>460</b>	<b>13</b>	<b>47</b>	<b>41</b>	<b>11</b>	<b>81</b>
	11/19/2015	1264.52	<b>140</b>	<b>63</b>	<b>16</b>	<b>20</b>	<b>17</b>	<b>9.3</b>	<b>17</b>
	4/7/2016	1265.84	<b>32</b>	<b>11</b>	<b>2.3</b>	<b>4.9</b>	<b>3.2</b>	<b>0.86</b>	<b>4.2</b>
	8/25/2016	1264.64	<b>360</b>	<b>280</b>	<b>81</b>	<b>98</b>	<b>30</b>	<b>73</b>	<b>230</b>
MW-5	05/31/07	1265.83	<b>13000</b>	<b>2,700</b>	<100	<b>590</b>	<b>35,000</b>	<b>2,630</b>	<b>17,000</b>
	08/15/07	1263.97	<b>12000</b>	<b>2,600</b>	<46	<b>670</b>	<b>31,000</b>	<b>2,360</b>	<b>15,000</b>
	10/23/07	1264.74	<b>10000</b>	<b>2,700</b>	<92	<b>630</b>	<b>31,000</b>	<b>2,420</b>	<b>16,000</b>
	1/9/2008	1263.41	<b>13000</b>	<b>2500</b>	<400	<b>740</b>	<b>35000</b>	<b>2150</b>	<b>15,000</b>
	6/1/2009	1266.58	<b>11000</b>	<b>3000</b>	<2.0	<b>700</b>	<b>38000</b>	<b>2500</b>	<b>18,000</b>
	4/15/2010	1265.83	<b>9700</b>	<b>2800</b>	<46	<b>800</b>	<b>34000</b>	<b>3960</b>	<b>20,000</b>
	7/12/2010	WELL ABANDONED 7/12/10 DURING EXCAVATION							
MW-6	05/31/07	1261.25	<0.20	<0.50	<0.50	1.20	0.25	0.27	0.53
	08/15/07	1259.29	0.45	0.29	<0.23	2.20	0.13	<0.44	0.44
	10/23/07	1261.27	<i>1</i>	<0.22	<0.23	2.20	<0.11	0.19	0.45
	1/9/2008	CAR PARKED OVER WELL							
	6/1/2009	1260.99	NS	NS	NS	NS	NS	NS	NS
	4/15/2010	1261.68	3.2	0.26	<0.23	<0.50	<0.25	<0.44	<0.39
	7/13/2010	1262.69	2.3	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	10/6/2010	1265.19	2.4	0.27	<0.23	<0.50	<0.25	<0.44	<0.39
	6/3/2011	CAR PARKED OVER WELL							
	10/4/2011	1263.32	3.3	3.1	<0.23	6.2	<0.25	<0.44	0.54
	4/24/2012	1263.46	<0.25	5.73	0.33	11	<0.25	<0.50	0.88
	5/16/2013	1262.13	<b>26</b>	2.4	<0.24	<b>44</b>	<0.33	1.9	<0.58
	10/14/2013	1261.91	3.7	5.5	1.2	44	<0.33	5.4	<0.58
	6/23/2015	1264.49	<b>11</b>	5.4	<0.24	<b>20</b>	<0.33	<0.60	<0.58
	11/19/2015	1264.49	<b>3</b>	6.7	0.42	<b>91</b>	<0.33	5.9	<0.58
	4/7/2016	1265.70	2.3	3.9	<0.24	<b>74</b>	<0.33	2	<0.58
	8/25/2016	1264.54	2.1	4.2	<0.24	<b>62</b>	<0.33	4.4	<0.58



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Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			<b>5</b>	<b>700</b>	<b>60</b>	<b>100</b>	<b>800</b>	<b>480</b>	<b>2000</b>
NR 140 PAL			0.5	140	12	10	160	96	400
MW-6P	3/25/2009	1260.15	<b>820</b>	1.4	5.6	2.2	2.6	2.6	18
	6/1/2009	1261.15	<b>7.9</b>	<0.50	11	<0.25	<0.50	<0.40	<0.50
	4/15/2010	1261.86	<b>330</b>	<0.88	13	<2	<1	<1.76	<1.6
	7/13/2010	1262.90	<b>57</b>	<0.22	8.3	<0.50	<0.25	<0.44	<0.39
	10/6/2010	1263.66	3.9	<0.22	7.3	<0.50	<0.25	<0.44	<0.39
	6/3/2011	CAR PARKED OVER WELL							
	10/4/2011	1263.34	<b>100</b>	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	4/24/2012	1263.84	<b>1060</b>	<0.50	36.8	<2.5	1.9	<0.50	<0.25
	5/16/2013	1262.48	<b>40</b>	<0.37	0.36	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1261.89	<b>73</b>	<0.37	2.8	<2.4	<0.33	0.6	<0.58
	6/23/2015	1264.56	<b>6</b>	<0.37	0.98	<2.4	<0.33	<0.60	<0.58
	11/19/2015	1264.41	<b>5.4</b>	<0.37	0.35	<2.4	<0.33	<0.60	<0.58
	4/7/2016	1265.71	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	8/25/2016	1264.55	2.5	<0.37	0.7	<2.4	<0.33	<0.60	<0.58
MW-6D	4/15/2010	1256.32	<b>26</b>	<0.22	0.57	0.57	<0.25	1.1	<0.39
	7/13/2010	1254.98	<b>9.7</b>	<0.22	0.55	<0.50	0.57	<0.44	<0.39
	10/6/2010	1251.72	<b>8.6</b>	<0.22	0.52	<0.50	0.56	<0.44	<0.39
	6/3/2011	CAR PARKED OVER WELL							
	10/4/2011	1250.08	<b>11</b>	<0.22	1.3	<0.50	0.54	<0.44	<0.39
	4/24/2012	1255.90	2.52	0.29	0.69	<2.5	<0.25	0.32	0.26
	5/16/2013	1249.73	<0.36	<0.37	0.81	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1252.36	<0.36	<0.37	2.1	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1251.47	Not Sampled						
	11/19/2015	1254.06	Not Sampled						
	4/7/2016	1253.06	Not Sampled						
	8/25/2016	1255.33	Not Sampled						
MW-7	5/31/2007	1261.32	0.28	<0.50	<0.50	<0.25	<0.20	<0.40	<0.50
	8/15/2007	1259.27	0.54	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	10/23/2007	1261.28	<0.25	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	1/9/2008	1260.70	0.48	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	6/1/2009	1260.24	NS	NS	NS	NS	NS	NS	NS
	4/15/2010	1261.99	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	7/13/2010	1263.13	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	10/6/2010	1265.12	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	6/3/2011	1265.44	0.69	<0.22	0.63	1.2	<0.25	<0.44	<0.39
	10/4/2011	1263.36	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	4/24/2012	1263.91	<0.25	<0.25	<0.25	<2.5	<0.25	<0.50	<0.25
	5/16/2013	1262.48	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1261.88	<0.36	<0.37	2.4	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1264.57	Not Sampled						
	11/19/2015	1264.48	Not Sampled						
	4/7/2016	1264.68	Not Sampled						
	8/25/2016	1264.46	Not Sampled						

**TABLE 4**  
**Olson - Perry's Corners, N6097 STH 73, Gilman, WI**  
**PVOC's + Naphthalene Compounds**  
**BRRTS No. 03-61-168823**

Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			<b>5</b>	<b>700</b>	<b>60</b>	<b>100</b>	<b>800</b>	<b>480</b>	<b>2000</b>
NR 140 PAL			0.5	140	12	10	160	96	400
MW-8P	05/31/07	1261.26	<b>3600</b>	160	22.00	2.80	27	6.40	15
	08/15/07	1259.29	<b>3500</b>	<8.8	29.00	<20	9.20	<17.6	<16
	10/23/07	1261.23	<b>5000</b>	480	<9.2	61	62	31.00	34
	1/9/2008	1260.70	<b>3900</b>	5.7	26	1	11	1.66	5.8
	3/25/2009	1260.29	<b>3400</b>	<18	26	98	<20	<35	<1.9
	6/1/2009	1261.19	<b>5900</b>	170	<20	24	51	13.2	<20
	4/15/2010	1261.92	<b>6400</b>	350	<23	53	63	<44	54
	7/13/2010	1263.06	<b>5700</b>	430	<0.92	16	69	14.2	57
	10/6/2010	1265.15	<b>4200</b>	63	<0.23	13	52	10.9	45
	6/3/2011	1265.49	<b>890</b>	3.70	6.40	0.72	3.10	0.29	2
	10/4/2011	1263.33	<b>1400</b>	11	11	4.9	6	<3.5	8.8
	4/24/2012	1263.86	<b>4700</b>	9.25	<b>289</b>	3.89	14.3	0.67	4.4
	5/16/2013	1262.42	<b>5200</b>	77	<b>120</b>	3.1	15	0.96	5.8
	10/14/2013	1261.83	<b>4600</b>	8.7	<b>260</b>	<2.4	15	<0.60	3.4
	6/23/2015	1264.56	<b>5200</b>	530	<b>68</b>	20	14	46	170
	11/19/2015	1264.42	<b>620</b>	380	<b>510</b>	6.4	14	7.5	34
	4/7/2016	1265.72	<b>2600</b>	120	<0.24	<2.4	7.2	<0.60	8
	8/25/2016	1264.55	<b>2500</b>	140	<0.24	<2.4	7.9	<0.60	5.8
MW-9	10/23/07	1261.06	<0.20	<0.50	<0.50	<0.25	<0.20	<0.40	<0.50
	1/9/2008	1260.84	<0.25	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	6/1/2009	1261.37	NS	NS	NS	NS	NS	NS	NS
	4/15/2010	1262.09	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	7/13/2010	1263.34	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	10/6/2010	1265.56	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	6/3/2011	1266.01	0.28	<0.22	1.7	<0.50	<0.25	<0.44	<0.39
	10/4/2011	1263.70	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	4/24/2012	1264.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.50	<0.25
	5/16/2013	1262.65	<0.36	<0.37	0.53	<2.4	<0.33	0.4	<0.58
	10/14/2013	1262.02	<0.36	<0.37	0.61	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1264.85	Not Sampled						
	11/19/2015	1264.65	Not Sampled						
	4/7/2016	1266.15	Not Sampled						
	8/25/2016	1264.85	Not Sampled						
MW-10	10/23/07	1261.25	<0.20	<0.50	<0.50	<0.25	<0.20	<0.40	<0.50
	1/9/2008	1260.84	0.41	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	6/1/2009	1261.32	NS	NS	NS	NS	NS	NS	NS
	4/15/2010	1261.88	<0.25	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	7/13/2010	1263.24	<0.25	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	10/6/2010	1265.60	<0.25	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	6/3/2011	1265.89	<0.25	<0.22	1.3	<0.50	<0.11	<0.44	<0.39
	10/4/2011	1263.60	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	4/24/2012	1264.01	<0.25	<0.25	<0.25	<2.5	<0.25	<0.50	<0.25
	5/16/2013	1262.49	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1261.94	<0.36	<0.37	1.7	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1264.76	Not Sampled						
	11/19/2015	1264.67	Not Sampled						
	4/7/2016	1266.08	Not Sampled						
	8/25/2016	1264.85	Not Sampled						

**TABLE 4**  
**Olson - Perry's Corners, N6097 STH 73, Gilman, WI**  
**PVOC's + Naphthalene Compounds**  
**BRRTS No. 03-61-168823**

Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			<b>5</b>	<b>700</b>	<b>60</b>	<b>100</b>	<b>800</b>	<b>480</b>	<b>2000</b>
NR 140 PAL			<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>
MW-11	10/23/07	1261.91	<0.20	<0.50	<0.50	<0.25	<0.20	<0.40	<0.50
	1/9/2008	1260.52	<0.25	<0.22	<0.23	<0.50	<0.11	<0.44	<0.39
	6/1/2009	1261.34	NS	NS	NS	NS	NS	NS	NS
	4/15/2010	1262.32	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	7/13/2010	1263.73	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	10/6/2010	1264.98	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	6/3/2011	1265.25	<0.25	<0.22	1.4	<0.50	<0.11	<0.44	<0.39
	10/4/2011	1263.44	<0.25	<0.22	0.99	<0.50	<0.25	<0.44	<0.39
	4/24/2012	1264.24	<0.25	<0.25	<0.25	<2.5	<0.25	<0.50	<0.25
	5/16/2013	1262.81	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1262.43	<0.36	<0.37	0.49	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1264.88	Not Sampled						
	11/19/2015	1265.03	Not Sampled						
	4/7/2016	1265.86	Not Sampled						
	8/25/2016	1265.12	Not Sampled						
MW-12P	10/23/07	1261.44	<b>1800</b>	<2.0	22	<1.0	6.60	<0.80	4.70
	1/9/2008	1260.50	<b>1500</b>	<0.22	22	<0.50	4.2	0.85	4.7
	3/25/2009	1260.25	<b>820</b>	<2.2	10	<5.0	<0.25	<4.4	<3.9
	6/1/2009	1261.16	<b>660</b>	<0.50	7.2	<0.25	0.94	16.1	1.4
	4/15/2010	1261.96	<b>1000</b>	<4.4	<4.6	<10	7.2	<8.8	<7.8
	7/13/2010	1263.05	<b>960</b>	<2.2	<2.3	<5.0	<.25	<0.44	<0.39
	10/6/2010	1264.58	<b>940</b>	19	<0.23	<0.50	5.9	3.3	8.5
	6/3/2011	1264.97	<b>460</b>	38	<0.92	3	5.4	<0.44	5
	10/4/2011	1263.01	<b>390</b>	51	<0.92	9.5	4.2	<1.76	4.9
	4/24/2012	1263.68	<0.25	26.8	36.1	<2.5	<0.25	1.13	1.2
	5/16/2013	1262.79	<b>23</b>	<0.37	11	<2.4	0.48	<0.60	<0.58
	10/14/2013	1261.60	<b>17</b>	1.1	15	<2.4	0.69	0.43	0.79
	6/23/2015	1264.18	<b>110</b>	0.58	33	<2.4	0.41	<0.60	1.2
	11/19/2015	1264.16	<b>210</b>	1.2	<b>65</b>	4.1	1.1	0.45	2
	4/7/2016	1265.10	<b>320</b>	0.91	63	<2.4	0.81	<0.60	<0.58
	8/25/2016	1264.21	<b>360</b>	0.57	<b>64</b>	<2.4	0.94	<0.60	0.99
MW-12D	4/15/2010	1261.79	3.5	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	7/13/2010	1262.90	<b>27</b>	<0.22	0.79	<0.50	<0.25	<0.44	<0.39
	10/6/2010	1264.74	0.36	<0.22	0.64	<0.50	<0.25	<0.44	<0.39
	6/3/2011	1265.03	<0.25	<0.22	2.2	<0.50	<0.25	<0.44	<0.39
	10/4/2011	1263.03	<0.25	<0.22	2.7	<0.50	<0.25	<0.44	<0.39
	4/24/2012	1263.56	<0.25	<0.25	0.48	<2.5	<0.25	<0.50	<0.25
	5/16/2013	1262.16	1.3	<0.37	0.26	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1261.53	<0.36	<0.37	2	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1264.19	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	11/19/2015	1264.13	<0.36	<0.37	<0.24	<2.4	<0.33	0.53	1.2
	4/7/2016	1265.23	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	8/25/2016	1264.20	<0.36	<0.37	0.29	<2.4	<0.33	<0.60	<0.58

**TABLE 4**  
**Olson - Perry's Corners, N6097 STH 73, Gilman, WI**  
**PVOC's + Naphthalene Compounds**  
**BRRTS No. 03-61-168823**

Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			<b>5</b>	<b>700</b>	<b>60</b>	<b>100</b>	<b>800</b>	<b>480</b>	<b>2000</b>
NR 140 PAL			<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>
MW-13	4/15/2010	1261.24	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	7/13/2010	1262.30	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	10/6/2010	1263.25	<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	6/3/2011	1263.39	<0.25	<0.22	3.4	<0.50	<0.25	<0.44	<0.39
	10/4/2011	1261.71	<0.25	<0.22	1	<0.50	<0.25	<0.44	<0.39
	4/24/2012	1262.73	<0.25	<0.25	<0.25	<2.5	<0.25	<0.50	<0.25
	5/16/2013	1261.51	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1260.65	<0.36	<0.37	3.4	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1262.85	Not Sampled						
	11/19/2015	1263.05	Not Sampled						
	4/7/2016	1263.97	Not Sampled						
	8/25/2016	1262.83	Not Sampled						
MW-13D	4/15/2010	1261.02	0.69	<0.22	2.2	<0.50	<0.25	<0.44	<0.39
	7/13/2010	1261.65	2.7	<0.22	2.1	<0.50	0.26	<0.44	<0.39
	10/6/2010	1262.54	0.83	<0.22	1.9	<0.50	0.29	<0.44	<0.39
	6/3/2011	1262.44	0.36	<0.22	2.2	<0.50	<0.25	1.2	<0.39
	10/4/2011	1261.11	0.97	<0.22	3.6	<0.50	0.29	<0.44	<0.39
	4/24/2012	1267.94	<0.25	<0.25	1.65	<2.5	0.27	<0.50	<0.25
	5/16/2013	1260.80	<0.36	<0.37	0.82	<2.4	<0.33	<0.60	<0.58
	10/14/2013	1260.14	<0.36	<0.37	3.2	<2.4	<0.33	<0.60	<0.58
	6/23/2015	1262.39	Not Sampled						
	11/19/2015	1262.65	Not Sampled						
	4/7/2016	1263.30	Not Sampled						
	8/25/2016	1262.34	Not Sampled						
N. Sump	10/6/2010	1266.90	Not Sampled						
	6/3/2011	1267.68	Not Sampled						
	10/4/2011	1266.66	Not Sampled						
	4/24/2012	1266.51	Not Sampled						
	5/16/2013	1266.48	Not Sampled						
	10/14/2013	1264.35	Not Sampled						
	6/23/2015	1268.17	<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	11/19/2015	1267.80	Not Sampled						
	4/7/2016	1268.32	Not Sampled						
	8/25/2016	1267.72	Not Sampled						
S. Sump	10/6/2010	1266.32	Not Sampled						
	6/3/2011	1267.05	Not Sampled						
	10/4/2011	1264.33	Not Sampled						
	4/24/2012	1264.47	Not Sampled						
	5/16/2013	1264.87	Not Sampled						
	10/14/2013	1263.00	Not Sampled						
	6/23/2015	1266.63	<b>60</b>	<b>18</b>	<b>&lt;0.24</b>	<b>&lt;2.4</b>	<b>1.3</b>	<b>6.8</b>	<b>50</b>
	11/19/2015	1265.32	Not Sampled						
	4/7/2016	1267.37	Not Sampled						
	8/25/2016	1266.21	Not Sampled						

TABLE 4  
Olson - Perry's Corners, N6097 STH 73, Gilman, WI  
PVOC's + Naphthalene Compounds  
BRRTS No. 03-61-168823

Well Number	Date	GWE	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Total TMB	Xylenes
NR 140 ES			<b>5</b>	<b>700</b>	<b>60</b>	<b>100</b>	<b>800</b>	<b>480</b>	<b>2000</b>
NR 140 PAL			<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>
Olson's Well	3/25/2009		<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	6/1/2009		<0.20	<0.50	<0.50	<0.25	<0.50	<0.40	<0.50
	4/15/2010		<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	7/13/2010		<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	10/6/2010		<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	10/4/2011		<0.25	<0.22	<0.23	<0.50	<0.25	<0.44	<0.39
	4/24/2012		<0.25	<0.25	<0.25	<2.5	<0.25	<0.50	<0.25
	5/16/2013		<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	6/23/2015		<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
	4/7/2016		<0.36	<0.37	<0.24	<2.4	<0.33	<0.60	<0.58
Webster Well	6/1/2016		<0.15	<0.18	<0.39	<0.34	<0.15	<0.61	<0.22
	7/20/2016		<0.15	<0.18	<0.39	<0.34	1.8	<0.61	<0.22
	10/31/2016		<0.15	<0.18	<0.39	<0.34	<0.15	<0.61	<0.22
connected to Witkowski residence	3/7/2017		<0.23	1.6	<0.48	<0.23	20		<0.29
	6/7/2017		<0.15	<0.18	<0.39	<0.34	<0.15	<0.61	<0.22
Witkowski's Well	3/25/2009		<b>65</b>	<0.22	1.9	<0.50	<0.25	<0.44	<0.39
	6/1/2009		<b>69</b>	<0.50	1.6	<0.25	<0.50	<0.40	<0.50
	4/15/2010		<b>77</b>	<0.22	2.2	<0.50	<0.25	<0.44	<0.39
	7/13/2010		<b>19</b>	<0.22	2.0	<0.50	<0.25	<0.44	<0.39
	10/6/2010		<b>60</b>	<0.22	2.0	<0.50	<0.25	<0.44	<0.39
	10/4/2011		<b>61</b>	<0.22	5	<0.50	<0.25	<0.44	<0.39
	4/24/2012		<b>55.5</b>	<0.25	2.45	<2.5	<0.25	<0.50	<0.25
	5/16/2013		<b>72</b>	<0.37	2.7	<2.4	<0.33	<0.60	<0.58
	6/23/2015		<b>23</b>	<0.37	3.4	<2.4	<0.33	<0.60	<0.58
	4/7/2016		<b>18</b>	<0.37	2.7	<2.4	<0.33	<0.60	<0.58

mg/L = milligrams per liter = ppm = parts per million

ug/L = micrograms per liter = ppb = parts per billion

*Italic Numbers indicate a concentration above PAL outlined in NR 140.10*

**Bold Numbers indicate a concentration above ES outlined in NR 140.10**



TABLE 5  
Olson - Perry's Corners, N6097 STH 73, Gilman, WI  
Free Product Thickness and Recovery  
BRRTS No. 03-61-168823

Well Number	Date	Product Thickness feet	Product Recovered (gallons)
MW-2	5/31/2007	0.36	--
	6/12/2007	0.42	0.26
	8/15/2007	0.3	0.0195
	9/25/2007	0.16	0.0026
	10/23/2007	0.02	--
	11/15/2007	0.06	--
	12/18/2007	0.02	--
	1/9/2008	0.04	--
	3/25/2009	0.14	0.1
	6/1/2009	0.16	--
	4/15/2010	0.29	0.033
	7/14/2010	0.32	--
	10/6/2010	0.11	--
	6/3/2011	0	--
	10/4/2011	0.93	0.132
	5/16/2013	0.52	0.3
	6/23/2015	0	
	11/19/2015	0.35	
	4/7/2016	0.36	
	8/25/2016	0.46	
MW-4	8/15/2007	0.27	0.013
	9/25/2007	0.65	0.0195
	10/23/2007	0.4	0.013
	11/15/2007	0.38	0.026
	12/18/2007	0.3	0.065
	1/9/2008	0.35	0.065
	3/25/2009	0.47	0.26
	6/1/2009	0.22	--
	4/15/2010	0.46	0.132
	7/14/2010	0.13	--
	10/6/2010	0.19	--
	6/3/2011	0	--
	10/4/2011	0.19	0.01
	5/16/2013	0.2	0.01
	6/23/2015	0	
	11/19/2015	0	
4/7/2016	0		
8/25/2016	0		
MW-5	3/25/2009	0.4	0.13
	6/1/2009	0.07	--
	4/15/2010	0.06	--
	7/12/2010	WELL ABANDONED 7/12/10 DURING EXCAVATION	



Table 6  
Olson - Perry's Corners, N6097 STH 73, Gilman, WI  
Additional VOC Compounds  
BRRTS No. 03-61-168823

Well Number	Date	Bromomet hane (ug/L)	n- Butylbenz ene (ug/L)	sec- Butylben zene (ug/L)	tert- Butylben zene (ug/L)	Chloro- form (ug/L)	1,2 Dibromoet hane (EDB) (ug/L)	1,4 Dichlorob enzene (ug/L)	1,2 Dichloroet hane (1,2 DCA) (ug/L)	Isopropyl Ether (ug/L)	Isopropylbe nzene (ug/L)	p- Isopropylt oluene (ug/L)	n-Propyl benzene (ug/L)	Styrene (ug/L)
NR 140 ES		10					0.05	75	5					100
NR 140 PAL		1					0.005	15	0.5					10
MW-1	5/31/2007	<32	<32	<40	<32		<b>59</b>	<32	<80	<80	70	<32	170	
	6/1/2009	<0.50	14	3.1	<0.20		<b>9.6</b>	<0.50	<0.50	<0.50	22	1.9	66	13
MW-2	6/1/2009	<2.0	61	<1.0	<0.80		<b>200</b>	<2.0	<2.0	<2.0	55	6.6	170	<2.0
MW-2P	3/25/2009	<0.50	<0.20	<0.25	<0.20		<b>0.36</b>	<0.50	<0.50	<0.50	0.4	<0.20	1.0	<0.50
	6/1/2009	<0.50	2.9	1	<0.20		<b>2.1</b>	<0.50	<0.50	<0.50	6.4	0.6	16.0	<0.50
MW-3	5/31/2007	<0.20	<0.20	0.38	<0.20		<0.20	<0.20	<0.50	<0.50	3.1	<0.20	2.6	
	6/1/2009	<0.20	0.98	1.40	<0.20		<0.20	<0.50	<0.50	<0.50	9.7	0.68	17	<0.50
MW-4	5/31/2007	<16	29	<20	<16		<16	<16	<40	<40	96	<16	240	
	6/1/2009	<25	52	16.00	<10		<10	<25	<b>140</b>	<25	60	15	170	<25
MW-4P	3/25/2009	<0.50	<0.20	0.34	<0.20		<0.20	<0.50	<0.50	<0.50	4.8	0.23	13	
	6/1/2009	<0.50	1.60	1.60	<0.20		<0.20	<0.50	<0.50	<0.50	20	1.3	51	<0.50
MW-5	5/31/2007	<40	48	<50	<40		<b>200</b>	<40	<100	<100	100	<40	260	
	6/1/2009	<2.0	78	15	<0.80		<b>83</b>	<2.0	<2.0	<2.0	80	6.9	270	<2.0
MW-6	5/31/2007	<0.20	<0.20	0.28	0.24		<0.20	<0.20	<0.50	<0.50	3.1	<0.20	2.6	
MW-6P	3/25/2009	<0.50	0.43	0.31	<0.20		<0.20	<0.50	<0.50	3.3	2.2	0.48	0.67	
	6/1/2009	<0.50	<0.20	<0.25	<0.20		<0.20	<0.50	<b>89</b>	3.3	<0.20	<0.20	<0.50	<0.50
MW-7	5/31/2007	2.3	<0.20	<0.25	<0.20		<0.20	0.45	<0.50	<0.50	<0.20	<0.20	<0.50	

Table 6  
Olson - Perry's Corners, N6097 STH 73, Gilman, WI  
Additional VOC Compounds  
BRRTS No. 03-61-168823

Well Number	Date	Bromomet hane (ug/L)	n- Butylbenz ene (ug/L)	sec- Butylben zene (ug/L)	tert- Butylben zene (ug/L)	Chloro- form (ug/L)	1,2 Dibromoet hane (EDB) (ug/L)	1,4 Dichlorob enzene (ug/L)	1,2 Dichloroet hane (1,2 DCA) (ug/L)	Isopropyl Ether (ug/L)	Isopropylbe nzene (ug/L)	p- Isopropylt oluene (ug/L)	n-Propyl benzene (ug/L)	Styrene (ug/L)
NR 140 ES		10					0.05	75	5					100
NR 140 PAL		1					0.005	15	0.5					10
MW-8P	5/31/2007	<0.80	<0.80	<1.0	<0.80		<0.80	<0.80	<b>110</b>	4.4	16	<0.80	12	
	6/1/2009	<20	<8.0	<10	<8.0		<8.0	<20	<b>250</b>	<20	<8.0	<8.0	<20	<20
MW-9	10/23/2007	<0.20	<0.20	<0.25	<0.20		<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.50	
MW-10	10/23/2007	<0.20	<0.20	<0.25	<0.20		<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.50	
MW-11	10/23/2007	<0.20	<0.20	<0.25	<0.20		<0.20	<0.20	<0.50	<0.50	<0.20	<0.20	<0.50	
MW-12P	10/23/2007	<0.80	<0.80	<1.0	<0.80		<0.80	<0.80	<b>94</b>	<2.0	16	<0.80	<2.0	
	6/1/2009	<0.50	<0.20	1.2	0.24		<0.20	<0.50	<b>54</b>	<10	6.2	0.25	<0.50	<0.50
Witkowski's Well	6/1/2009	<0.50	<0.20	<0.25	<0.20		<0.20	<0.50	<b>20</b>	1.8	<0.20	<0.20	<0.50	<0.50
Webster Well connected to Witkowski	3/7/2017					7.00			0.4			2.8		
	6/7/2017					1.50			0.72					

mg/L = milligrams per liter = ppm = parts per million

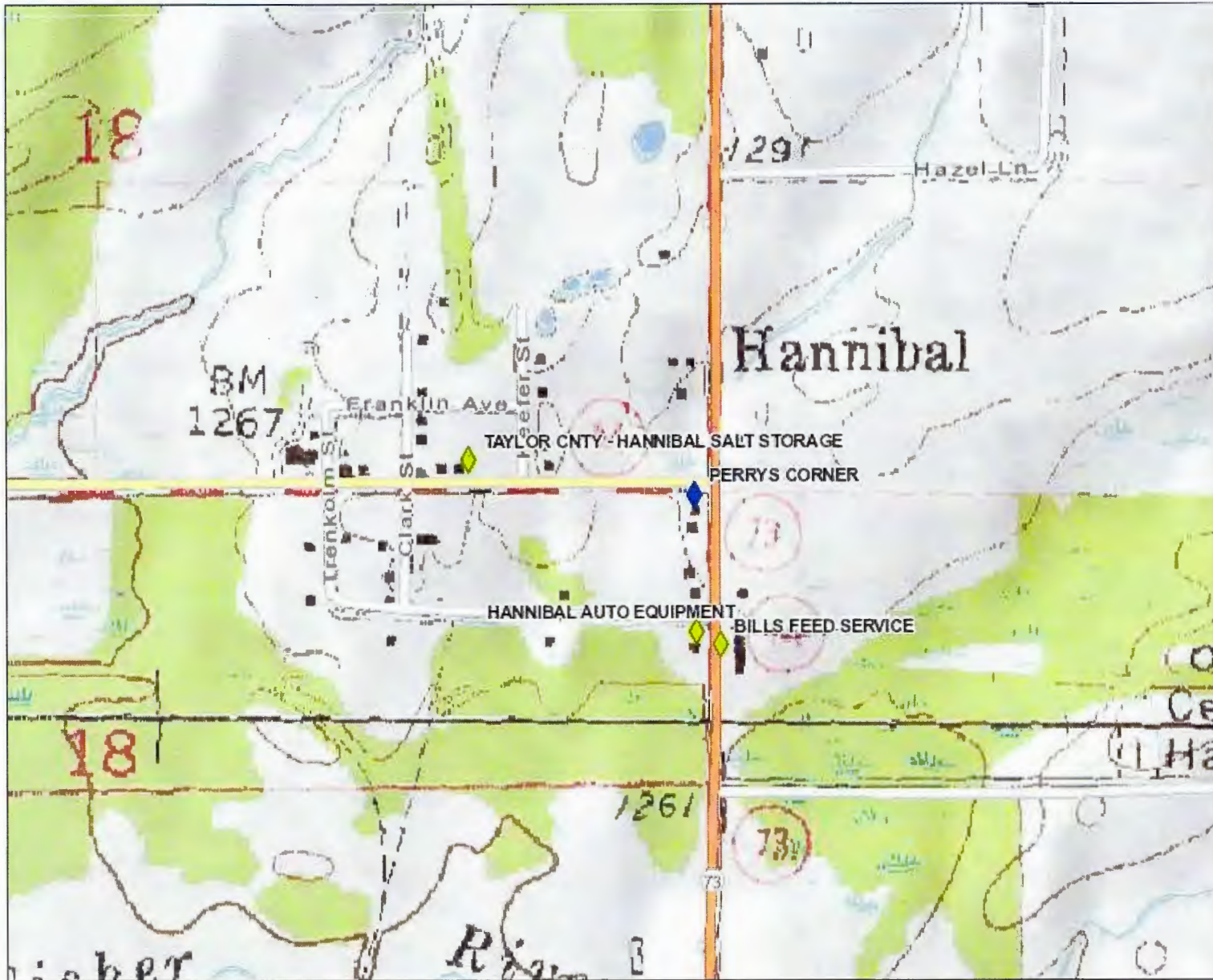
ug/L = micrograms per liter = ppb = parts per billion

*Italic Numbers indicate a concentration above PAL outlined in NR 140.10*

**Bold Numbers indicate a concentration above ES outlined in NR 140.10**



# PERRY'S CORNER



### Legend

- ◆ Open Site (ongoing cleanup)
- Open Site Boundary
- ◆ Closed Site (completed cleanup)
- Closed Site Boundary
- Airport
- Great Lakes
- Cities
- Villages

### Notes

FIGURE 1

0.3 0 0.13 0.3 Miles

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1: 7,920



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Note: Not all sites are mapped.





# PERRY'S CORNER



## Legend

- ◆ Open Site (ongoing cleanup)
- Open Site Boundary
- ◆ Closed Site (completed cleanup)
- Closed Site Boundary
- 2010 Air Photos (WROC)
- Cities
- Villages

0.1      0      0.03      0.1 Miles

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1: 1,980



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Note: Not all sites are mapped.

## Notes

FIGURE 2 - AERIAL VIEW





**LEGEND**

PROPERTY MAP  
TOWN OF CLEVELAND  
TAYLOR COUNTY, WI



604 Wilson Avenue  
Menomonie, WI 54751

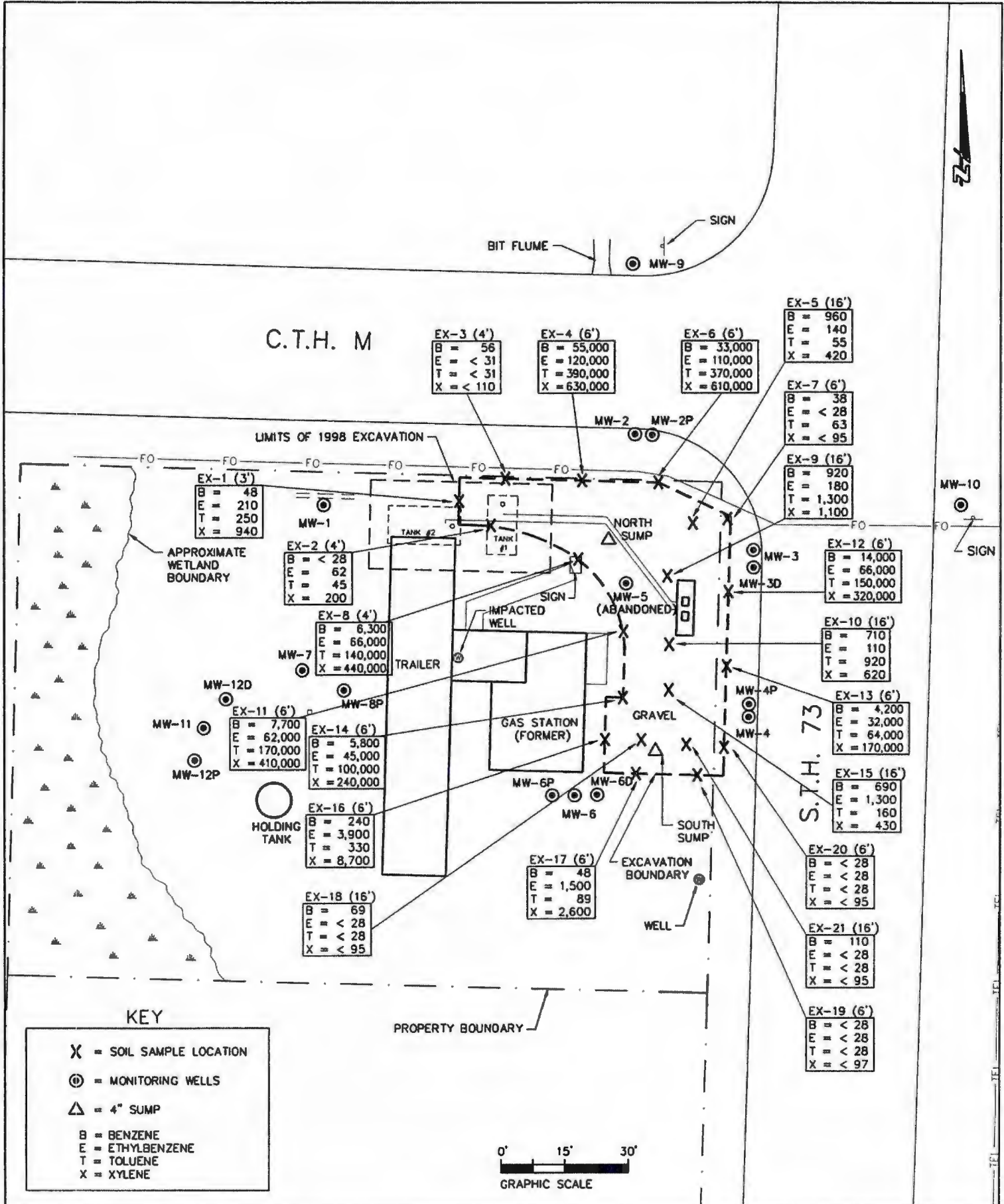
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DRAWN BY TAYLOR Co DATE 1/27/2013 REVISED BY sem SCALE nts	SITE PROPERTY MAP  RUTH OLSON PERRY'S CORNER HANNIBAL, WI	CHECKED BY sem JOB NO.  FIGURE 3
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DRAWN BY JNM DATE JANUARY 2014 REFERENCE FILE DRAWING FILE 4178002base.dwg	PROJECT TITLE <b>PERRY'S CORNERS 2010 SOIL SAMPLE LOCATIONS POST REMEDIAL ACTION HANNIBAL, WISCONSIN</b>	<p>604 Wilson Avenue Menomonie, Wisconsin 54751 715-235-9081 800-472-7372 715-235-2727 www.cedarcorp.com</p> <p>engineers • architects • planners • environmental specialists land surveyors • landscape architects • interior designers</p>	CHECKED BY SEM JOB NO. 04178-002 FIGURE 4
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JOB NO.	04178-005
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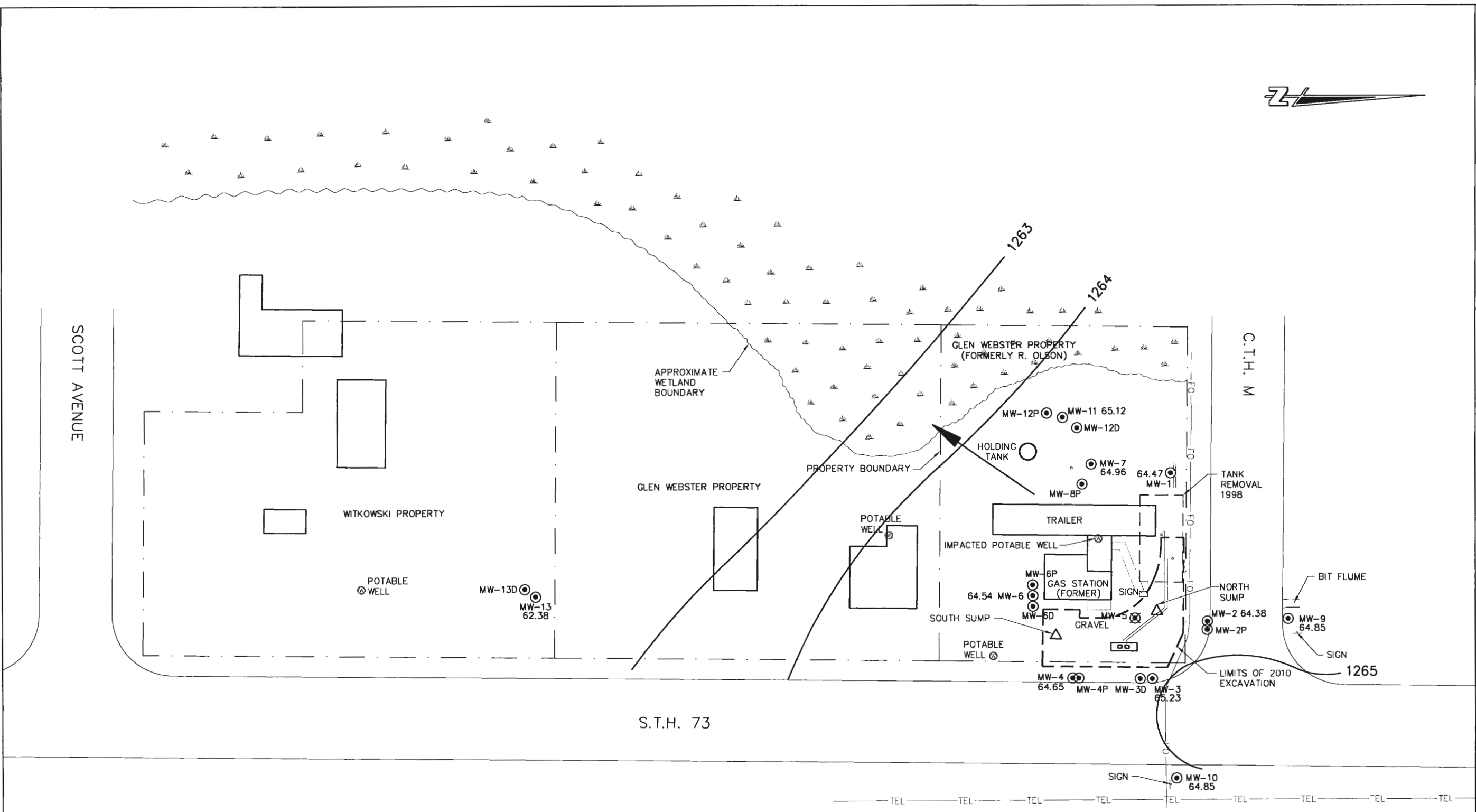
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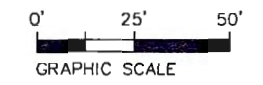
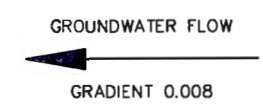
**PERRY'S CORNERS**  
GROUNDWATER CONTOURS AUG. 25, 2016  
HANNIBAL, WISCONSIN

FIGURE NO.  
5



**KEY**

- = GEOPROBE LOCATIONS
- × = SOIL SAMPLE LOCATION
- = SOIL BORING
- ⊙ = MONITORING WELLS
- ⊗ = ABANDONED MONITORING WELLS
- ⊕ = POTABLE WELLS
- △ = 4" SUMP





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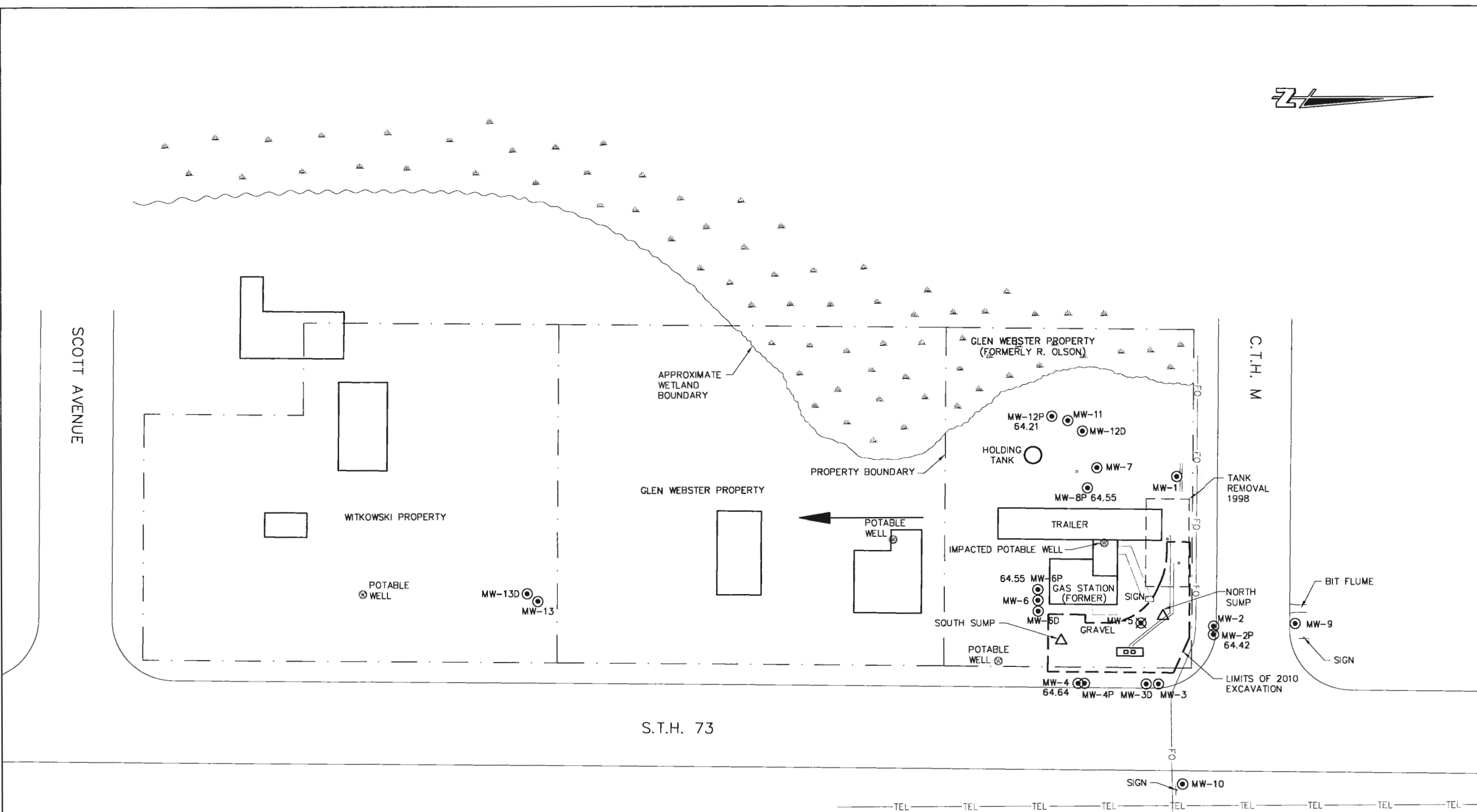
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**PERRY'S CORNERS**  
MID DEPTH PIEZOMETERS  
GROUNDWATER CONTOURS AUG. 25, 2016  
HANNIBAL, WISCONSIN

FIGURE NO.  
**6**



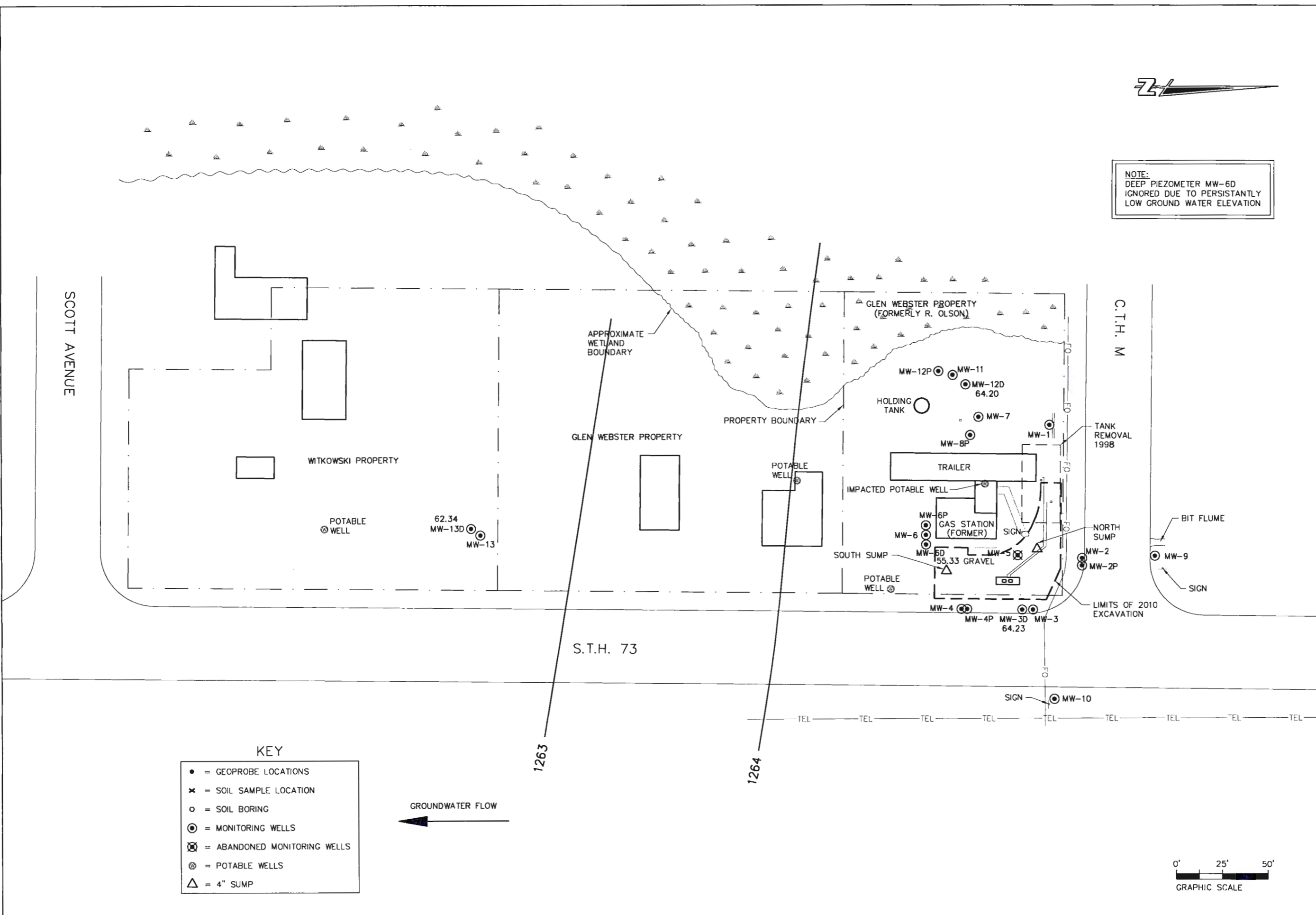
**KEY**

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×	= SOIL SAMPLE LOCATION
○	= SOIL BORING
⊙	= MONITORING WELLS
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⊕	= POTABLE WELLS
△	= 4" SUMP

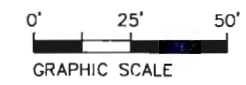
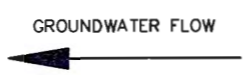




NOTE:  
DEEP PIEZOMETER MW-6D  
IGNORED DUE TO PERSISTENTLY  
LOW GROUND WATER ELEVATION



- KEY**
- = GEOPROBE LOCATIONS
  - ✕ = SOIL SAMPLE LOCATION
  - = SOIL BORING
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  - ⊗ = ABANDONED MONITORING WELLS
  - ⊕ = POTABLE WELLS
  - △ = 4" SUMP



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**PERRY'S CORNERS**  
DEEP PIEZOMETERS  
GROUNDWATER CONTOURS AUG. 25, 2016  
HANNIBAL, WISCONSIN

FIGURE NO.  
7



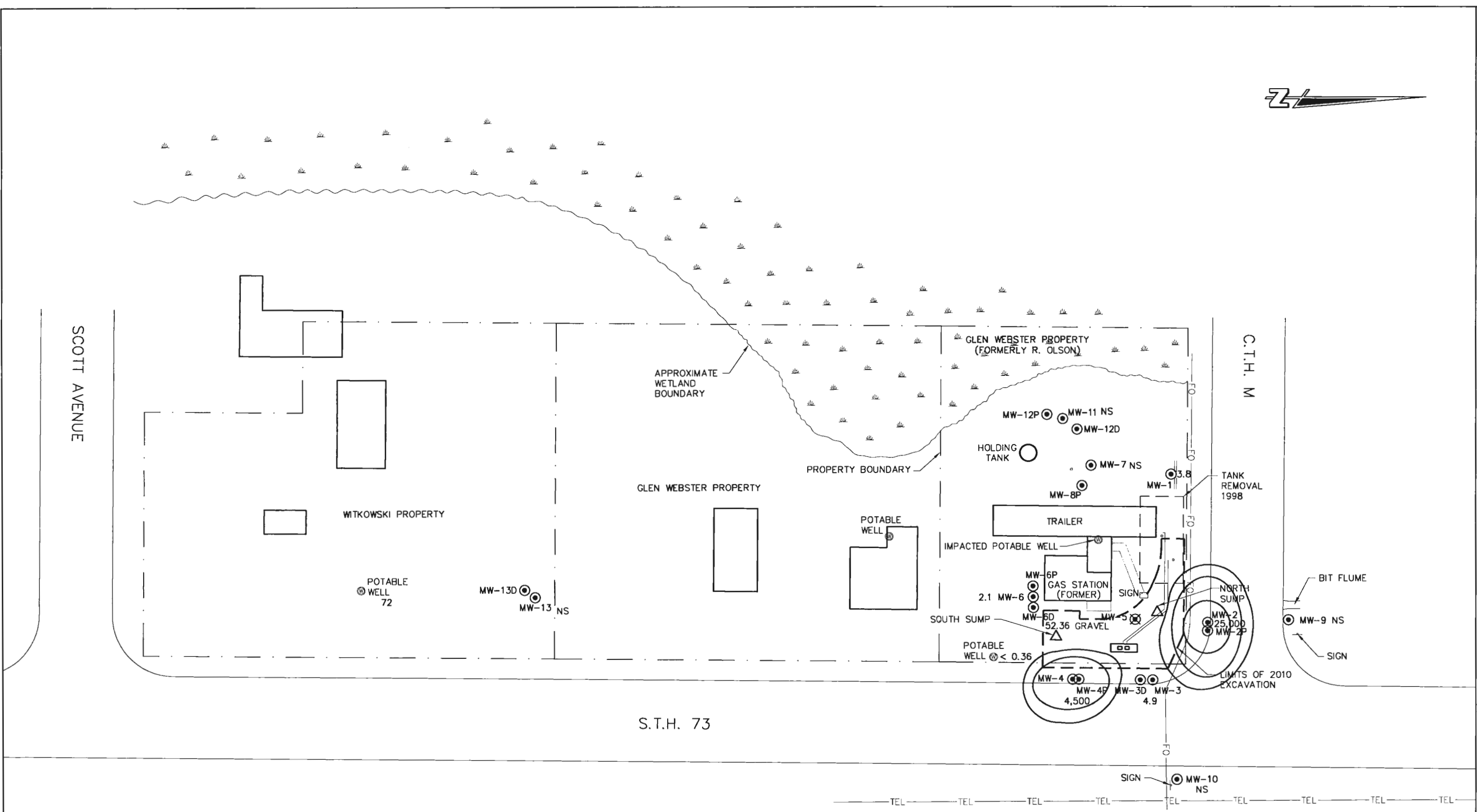
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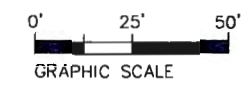
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△	= 4" SUMP



**PERRY'S CORNERS**  
BENZENE ISOCONCENTRATIONS  
AUGUST 25, 2016  
HANNIBAL, WISCONSIN

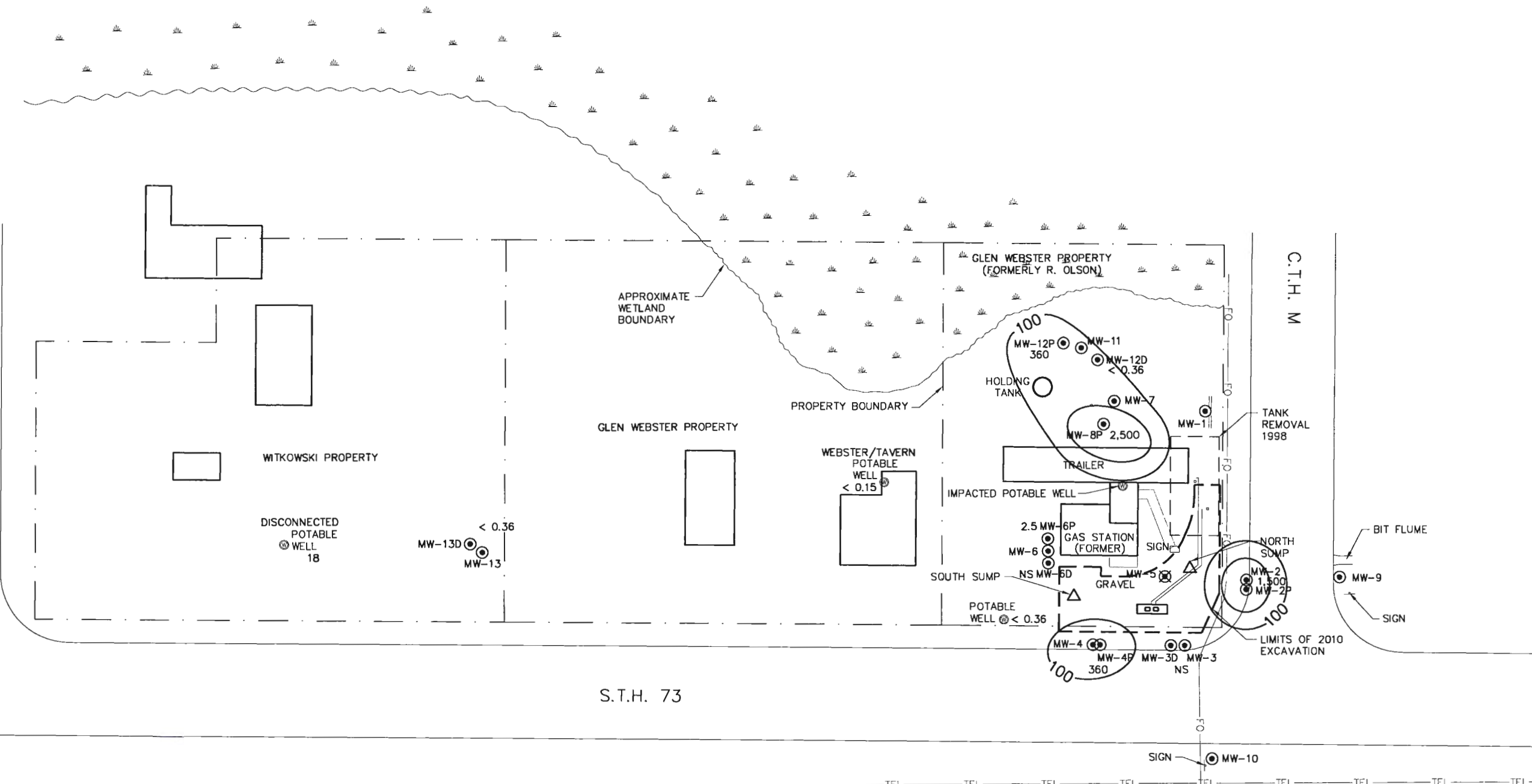
FIGURE NO.  
8



SCOTT AVENUE

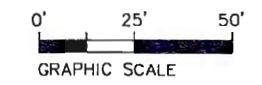
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S.T.H. 73



KEY

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PERRY'S CORNERS  
BENZENE ISOCONCENTRATIONS PIEZOMETERS  
AUGUST 25, 2016  
HANNIBAL, WISCONSIN

FIGURE NO  
9





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**MEMO**

604 Wilson Avenue  
Menomonie, WI 54751  
715-235-9081  
800-472-7372  
FAX 715-235-2727

**Date:** July 7, 2015  
**To:** Carrie Stoltz  
Department of Natural Resources  
107 Sutliff Avenue  
Rhinelander, WI 54501  
**From:** Josh Leable, Scott McCurdy  
**Regarding:** Olson's Corners Hydraulic Conductivity Testing  
BRRTS# 03-61-168823, PECFA ID 54433-9753-97  
For SOW approved 04-21-2015

Cedar Corporation has completed hydraulic conductivity testing of wells MW-2P, MW-3D, MW-4P, MW-6P, MW-6D, MW-8P, MW-12P, and MW-12D at Olson's Corners in Hannibal, WI. Hydraulic conductivity testing was conducted on June 25<sup>th</sup>, 2015 using the bail down method and a depth to water meter to obtain data. Originally, a pressure transducer and data collector were employed, but ultimately not used due to equipment failure. The collected data was entered into and interpreted with the Hvorslev method using AQTESOLV analysis software. Attempts to use the Bower and Rice method were not consistent. The results of the AQTESOLV analysis have been included in Attachment A and the hydraulic conductivities calculated for each well have been listed below. Tables of the data collected in the field have been included in Attachment B.

- MW-2P: 1.01 ft/day or 3.58E-4 cm/sec
- MW-3D: 0.033 ft/dy or 1.16E-5 cm/sec
- MW-4P: 2.72 ft/day or 9.59E-4 cm/sec
- MW-6P: 0.194 ft/day or 6.88E-5 cm/sec
- MW-6D: 0.011 ft/day or 3.95E-6 cm/sec
- MW-8P: 0.775 ft/day or 2.73E-4 cm/sec
- MW-12P: 0.445 ft/day or 1.57E-4 cm/sec
- MW-12D: 0.930 ft/day or 3.28E-4 cm/sec

Please do not hesitate to contact me at 715-235-9081 with any questions or comments you may have.

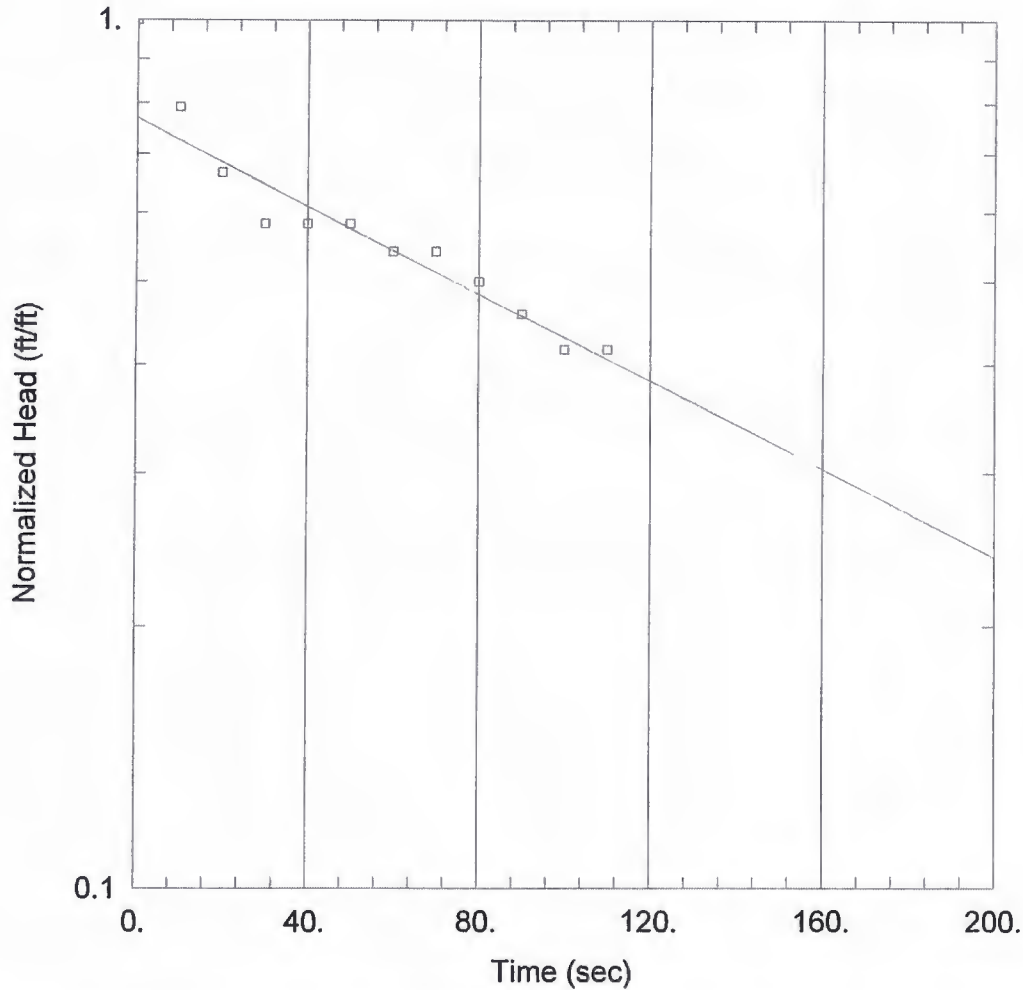
Yours truly,

CEDAR CORPORATION

Josh Leable

Cc: David Swimm, WDNR (via email)





### WELL TEST ANALYSIS

Data Set: I:\...MW-2P.aqt

Date: 07/06/15

Time: 15:48:07

### PROJECT INFORMATION

Company: Cedar Corporation

Client: Olson's Corners

Project: 04178-0005

Location: Hannibal, WI

Test Date: 6/25/2015

### AQUIFER DATA

Saturated Thickness: 63.03 ft

Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (MW-2P)

Initial Displacement: 0.24 ft

Static Water Column Height: 27.33 ft

Total Well Penetration Depth: 34.3 ft

Screen Length: 5. ft

Casing Radius: 0.08625 ft

Well Radius: 0.333 ft

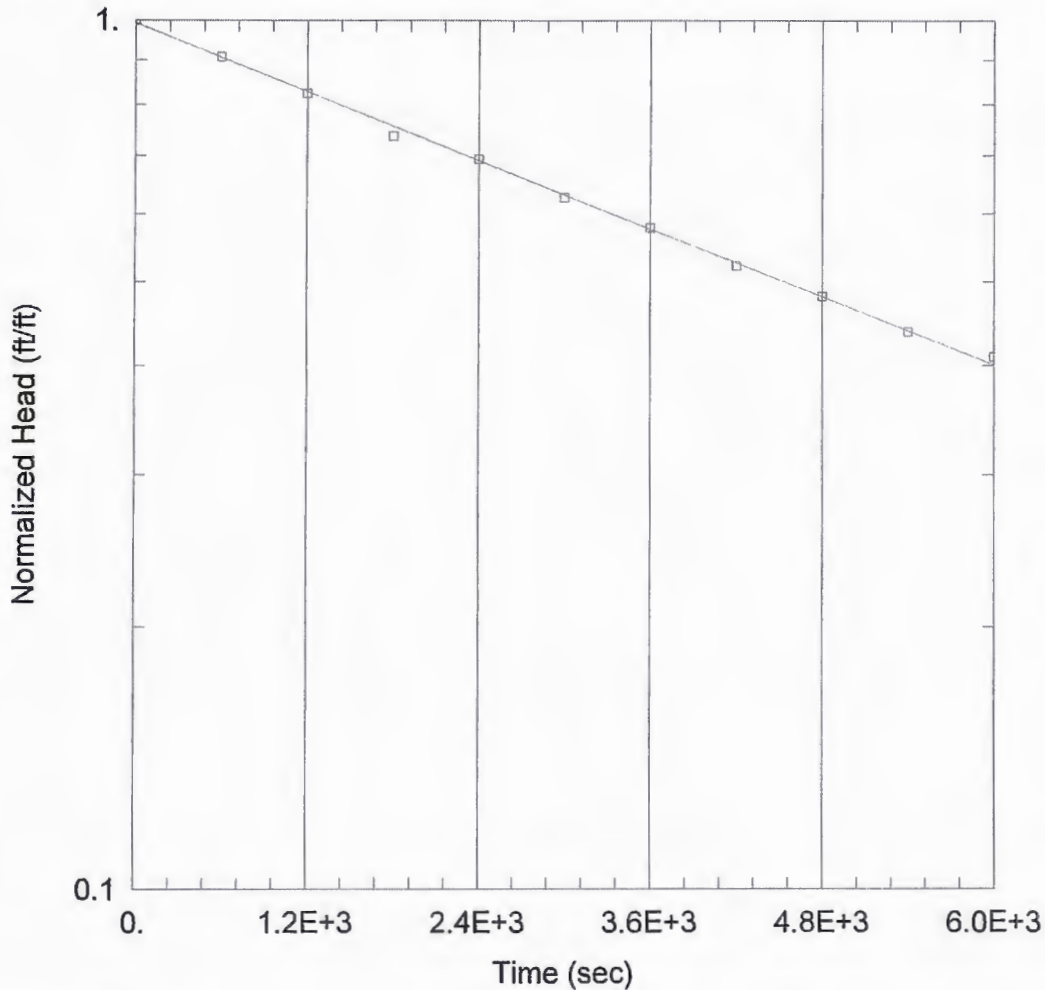
### SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

K = 1.014 ft/day

y0 = 0.1849 ft



### WELL TEST ANALYSIS

Data Set: I:\...MW-3D.aqt

Date: 07/06/15

Time: 14:22:28

### PROJECT INFORMATION

Company: Cedar Corporation

Client: Olson's Corners

Project: 04178-0005

Location: Hannibal, WI

Test Date: 6/25/2015

### AQUIFER DATA

Saturated Thickness: 82.23 ft

Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (MW-3D)

Initial Displacement: 3.91 ft

Static Water Column Height: 81.09 ft

Total Well Penetration Depth: 88.86 ft

Screen Length: 5. ft

Casing Radius: 0.08625 ft

Well Radius: 0.333 ft

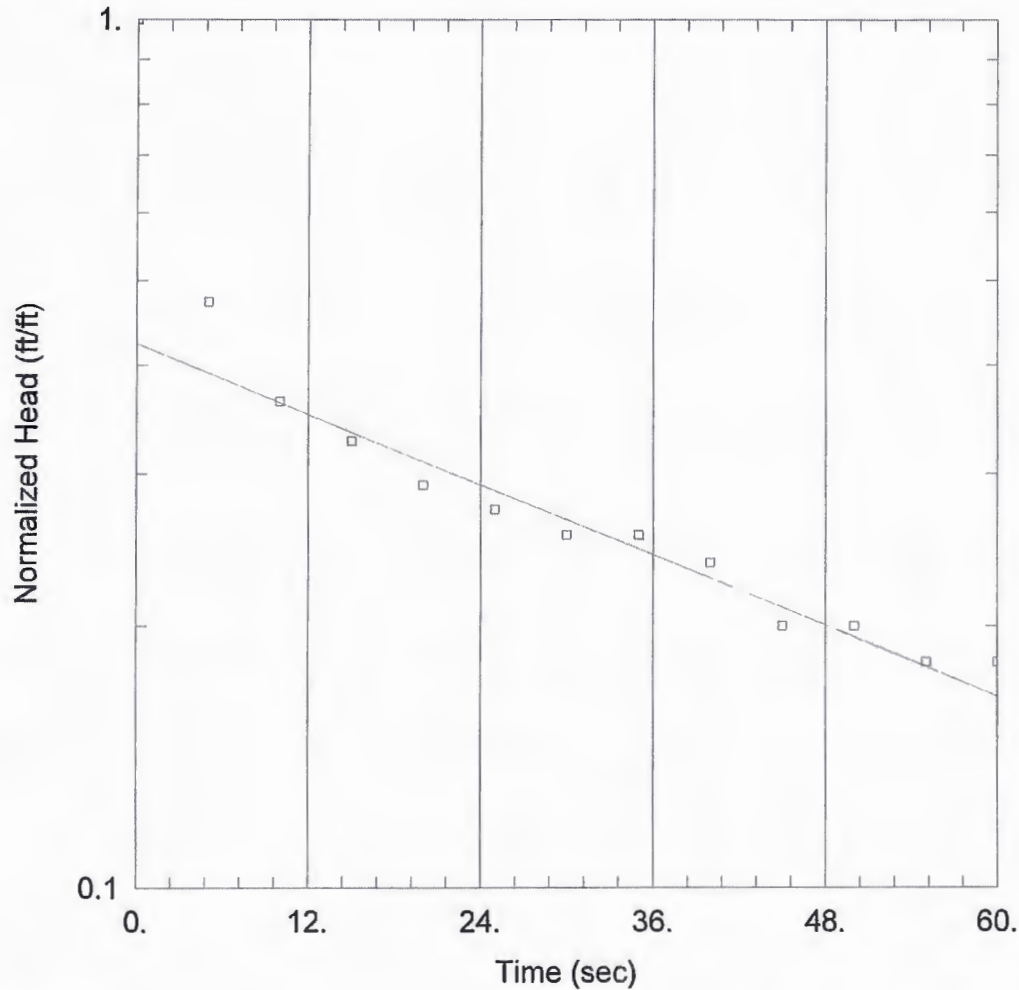
### SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

K = 0.03308 ft/day

y0 = 3.887 ft



WELL TEST ANALYSIS

Data Set: I:\...MW-4P.aqt

Date: 07/06/15

Time: 14:36:07

PROJECT INFORMATION

Company: Cedar Corporation

Client: Olson's Corners

Project: 04178-0005

Location: Hannibal, WI

Test Date: 6/25/2015

AQUIFER DATA

Saturated Thickness: 63.05 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-4P)

Initial Displacement: 0.55 ft

Static Water Column Height: 28.05 ft

Total Well Penetration Depth: 35. ft

Screen Length: 5. ft

Casing Radius: 0.08625 ft

Well Radius: 0.333 ft

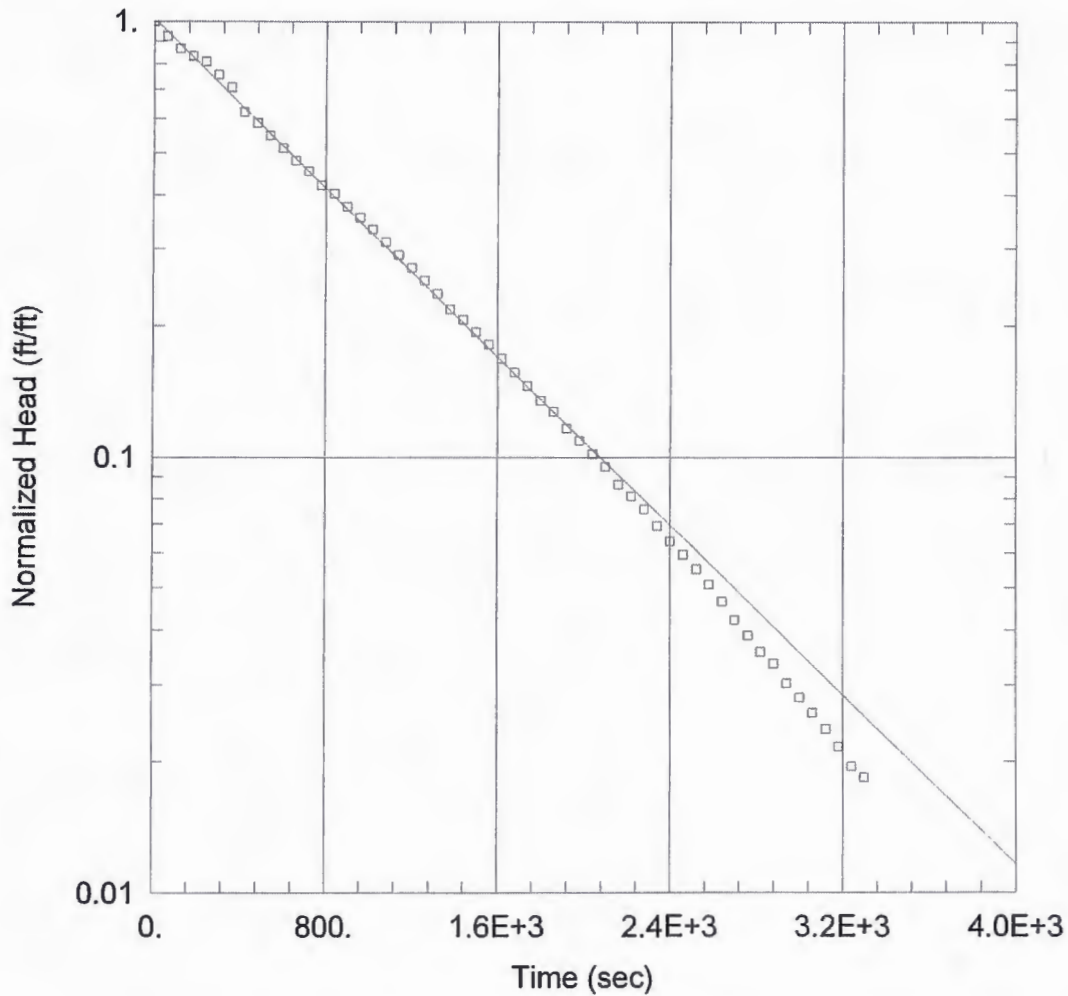
SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

K = 2.72 ft/day

y0 = 0.2332 ft



### WELL TEST ANALYSIS

Data Set: I:\...MW-6P.aqt

Date: 07/06/15

Time: 14:50:00

### PROJECT INFORMATION

Company: Cedar Corporation

Client: Olson's Corners

Project: 04178-0005

Location: Hannibal, WI

Test Date: 6/25/2015

### AQUIFER DATA

Saturated Thickness: 63.28 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (MW-6P)

Initial Displacement: 9.25 ft

Static Water Column Height: 28.28 ft

Total Well Penetration Depth: 35. ft

Screen Length: 5. ft

Casing Radius: 0.08625 ft

Well Radius: 0.333 ft

### SOLUTION

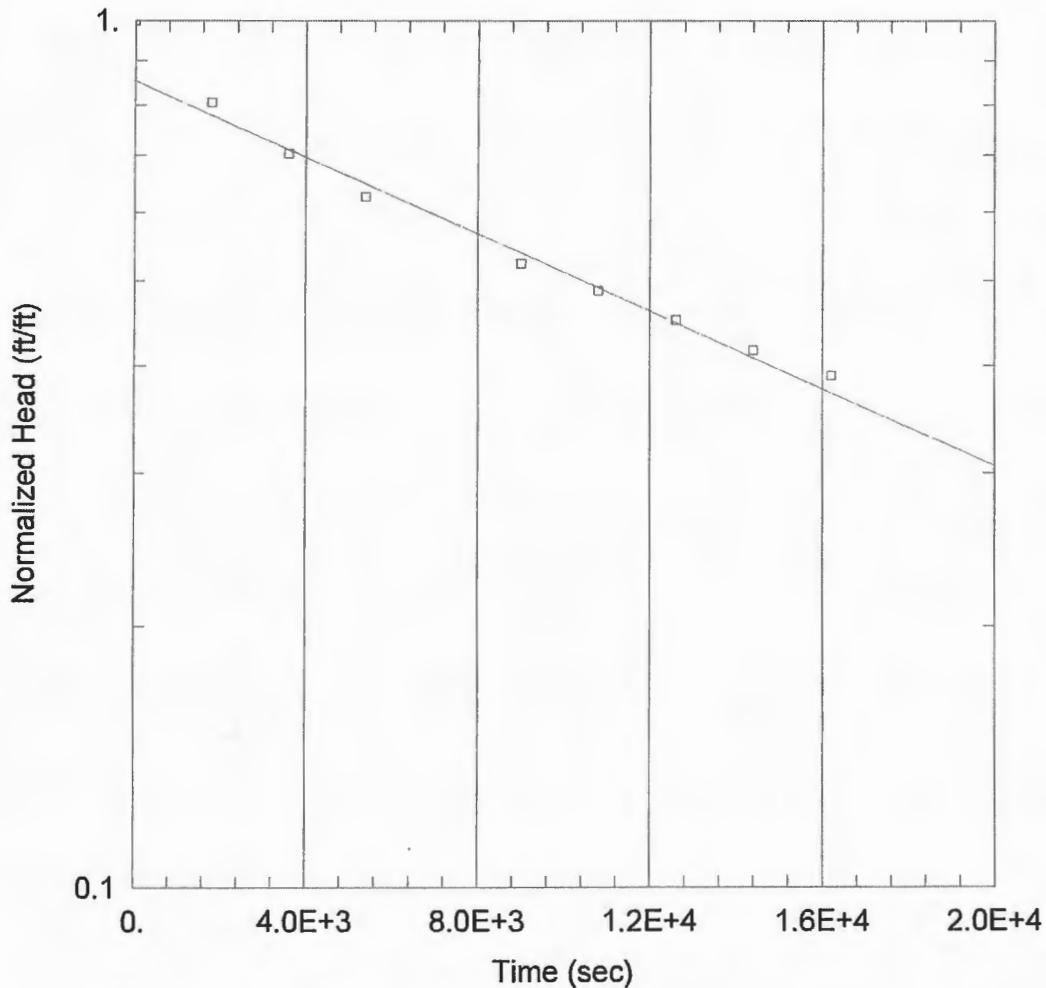
Aquifer Model: Unconfined

Solution Method: Hvorslev

$K =$  0.1948 ft/day

$y_0 =$  9.418 ft





### WELL TEST ANALYSIS

Data Set: I:\...MW-6D.aqt  
 Date: 07/06/15

Time: 15:03:34

### PROJECT INFORMATION

Company: Cedar Corporation  
 Client: Olson's Corners  
 Project: 04178-0005  
 Location: Hannibal, WI  
 Test Date: 6/25/2015

### AQUIFER DATA

Saturated Thickness: 69.96 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (MW-6D)

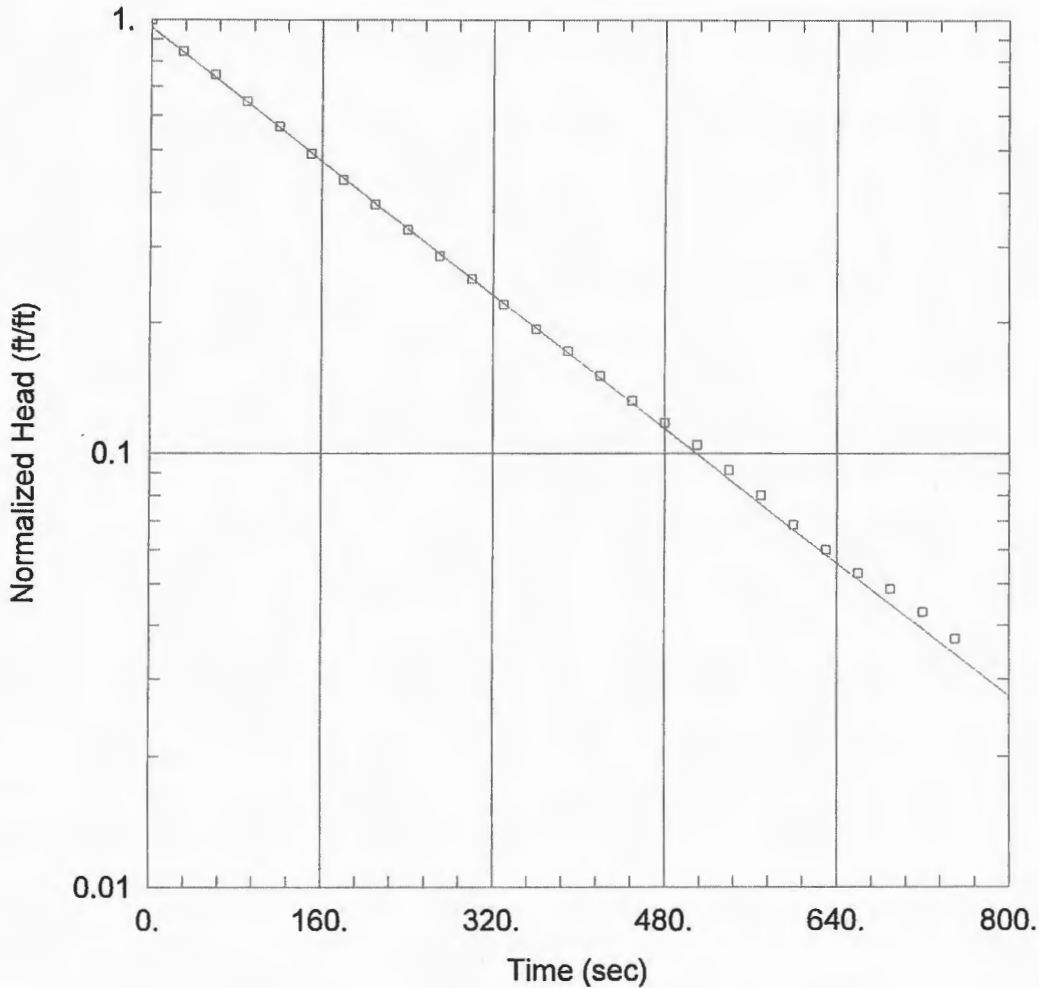
Initial Displacement: 7.78 ft  
 Total Well Penetration Depth: 70.15 ft  
 Casing Radius: 0.08625 ft

Static Water Column Height: 50.11 ft  
 Screen Length: 5. ft  
 Well Radius: 0.333 ft

### SOLUTION

Aquifer Model: Unconfined  
 $K =$  0.01122 ft/day

Solution Method: Hvorslev  
 $y_0 =$  6.654 ft



### WELL TEST ANALYSIS

Data Set: I:\...MW-8P.aqt

Date: 07/06/15

Time: 15:10:14

### PROJECT INFORMATION

Company: Cedar Corporation

Client: Olson's Corners

Project: 04178-0005

Location: Hannibal, WI

Test Date: 6/25/2015

### AQUIFER DATA

Saturated Thickness: 63.01 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (MW-8P)

Initial Displacement: 6.99 ft

Static Water Column Height: 28.01 ft

Total Well Penetration Depth: 35. ft

Screen Length: 5. ft

Casing Radius: 0.08625 ft

Well Radius: 0.333 ft

### SOLUTION

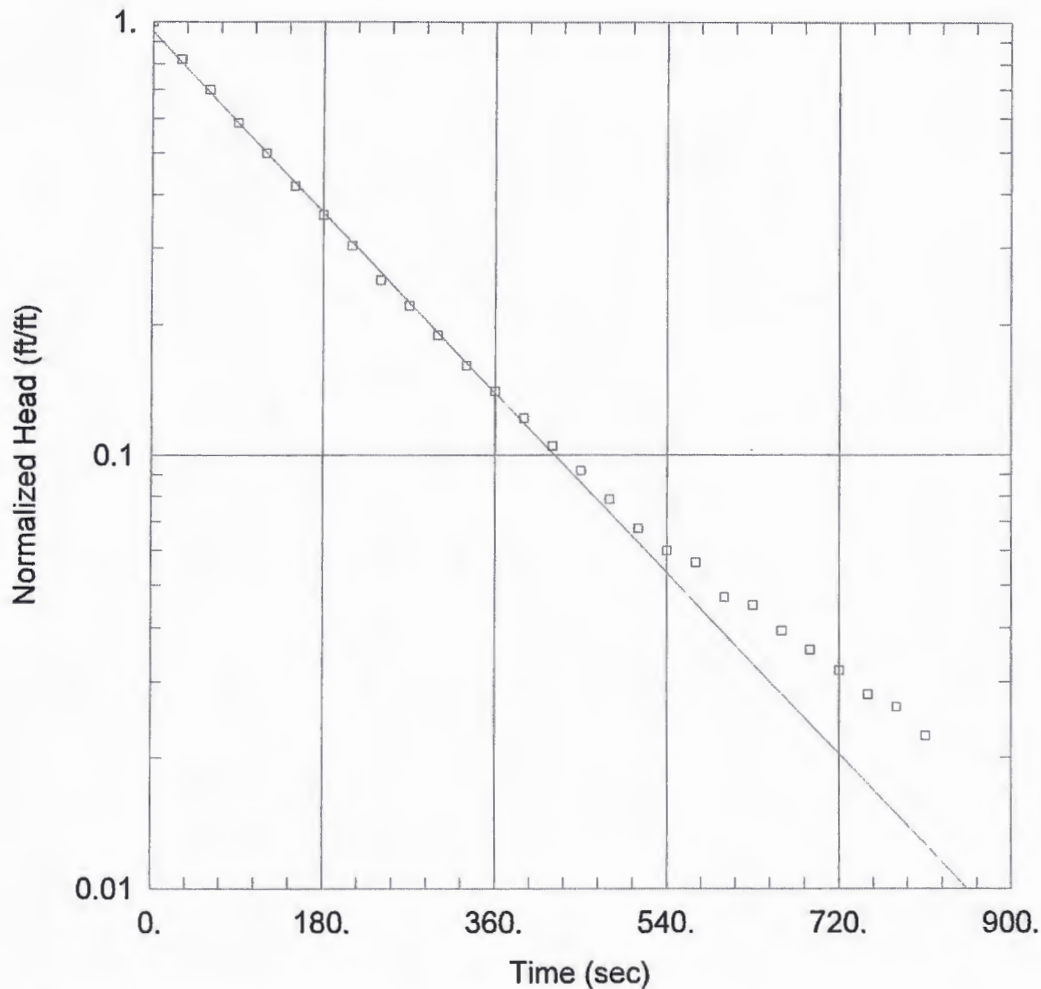
Aquifer Model: Unconfined

Solution Method: Hvorslev

$K = 0.7752$  ft/day

$y_0 = 6.74$  ft





### WELL TEST ANALYSIS

Data Set: I:\...MW-12P.aqt  
Date: 07/06/15

Time: 15:18:28

### PROJECT INFORMATION

Company: Cedar Corporation  
Client: Olson's Corners  
Project: 04178-0005  
Location: Hannibal, WI  
Test Date: 6/25/2015

### AQUIFER DATA

Saturated Thickness: 63.93 ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (MW-12P)

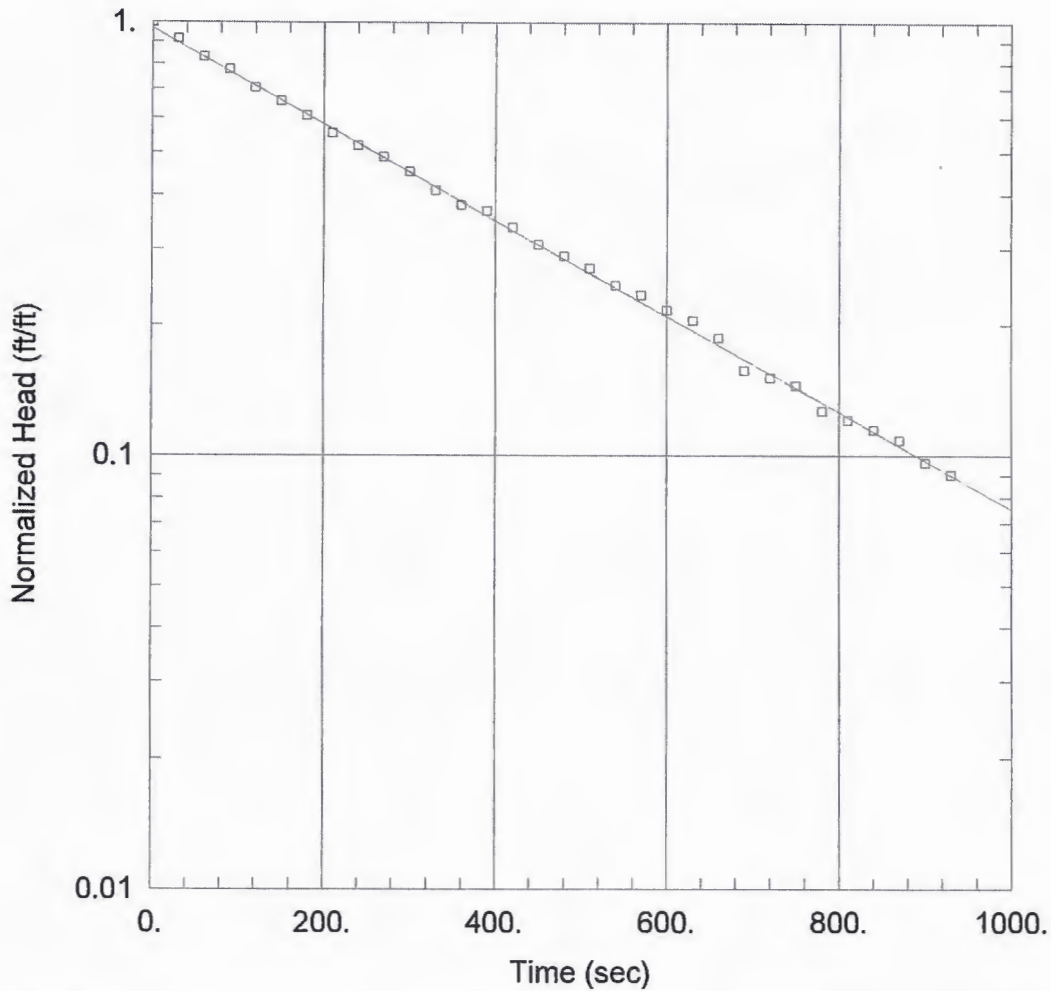
Initial Displacement: 5.33 ft  
Total Well Penetration Depth: 35. ft  
Casing Radius: 0.08625 ft

Static Water Column Height: 28.93 ft  
Screen Length: 5. ft  
Well Radius: 0.333 ft

### SOLUTION

Aquifer Model: Unconfined  
 $K =$  0.9302 ft/day

Solution Method: Hvorslev  
 $y_0 =$  5.082 ft



### WELL TEST ANALYSIS

Data Set: I:\...MW-12D.aqt

Date: 07/06/15

Time: 15:36:48

### PROJECT INFORMATION

Company: Cedar Corporation

Client: Olson's Corners

Project: 04178-0005

Location: Hannibal, WI

Test Date: 6/25/2015

### AQUIFER DATA

Saturated Thickness: 63.56 ft

Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (MW-12D)

Initial Displacement: 1.66 ft

Static Water Column Height: 48.11 ft

Total Well Penetration Depth: 54.55 ft

Screen Length: 5. ft

Casing Radius: 0.08625 ft

Well Radius: 0.333 ft

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

K = 0.4451 ft/day

y0 = 1.611 ft

**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-2P**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	$h/h_o$
Static Level	6.97		
0	7.21	0.24	1.000
10	7.16	0.19	0.792
20	7.13	0.16	0.667
30	7.11	0.14	0.583
40	7.11	0.14	0.583
50	7.11	0.14	0.583
60	7.10	0.13	0.542
70	7.10	0.13	0.542
80	7.09	0.12	0.500
90	7.08	0.11	0.458
100	7.07	0.10	0.417
110	7.07	0.10	0.417

**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-3D**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	$h/h_o$
Static Level	7.77		
0	11.68	3.91	1.000
600	11.32	3.55	0.908
1200	10.99	3.22	0.824
1800	10.65	2.88	0.737
2400	10.48	2.71	0.693
3000	10.22	2.45	0.627
3600	10.03	2.26	0.578
4200	9.81	2.04	0.522
4800	9.65	1.88	0.481
5400	9.48	1.71	0.437
6000	9.37	1.60	0.409

**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-4P**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	$h/h_0$
Static Level	6.95		
0	7.50	0.55	1.000
5	7.21	0.26	0.473
10	7.15	0.20	0.364
15	7.13	0.18	0.327
20	7.11	0.16	0.291
25	7.10	0.15	0.273
30	7.09	0.14	0.255
35	7.09	0.14	0.255
40	7.08	0.13	0.236
45	7.06	0.11	0.200
50	7.06	0.11	0.200
55	7.05	0.10	0.182
60	7.05	0.10	0.182

**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-6P**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	h/h <sub>0</sub>
Static Level	6.72		
0	15.97	9.25	1.000
60	15.28	8.56	0.925
120	14.74	8.02	0.867
180	14.44	7.72	0.835
240	14.21	7.49	0.810
300	13.72	7.00	0.757
360	13.27	6.55	0.708
420	12.47	5.75	0.622
480	12.15	5.43	0.587
540	11.80	5.08	0.549
600	11.47	4.75	0.514
660	11.17	4.45	0.481
720	10.92	4.20	0.454
780	10.62	3.90	0.422
840	10.45	3.73	0.403
900	10.20	3.48	0.376
960	10.00	3.28	0.355
1020	9.80	3.08	0.333
1080	9.60	2.88	0.311
1140	9.41	2.69	0.291
1200	9.23	2.51	0.271
1260	9.07	2.35	0.254
1320	8.91	2.19	0.237
1380	8.74	2.02	0.218
1440	8.63	1.91	0.206
1500	8.51	1.79	0.194
1560	8.40	1.68	0.182
1620	8.28	1.56	0.169
1680	8.17	1.45	0.157
1740	8.07	1.35	0.146
1800	7.97	1.25	0.135
1860	7.90	1.18	0.128
1920	7.80	1.08	0.117
1980	7.73	1.01	0.109
2040	7.66	0.94	0.102
2100	7.60	0.88	0.095
2160	7.52	0.80	0.086
2220	7.47	0.75	0.081
2280	7.42	0.70	0.076
2340	7.36	0.64	0.069
2400	7.31	0.59	0.064
2460	7.27	0.55	0.059
2520	7.23	0.51	0.055
2580	7.19	0.47	0.051
2640	7.15	0.43	0.046
2700	7.11	0.39	0.042
2760	7.08	0.36	0.039
2820	7.05	0.33	0.036
2880	7.03	0.31	0.034
2940	7.00	0.28	0.030
3000	6.98	0.26	0.028
3060	6.96	0.24	0.026
3120	6.94	0.22	0.024
3180	6.92	0.20	0.022
3240	6.90	0.18	0.019
3300	6.89	0.17	0.018



**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-6D**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	$h/h_0$
Static Level	20.04		
0	27.82	7.78	1.000
1800	26.31	6.27	0.806
3600	25.51	5.47	0.703
5400	24.91	4.87	0.626
7200			
9000	24.11	4.07	0.523
10800	23.83	3.79	0.487
12600	23.55	3.51	0.451
14400	23.28	3.24	0.416
16200	23.07	3.03	0.389

**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-8P**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	$h/h_0$
Static Level	8.51		
0	15.50	6.99	1.000
30	14.41	5.90	0.844
60	13.72	5.21	0.745
90	13.03	4.52	0.647
120	12.47	3.96	0.567
150	11.94	3.43	0.491
180	11.5	2.99	0.428
210	11.14	2.63	0.376
240	10.81	2.30	0.329
270	10.51	2.00	0.286
300	10.28	1.77	0.253
330	10.05	1.54	0.220
360	9.86	1.35	0.193
390	9.71	1.20	0.172
420	9.56	1.05	0.150
450	9.43	0.92	0.132
480	9.33	0.82	0.117
510	9.24	0.73	0.104
540	9.15	0.64	0.092
570	9.07	0.56	0.080
600	8.99	0.48	0.069
630	8.93	0.42	0.060
660	8.88	0.37	0.053
690	8.85	0.34	0.049
720	8.81	0.30	0.043
750	8.77	0.26	0.037

**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-12P**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	$h/h_0$
Static Level	6.07		
0	11.40	5.33	1.000
30	10.45	4.38	0.822
60	9.80	3.73	0.700
90	9.20	3.13	0.587
120	8.73	2.66	0.499
150	8.30	2.23	0.418
180	7.98	1.91	0.358
210	7.69	1.62	0.304
240	7.42	1.35	0.253
270	7.25	1.18	0.221
300	7.08	1.01	0.189
330	6.93	0.86	0.161
360	6.82	0.75	0.141
390	6.72	0.65	0.122
420	6.63	0.56	0.105
450	6.56	0.49	0.092
480	6.49	0.42	0.079
510	6.43	0.36	0.068
540	6.39	0.32	0.060
570	6.37	0.30	0.056
600	6.32	0.25	0.047
630	6.31	0.24	0.045
660	6.28	0.21	0.039
690	6.26	0.19	0.036
720	6.24	0.17	0.032
750	6.22	0.15	0.028
780	6.21	0.14	0.026
810	6.19	0.12	0.023

**Olson's Corners Slug Test Field Data**  
**June 25th, 2015**  
**MW-12D**

Elapsed Time (s)	Depth to Water (ft)	Change in Water Level h (ft)	h/h <sub>o</sub>
Static Level	6.44		
0	8.10	1.66	1.000
30	7.96	1.52	0.916
60	7.82	1.38	0.831
90	7.73	1.29	0.777
120	7.61	1.17	0.705
150	7.53	1.09	0.657
180	7.45	1.01	0.608
210	7.36	0.92	0.554
240	7.30	0.86	0.518
270	7.25	0.81	0.488
300	7.19	0.75	0.452
330	7.12	0.68	0.410
360	7.07	0.63	0.380
390	7.05	0.61	0.367
420	7.00	0.56	0.337
450	6.95	0.51	0.307
480	6.92	0.48	0.289
510	6.89	0.45	0.271
540	6.85	0.41	0.247
570	6.83	0.39	0.235
600	6.80	0.36	0.217
630	6.78	0.34	0.205
660	6.75	0.31	0.187
690	6.70	0.26	0.157
720	6.69	0.25	0.151
750	6.68	0.24	0.145
780	6.65	0.21	0.127
810	6.64	0.20	0.120
840	6.63	0.19	0.114
870	6.62	0.18	0.108
900	6.60	0.16	0.096
930	6.59	0.15	0.090



# 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: 500-97818-1  
Client Project/Site: Olson's Corner - 4178

For:  
Cedar Corporation  
604 Wilson Avenue  
Menomonie, Wisconsin 54751

Attn: Scott McCurdy



Authorized for release by:  
7/7/2015 6:05:58 PM

Sandie Fredrick, Project Manager II  
(920)261-1660  
sandie.fredrick@testamericainc.com

### LINKS

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

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

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## Case Narrative

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

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**Job ID: 500-97818-1**

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**Laboratory: TestAmerica Chicago**

### Narrative

**Job Narrative  
500-97818-1**

### Comments

No additional comments.

### Receipt

The samples were received on 6/25/2015 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.0° C.

### GC VOA

Method(s) WI-GRO: The method blank for analytical batch 490-261711 contained 1,1,5-Trimethylbenzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) WI-GRO: The closing continuing calibration verification (CCV) for TALS Analytical Batch 261711 recovered above the ICAL limit for all analytes. All affected samples have been selected to be repeated, and only the laboratory control sample duplicate (LCSD) associated with this CCV has been reported for this Batch, as it met quality control standards. Elevated carryover from saturated client samples is suspected to have contributed to those high recoveries. The following CCV is affected: (CCV 490-261711/53)

Method(s) WI-GRO: The continuing calibration verification (CCV) associated with batch 490-262183 recovered above the upper control limit for MTBE. The reported samples associated with this CCV were non-detects or not included in this analytical batch for MTBE; or were only associated with the reported laboratory control standard (LCS); therefore, the data have been reported. The following sample is impacted: (CCV 490-262183/4).

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

### VOA Prep

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



## Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

### Client Sample ID: MW-1

Lab Sample ID: 500-97818-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	170		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	27		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	56		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	220		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	15		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	52		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	14		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	270		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-2

Lab Sample ID: 500-97818-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	5100		250	150	ug/L	500		WDNR	Total/NA
1,3,5-Trimethylbenzene	1500		13	7.5	ug/L	25		WDNR	Total/NA
Benzene	19000		25	18	ug/L	50		WDNR	Total/NA
Ethylbenzene	3800		13	9.3	ug/L	25		WDNR	Total/NA
Methyl tert-butyl ether	290		2.5	1.2	ug/L	5		WDNR	Total/NA
Naphthalene	1600		25	12	ug/L	5		WDNR	Total/NA
Toluene	43000		250	170	ug/L	500		WDNR	Total/NA
Xylenes, Total	26000		750	290	ug/L	500		WDNR	Total/NA

### Client Sample ID: MW-2P

Lab Sample ID: 500-97818-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	61		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	4.9	B	0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	2800		13	9.0	ug/L	25		WDNR	Total/NA
Ethylbenzene	96		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	16		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	33		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	86		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	120		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-3

Lab Sample ID: 500-97818-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	49		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	14		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	28		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	120		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	32		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	20		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	4.7		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	88		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-4

Lab Sample ID: 500-97818-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	1500		2.5	1.5	ug/L	5		WDNR	Total/NA
1,3,5-Trimethylbenzene	650		2.5	1.5	ug/L	5		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

## Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

### Client Sample ID: MW-4 (Continued)

Lab Sample ID: 500-97818-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6300		13	9.0	ug/L	25		WDNR	Total/NA
Ethylbenzene	1300		2.5	1.9	ug/L	5		WDNR	Total/NA
Methyl tert-butyl ether	46		2.5	1.2	ug/L	5		WDNR	Total/NA
Naphthalene	570		130	60	ug/L	25		WDNR	Total/NA
Toluene	1700		13	8.3	ug/L	25		WDNR	Total/NA
Xylenes, Total	3900		38	15	ug/L	25		WDNR	Total/NA

### Client Sample ID: MW-4P

Lab Sample ID: 500-97818-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	8.8		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	2.2	B	0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	1700		5.0	3.6	ug/L	10		WDNR	Total/NA
Ethylbenzene	460		5.0	3.7	ug/L	10		WDNR	Total/NA
Methyl tert-butyl ether	13		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	47		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	41		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	81		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-6

Lab Sample ID: 500-97818-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	11		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	5.4		0.50	0.37	ug/L	1		WDNR	Total/NA
Naphthalene	20		5.0	2.4	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-6P

Lab Sample ID: 500-97818-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6.0		0.50	0.36	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	0.98		0.50	0.24	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-8P

Lab Sample ID: 500-97818-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	31		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	15	B	0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	5200		13	9.0	ug/L	25		WDNR	Total/NA
Ethylbenzene	530		13	9.3	ug/L	25		WDNR	Total/NA
Methyl tert-butyl ether	68		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	20		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	14		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	170		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-12P

Lab Sample ID: 500-97818-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	110		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	0.58		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	33		0.50	0.24	ug/L	1		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## Client Sample ID: MW-12P (Continued)

Lab Sample ID: 500-97818-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.41	J	0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	1.2	J	1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-12D

Lab Sample ID: 500-97818-11

No Detections.

## Client Sample ID: N. Sump

Lab Sample ID: 500-97818-12

No Detections.

## Client Sample ID: S. Sump

Lab Sample ID: 500-97818-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	5.6		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	1.2	B	0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	60		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	18		0.50	0.37	ug/L	1		WDNR	Total/NA
Toluene	1.3		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	50		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: Olson

Lab Sample ID: 500-97818-14

No Detections.

## Client Sample ID: Witkowski

Lab Sample ID: 500-97818-15

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	23		0.50	0.36	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	3.4		0.50	0.24	ug/L	1		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Method Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
WDNR	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	TAL NSH

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**Protocol References:**

WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Sample Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-97818-1	MW-1	Water	06/23/15 11:30	06/25/15 10:30
500-97818-2	MW-2	Water	06/23/15 15:30	06/25/15 10:30
500-97818-3	MW-2P	Water	06/23/15 15:00	06/25/15 10:30
500-97818-4	MW-3	Water	06/23/15 14:30	06/25/15 10:30
500-97818-5	MW-4	Water	06/23/15 13:30	06/25/15 10:30
500-97818-6	MW-4P	Water	06/23/15 14:00	06/25/15 10:30
500-97818-7	MW-6	Water	06/23/15 12:00	06/25/15 10:30
500-97818-8	MW-6P	Water	06/23/15 12:30	06/25/15 10:30
500-97818-9	MW-8P	Water	06/23/15 10:00	06/25/15 10:30
500-97818-10	MW-12P	Water	06/23/15 10:30	06/25/15 10:30
500-97818-11	MW-12D	Water	06/23/15 11:00	06/25/15 10:30
500-97818-12	N. Sump	Water	06/23/15 16:00	06/25/15 10:30
500-97818-13	S. Sump	Water	06/23/15 13:00	06/25/15 10:30
500-97818-14	Olson	Water	06/23/15 14:15	06/25/15 10:30
500-97818-15	Witkowski	Water	06/23/15 09:45	06/25/15 10:30

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: MW-1**

**Lab Sample ID: 500-97818-1**

Date Collected: 06/23/15 11:30

Matrix: Water

Date Received: 06/25/15 10:30

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	170		0.50	0.30	ug/L			07/03/15 15:57	1
1,3,5-Trimethylbenzene	27		0.50	0.30	ug/L			07/03/15 15:57	1
Benzene	56		0.50	0.36	ug/L			07/03/15 15:57	1
Ethylbenzene	220		0.50	0.37	ug/L			07/03/15 15:57	1
Methyl tert-butyl ether	15		0.50	0.24	ug/L			07/03/15 15:57	1
Naphthalene	52		5.0	2.4	ug/L			07/03/15 15:57	1
Toluene	14		0.50	0.33	ug/L			07/03/15 15:57	1
Xylenes, Total	270		1.5	0.58	ug/L			07/03/15 15:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	97		80-					07/03/15 15:57	1

**Client Sample ID: MW-2**

**Lab Sample ID: 500-97818-2**

Date Collected: 06/23/15 15:30

Matrix: Water

Date Received: 06/25/15 10:30

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	5100		250	150	ug/L			07/07/15 12:09	500
1,3,5-Trimethylbenzene	1500		13	7.5	ug/L			07/07/15 00:04	25
Benzene	19000		25	18	ug/L			07/07/15 00:47	50
Ethylbenzene	3800		13	9.3	ug/L			07/07/15 00:04	25
Methyl tert-butyl ether	290		2.5	1.2	ug/L			07/07/15 07:10	5
Naphthalene	1600		25	12	ug/L			07/07/15 07:10	5
Toluene	43000		250	170	ug/L			07/07/15 12:09	500
Xylenes, Total	26000		750	290	ug/L			07/07/15 12:09	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	110		80-					07/07/15 00:04	25
a,a,a-Trifluorotoluene	90		80-					07/07/15 00:47	50
a,a,a-Trifluorotoluene	118		80-					07/07/15 07:10	5
a,a,a-Trifluorotoluene	100		80-					07/07/15 12:09	500

**Client Sample ID: MW-2P**

**Lab Sample ID: 500-97818-3**

Date Collected: 06/23/15 15:00

Matrix: Water

Date Received: 06/25/15 10:30

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	61		0.50	0.30	ug/L			07/03/15 23:44	1
1,3,5-Trimethylbenzene	4.9	B	0.50	0.30	ug/L			07/03/15 23:44	1
Benzene	2800		13	9.0	ug/L			07/06/15 21:56	25
Ethylbenzene	96		0.50	0.37	ug/L			07/03/15 23:44	1
Methyl tert-butyl ether	16		0.50	0.24	ug/L			07/03/15 23:44	1
Naphthalene	33		5.0	2.4	ug/L			07/03/15 23:44	1
Toluene	86		0.50	0.33	ug/L			07/03/15 23:44	1
Xylenes, Total	120		1.5	0.58	ug/L			07/03/15 23:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	83		80-					07/03/15 23:44	1

TestAmerica Chicago



# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: MW-2P**

**Lab Sample ID: 500-97818-3**

Date Collected: 06/23/15 15:00

Matrix: Water

Date Received: 06/25/15 10:30

Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	104		80-		07/06/15 21:56	25

**Client Sample ID: MW-3**

**Lab Sample ID: 500-97818-4**

Date Collected: 06/23/15 14:30

Matrix: Water

Date Received: 06/25/15 10:30

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	49		0.50	0.30	ug/L			07/03/15 16:40	1
1,3,5-Trimethylbenzene	14		0.50	0.30	ug/L			07/03/15 16:40	1
Benzene	28		0.50	0.36	ug/L			07/03/15 16:40	1
Ethylbenzene	120		0.50	0.37	ug/L			07/03/15 16:40	1
Methyl tert-butyl ether	32		0.50	0.24	ug/L			07/03/15 16:40	1
Naphthalene	20		5.0	2.4	ug/L			07/03/15 16:40	1
Toluene	4.7		0.50	0.33	ug/L			07/03/15 16:40	1
Xylenes, Total	88		1.5	0.58	ug/L			07/03/15 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	92		80-		07/03/15 16:40	1

**Client Sample ID: MW-4**

**Lab Sample ID: 500-97818-5**

Date Collected: 06/23/15 13:30

Matrix: Water

Date Received: 06/25/15 10:30

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	1500		2.5	1.5	ug/L			07/07/15 07:52	5
1,3,5-Trimethylbenzene	650		2.5	1.5	ug/L			07/07/15 07:52	5
Benzene	6300		13	9.0	ug/L			07/07/15 01:29	25
Ethylbenzene	1300		2.5	1.9	ug/L			07/07/15 07:52	5
Methyl tert-butyl ether	46		2.5	1.2	ug/L			07/07/15 07:52	5
Naphthalene	570		130	60	ug/L			07/07/15 01:29	25
Toluene	1700		13	8.3	ug/L			07/07/15 01:29	25
Xylenes, Total	3900		38	15	ug/L			07/07/15 01:29	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		80-		07/07/15 01:29	25
a,a,a-Trifluorotoluene	98		80-		07/07/15 02:12	50
a,a,a-Trifluorotoluene	100		80-		07/07/15 07:52	5

**Client Sample ID: MW-4P**

**Lab Sample ID: 500-97818-6**

Date Collected: 06/23/15 14:00

Matrix: Water

Date Received: 06/25/15 10:30

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	8.8		0.50	0.30	ug/L			07/04/15 00:26	1
1,3,5-Trimethylbenzene	2.2	B	0.50	0.30	ug/L			07/04/15 00:26	1
Benzene	1700		5.0	3.6	ug/L			07/06/15 22:39	10
Ethylbenzene	460		5.0	3.7	ug/L			07/06/15 22:39	10

TestAmerica Chicago



# Client Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: MW-4P**

**Lab Sample ID: 500-97818-6**

Date Collected: 06/23/15 14:00

Matrix: Water

Date Received: 06/25/15 10:30

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	13		0.50	0.24	ug/L			07/04/15 00:26	1
Naphthalene	47		5.0	2.4	ug/L			07/04/15 00:26	1
Toluene	41		0.50	0.33	ug/L			07/04/15 00:26	1
Xylenes, Total	81		1.5	0.58	ug/L			07/04/15 00:26	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	93		80-					07/04/15 00:26	1
a,a,a-Trifluorotoluene	98		80-					07/06/15 22:39	10

**Client Sample ID: MW-6**

**Lab Sample ID: 500-97818-7**

Date Collected: 06/23/15 12:00

Matrix: Water

Date Received: 06/25/15 10:30

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/04/15 01:51	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/04/15 01:51	1
Benzene	11		0.50	0.36	ug/L			07/04/15 01:51	1
Ethylbenzene	5.4		0.50	0.37	ug/L			07/04/15 01:51	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/04/15 01:51	1
Naphthalene	20		5.0	2.4	ug/L			07/04/15 01:51	1
Toluene	<0.33		0.50	0.33	ug/L			07/04/15 01:51	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/04/15 01:51	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	94		80-					07/04/15 01:51	1

**Client Sample ID: MW-6P**

**Lab Sample ID: 500-97818-8**

Date Collected: 06/23/15 12:30

Matrix: Water

Date Received: 06/25/15 10:30

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 20:54	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 20:54	1
Benzene	6.0		0.50	0.36	ug/L			07/03/15 20:54	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/03/15 20:54	1
Methyl tert-butyl ether	0.98		0.50	0.24	ug/L			07/03/15 20:54	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 20:54	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 20:54	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 20:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	95		80-					07/03/15 20:54	1

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: MW-8P**

**Lab Sample ID: 500-97818-9**

Date Collected: 06/23/15 10:00

Matrix: Water

Date Received: 06/25/15 10:30

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	31		0.50	0.30	ug/L			07/03/15 21:37	1
1,3,5-Trimethylbenzene	15	B	0.50	0.30	ug/L			07/03/15 21:37	1
Benzene	5200		13	9.0	ug/L			07/06/15 23:21	25
Ethylbenzene	530		13	9.3	ug/L			07/06/15 23:21	25
Methyl tert-butyl ether	68		0.50	0.24	ug/L			07/03/15 21:37	1
Naphthalene	20		5.0	2.4	ug/L			07/03/15 21:37	1
Toluene	14		0.50	0.33	ug/L			07/03/15 21:37	1
Xylenes, Total	170		1.5	0.58	ug/L			07/03/15 21:37	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	85		80-					07/03/15 21:37	1
a,a,a-Trifluorotoluene	98		80-					07/06/15 23:21	25

**Client Sample ID: MW-12P**

**Lab Sample ID: 500-97818-10**

Date Collected: 06/23/15 10:30

Matrix: Water

Date Received: 06/25/15 10:30

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 13:06	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 13:06	1
Benzene	110		0.50	0.36	ug/L			07/03/15 13:06	1
Ethylbenzene	0.58		0.50	0.37	ug/L			07/03/15 13:06	1
Methyl tert-butyl ether	33		0.50	0.24	ug/L			07/03/15 13:06	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 13:06	1
Toluene	0.41	J	0.50	0.33	ug/L			07/03/15 13:06	1
Xylenes, Total	1.2	J	1.5	0.58	ug/L			07/03/15 13:06	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	101		80-					07/03/15 13:06	1

**Client Sample ID: MW-12D**

**Lab Sample ID: 500-97818-11**

Date Collected: 06/23/15 11:00

Matrix: Water

Date Received: 06/25/15 10:30

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 13:49	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 13:49	1
Benzene	<0.36		0.50	0.36	ug/L			07/03/15 13:49	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/03/15 13:49	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/03/15 13:49	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 13:49	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 13:49	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 13:49	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	97		80-					07/03/15 13:49	1

TestAmerica Chicago

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## Client Sample ID: N. Sump

Lab Sample ID: 500-97818-12

Date Collected: 06/23/15 16:00

Matrix: Water

Date Received: 06/25/15 10:30

### Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 22:19	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 22:19	1
Benzene	<0.36		0.50	0.36	ug/L			07/06/15 21:13	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/06/15 21:13	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/03/15 22:19	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 22:19	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 22:19	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 22:19	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	96		80-					07/03/15 22:19	1
a,a,a-Trifluorotoluene	102		80-					07/06/15 21:13	1

## Client Sample ID: S. Sump

Lab Sample ID: 500-97818-13

Date Collected: 06/23/15 13:00

Matrix: Water

Date Received: 06/25/15 10:30

### Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	5.6		0.50	0.30	ug/L			07/03/15 23:02	1
1,3,5-Trimethylbenzene	1.2	B	0.50	0.30	ug/L			07/03/15 23:02	1
Benzene	60		0.50	0.36	ug/L			07/03/15 23:02	1
Ethylbenzene	18		0.50	0.37	ug/L			07/03/15 23:02	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/03/15 23:02	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 23:02	1
Toluene	1.3		0.50	0.33	ug/L			07/03/15 23:02	1
Xylenes, Total	50		1.5	0.58	ug/L			07/03/15 23:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	94		80-					07/03/15 23:02	1

## Client Sample ID: Olson

Lab Sample ID: 500-97818-14

Date Collected: 06/23/15 14:15

Matrix: Water

Date Received: 06/25/15 10:30

### Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 14:32	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 14:32	1
Benzene	<0.36		0.50	0.36	ug/L			07/03/15 14:32	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/03/15 14:32	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/03/15 14:32	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 14:32	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 14:32	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 14:32	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	98		80-					07/03/15 14:32	1

# Client Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: Witkowski**

**Lab Sample ID: 500-97818-15**

Date Collected: 06/23/15 09:45

Matrix: Water

Date Received: 06/25/15 10:30

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 15:14	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 15:14	1
<b>Benzene</b>	<b>23</b>		0.50	0.36	ug/L			07/03/15 15:14	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/03/15 15:14	1
<b>Methyl tert-butyl ether</b>	<b>3.4</b>		0.50	0.24	ug/L			07/03/15 15:14	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 15:14	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 15:14	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 15:14	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	97		80 -					07/03/15 15:14	1



# Definitions/Glossary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

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## Qualifiers

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### GC VOA

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.
B	Compound was found in the blank and sample.

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## Glossary

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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: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## GC VOA

### Analysis Batch: 261711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97818-1	MW-1	Total/NA	Water	WDNR	
500-97818-3	MW-2P	Total/NA	Water	WDNR	
500-97818-4	MW-3	Total/NA	Water	WDNR	
500-97818-6	MW-4P	Total/NA	Water	WDNR	
500-97818-7	MW-6	Total/NA	Water	WDNR	
500-97818-8	MW-6P	Total/NA	Water	WDNR	
500-97818-9	MW-8P	Total/NA	Water	WDNR	
500-97818-10	MW-12P	Total/NA	Water	WDNR	
500-97818-11	MW-12D	Total/NA	Water	WDNR	
500-97818-12	N. Sump	Total/NA	Water	WDNR	
500-97818-13	S. Sump	Total/NA	Water	WDNR	
500-97818-14	Olson	Total/NA	Water	WDNR	
500-97818-15	Witkowski	Total/NA	Water	WDNR	
LCS 490-261711/2	Lab Control Sample	Total/NA	Water	WDNR	
LCS 490-261711/29	Lab Control Sample	Total/NA	Water	WDNR	
LCSD 490-261711/27	Lab Control Sample Dup	Total/NA	Water	WDNR	
LCSD 490-261711/51	Lab Control Sample Dup	Total/NA	Water	WDNR	
MB 490-261711/16	Method Blank	Total/NA	Water	WDNR	
MB 490-261711/3	Method Blank	Total/NA	Water	WDNR	
MB 490-261711/30	Method Blank	Total/NA	Water	WDNR	
MB 490-261711/42	Method Blank	Total/NA	Water	WDNR	

### Analysis Batch: 262183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97818-2	MW-2	Total/NA	Water	WDNR	
500-97818-2	MW-2	Total/NA	Water	WDNR	
500-97818-2	MW-2	Total/NA	Water	WDNR	
500-97818-2	MW-2	Total/NA	Water	WDNR	
500-97818-3	MW-2P	Total/NA	Water	WDNR	
500-97818-5	MW-4	Total/NA	Water	WDNR	
500-97818-5	MW-4	Total/NA	Water	WDNR	
500-97818-5	MW-4	Total/NA	Water	WDNR	
500-97818-6	MW-4P	Total/NA	Water	WDNR	
500-97818-9	MW-8P	Total/NA	Water	WDNR	
500-97818-12	N. Sump	Total/NA	Water	WDNR	
LCS 490-262183/5	Lab Control Sample	Total/NA	Water	WDNR	
LCSD 490-262183/31	Lab Control Sample Dup	Total/NA	Water	WDNR	
MB 490-262183/22	Method Blank	Total/NA	Water	WDNR	
MB 490-262183/7	Method Blank	Total/NA	Water	WDNR	

# Surrogate Summary

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

**Matrix: Water**

**Prep Type: Total/NA**

**Percent Surrogate Recovery (Acceptance Limits)**

Lab Sample ID	Client Sample ID	TFT (80-)
500-97818-1	MW-1	97
500-97818-2	MW-2	110
500-97818-2	MW-2	90
500-97818-2	MW-2	118
500-97818-2	MW-2	100
500-97818-3	MW-2P	83
500-97818-3	MW-2P	104
500-97818-4	MW-3	92
500-97818-5	MW-4	99
500-97818-5	MW-4	98
500-97818-5	MW-4	100
500-97818-6	MW-4P	93
500-97818-6	MW-4P	98
500-97818-7	MW-6	94
500-97818-8	MW-6P	95
500-97818-9	MW-8P	85
500-97818-9	MW-8P	98
500-97818-10	MW-12P	101
500-97818-11	MW-12D	97
500-97818-12	N. Sump	96
500-97818-12	N. Sump	102
500-97818-13	S. Sump	94
500-97818-14	Olson	98
500-97818-15	Witkowski	97
LCS 490-261711/2	Lab Control Sample	89
LCS 490-261711/29	Lab Control Sample	93
LCS 490-262183/5	Lab Control Sample	95
LCSD 490-261711/27	Lab Control Sample Dup	94
LCSD 490-261711/51	Lab Control Sample Dup	94
LCSD 490-262183/31	Lab Control Sample Dup	99
MB 490-261711/16	Method Blank	96
MB 490-261711/3	Method Blank	89
MB 490-261711/30	Method Blank	97
MB 490-261711/42	Method Blank	95
MB 490-262183/22	Method Blank	102
MB 490-262183/7	Method Blank	104

**Surrogate Legend**

TFT = a,a,a-Trifluorotoluene

# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

**Lab Sample ID: MB 490-261711/16**  
**Matrix: Water**  
**Analysis Batch: 261711**

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 09:33	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 09:33	1
Benzene	<0.36		0.50	0.36	ug/L			07/03/15 09:33	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/03/15 09:33	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/03/15 09:33	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 09:33	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 09:33	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 09:33	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	96		80 -					07/03/15 09:33	1

**Lab Sample ID: MB 490-261711/3**  
**Matrix: Water**  
**Analysis Batch: 261711**

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 00:42	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 00:42	1
Benzene	<0.36		0.50	0.36	ug/L			07/03/15 00:42	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/03/15 00:42	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/03/15 00:42	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 00:42	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 00:42	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 00:42	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	89		80 -					07/03/15 00:42	1

**Lab Sample ID: MB 490-261711/30**  
**Matrix: Water**  
**Analysis Batch: 261711**

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/03/15 19:30	1
1,3,5-Trimethylbenzene	0.319	J	0.50	0.30	ug/L			07/03/15 19:30	1
Benzene	<0.36		0.50	0.36	ug/L			07/03/15 19:30	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/03/15 19:30	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/03/15 19:30	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/03/15 19:30	1
Toluene	<0.33		0.50	0.33	ug/L			07/03/15 19:30	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/03/15 19:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	97		80 -					07/03/15 19:30	1

TestAmerica Chicago

# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: MB 490-261711/42

Matrix: Water

Analysis Batch: 261711

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/04/15 03:58	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/04/15 03:58	1
Benzene	0.771		0.50	0.36	ug/L			07/04/15 03:58	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/04/15 03:58	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/04/15 03:58	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/04/15 03:58	1
Toluene	<0.33		0.50	0.33	ug/L			07/04/15 03:58	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/04/15 03:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	95		80 -		07/04/15 03:58	1

Lab Sample ID: LCS 490-261711/2

Matrix: Water

Analysis Batch: 261711

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	100	104		ug/L		104	60 - 131
1,3,5-Trimethylbenzene	100	109		ug/L		109	70 - 130
Benzene	100	96.7		ug/L		97	69 - 129
Ethylbenzene	100	104		ug/L		104	70 - 130
Methyl tert-butyl ether	100	102		ug/L		102	57 - 138
m-Xylene & p-Xylene	200	211		ug/L		105	65 - 127
Naphthalene	100	101		ug/L		101	69 - 133
o-Xylene	100	102		ug/L		102	64 - 128
Toluene	100	100		ug/L		100	66 - 127
Xylenes, Total	300	313		ug/L		104	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	89		80 -

Lab Sample ID: LCS 490-261711/29

Matrix: Water

Analysis Batch: 261711

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	100	113		ug/L		113	60 - 131
1,3,5-Trimethylbenzene	100	118		ug/L		118	70 - 130
Benzene	100	108		ug/L		108	69 - 129
Ethylbenzene	100	113		ug/L		113	70 - 130
Methyl tert-butyl ether	100	118		ug/L		118	57 - 138
m-Xylene & p-Xylene	200	228		ug/L		114	65 - 127
Naphthalene	100	116		ug/L		116	69 - 133
o-Xylene	100	113		ug/L		113	64 - 128
Toluene	100	109		ug/L		109	66 - 127
Xylenes, Total	300	341		ug/L		114	

TestAmerica Chicago



# QC Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

**Lab Sample ID:** LCS 490-261711/29  
**Matrix:** Water  
**Analysis Batch:** 261711

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	93		80 -

**Lab Sample ID:** LCSD 490-261711/27  
**Matrix:** Water  
**Analysis Batch:** 261711

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
1,2,4-Trimethylbenzene	100	114		ug/L		114	60 - 131	9	43	
1,3,5-Trimethylbenzene	100	120		ug/L		120	70 - 130	9	20	
Benzene	100	110		ug/L		110	69 - 129	13	33	
Ethylbenzene	100	114		ug/L		114	70 - 130	9	35	
Methyl tert-butyl ether	100	118		ug/L		118	57 - 138	15	40	
m-Xylene & p-Xylene	200	229		ug/L		115	65 - 127	8	39	
Naphthalene	100	113		ug/L		113	69 - 133	11	48	
o-Xylene	100	113		ug/L		113	64 - 128	10	35	
Toluene	100	111		ug/L		111	66 - 127	10	34	
Xylenes, Total	300	342		ug/L		114		9		

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	94		80 -

**Lab Sample ID:** LCSD 490-261711/51  
**Matrix:** Water  
**Analysis Batch:** 261711

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
1,2,4-Trimethylbenzene	100	121		ug/L		121	60 - 131	7	43	
1,3,5-Trimethylbenzene	100	126		ug/L		126	70 - 130	7	20	
Benzene	100	124		ug/L		124	69 - 129	14	33	
Ethylbenzene	100	119		ug/L		119	70 - 130	5	35	
Methyl tert-butyl ether	100	129		ug/L		129	57 - 138	9	40	
m-Xylene & p-Xylene	200	242		ug/L		121	65 - 127	6	39	
Naphthalene	100	113		ug/L		113	69 - 133	3	48	
o-Xylene	100	118		ug/L		118	64 - 128	4	35	
Toluene	100	122		ug/L		122	66 - 127	11	34	
Xylenes, Total	300	360		ug/L		120		5		

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	94		80 -

**Lab Sample ID:** MB 490-262183/22  
**Matrix:** Water  
**Analysis Batch:** 262183

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

Analyte	MB MB		LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/07/15 06:27	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/07/15 06:27	1

TestAmerica Chicago



# QC Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: MB 490-262183/22  
Matrix: Water  
Analysis Batch: 262183

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.36		0.50	0.36	ug/L			07/07/15 06:27	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/07/15 06:27	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/07/15 06:27	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/07/15 06:27	1
Toluene	<0.33		0.50	0.33	ug/L			07/07/15 06:27	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/07/15 06:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	102		80 -		07/07/15 06:27	1

Lab Sample ID: MB 490-262183/7  
Matrix: Water  
Analysis Batch: 262183

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/06/15 18:28	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			07/06/15 18:28	1
Benzene	<0.36		0.50	0.36	ug/L			07/06/15 18:28	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			07/06/15 18:28	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			07/06/15 18:28	1
Naphthalene	<2.4		5.0	2.4	ug/L			07/06/15 18:28	1
Toluene	<0.33		0.50	0.33	ug/L			07/06/15 18:28	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			07/06/15 18:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	104		80 -		07/06/15 18:28	1

Lab Sample ID: LCS 490-262183/5  
Matrix: Water  
Analysis Batch: 262183

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	100	118		ug/L		118	60 - 131
1,3,5-Trimethylbenzene	100	124		ug/L		124	70 - 130
Benzene	100	113		ug/L		113	69 - 129
Ethylbenzene	100	118		ug/L		118	70 - 130
Methyl tert-butyl ether	100	128		ug/L		128	57 - 138
m-Xylene & p-Xylene	200	238		ug/L		119	65 - 127
Naphthalene	100	113		ug/L		113	69 - 133
o-Xylene	100	117		ug/L		117	64 - 128
Toluene	100	112		ug/L		112	66 - 127
Xylenes, Total	300	355		ug/L		118	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	95		80 -

TestAmerica Chicago

# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 490-262183/31

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 262183

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	100	116		ug/L		116	60 - 131	2	43
1,3,5-Trimethylbenzene	100	122		ug/L		122	70 - 130	1	20
Benzene	100	113		ug/L		113	69 - 129	0	33
Ethylbenzene	100	116		ug/L		116	70 - 130	1	35
Methyl tert-butyl ether	100	121		ug/L		121	57 - 138	6	40
m-Xylene & p-Xylene	200	236		ug/L		118	65 - 127	1	39
Naphthalene	100	116		ug/L		116	69 - 133	2	48
o-Xylene	100	116		ug/L		116	64 - 128	0	35
Toluene	100	111		ug/L		111	66 - 127	1	34
Xylenes, Total	300	352		ug/L		117		1	

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
a,a,a-Trifluorotoluene	99		80 -

# Lab Chronicle

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: MW-1**

**Lab Sample ID: 500-97818-1**

Date Collected: 06/23/15 11:30

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 15:57	AMC	TAL NSH

**Client Sample ID: MW-2**

**Lab Sample ID: 500-97818-2**

Date Collected: 06/23/15 15:30

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		25	262183	07/07/15 00:04	AMC	TAL NSH
Total/NA	Analysis	WDNR		50	262183	07/07/15 00:47	AMC	TAL NSH
Total/NA	Analysis	WDNR		5	262183	07/07/15 07:10	AMC	TAL NSH
Total/NA	Analysis	WDNR		500	262183	07/07/15 12:09	AMC	TAL NSH

**Client Sample ID: MW-2P**

**Lab Sample ID: 500-97818-3**

Date Collected: 06/23/15 15:00

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 23:44	AMC	TAL NSH
Total/NA	Analysis	WDNR		25	262183	07/06/15 21:56	AMC	TAL NSH

**Client Sample ID: MW-3**

**Lab Sample ID: 500-97818-4**

Date Collected: 06/23/15 14:30

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 16:40	AMC	TAL NSH

**Client Sample ID: MW-4**

**Lab Sample ID: 500-97818-5**

Date Collected: 06/23/15 13:30

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		25	262183	07/07/15 01:29	AMC	TAL NSH
Total/NA	Analysis	WDNR		50	262183	07/07/15 02:12	AMC	TAL NSH
Total/NA	Analysis	WDNR		5	262183	07/07/15 07:52	AMC	TAL NSH

# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: MW-4P**

Date Collected: 06/23/15 14:00

Date Received: 06/25/15 10:30

**Lab Sample ID: 500-97818-6**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/04/15 00:26	AMC	TAL NSH
Total/NA	Analysis	WDNR		10	262183	07/06/15 22:39	AMC	TAL NSH

**Client Sample ID: MW-6**

Date Collected: 06/23/15 12:00

Date Received: 06/25/15 10:30

**Lab Sample ID: 500-97818-7**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/04/15 04:54	AMC	TAL NSH

**Client Sample ID: MW-6P**

Date Collected: 06/23/15 12:30

Date Received: 06/25/15 10:30

**Lab Sample ID: 500-97818-8**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 20:54	AMC	TAL NSH

**Client Sample ID: MW-8P**

Date Collected: 06/23/15 10:00

Date Received: 06/25/15 10:30

**Lab Sample ID: 500-97818-9**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 21:37	AMC	TAL NSH
Total/NA	Analysis	WDNR		25	262183	07/06/15 23:21	AMC	TAL NSH

**Client Sample ID: MW-12P**

Date Collected: 06/23/15 10:30

Date Received: 06/25/15 10:30

**Lab Sample ID: 500-97818-10**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 13:06	AMC	TAL NSH

**Client Sample ID: MW-12D**

Date Collected: 06/23/15 11:00

Date Received: 06/25/15 10:30

**Lab Sample ID: 500-97818-11**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 13:49	AMC	TAL NSH

TestAmerica Chicago



# Lab Chronicle

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

**Client Sample ID: N. Sump**

**Lab Sample ID: 500-97818-12**

Date Collected: 06/23/15 16:00

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 22:19	AMC	TAL NSH
Total/NA	Analysis	WDNR		1	262183	07/06/15 21:13	AMC	TAL NSH

**Client Sample ID: S. Sump**

**Lab Sample ID: 500-97818-13**

Date Collected: 06/23/15 13:00

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 23:02	AMC	TAL NSH

**Client Sample ID: Olson**

**Lab Sample ID: 500-97818-14**

Date Collected: 06/23/15 14:15

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 14:32	AMC	TAL NSH

**Client Sample ID: Witkowski**

**Lab Sample ID: 500-97818-15**

Date Collected: 06/23/15 09:45

Matrix: Water

Date Received: 06/25/15 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	261711	07/03/15 15:14	AMC	TAL NSH

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



# Certification Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-97818-1

## 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	08-31-15 *

## Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	998020430	08-31-15

\* Certification renewal pending - certification considered valid.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


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

Report To: (optional) Scott McCurdy  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

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

## Chain of Custody Record

Lab Job #: 500-97818  
 Chain of Custody Number: \_\_\_\_\_  
 Page 1 of 2  
 Temperature °C of Cooler: 6.0

Lab ID		MS/MSD	Sample ID	Sampling		# of Containers	Matrix	Preservative	Parameter	Comments
			Date	Time						
Client		Cedar Corp.		Client Project #		4178		Preservative		Preservative Key  500-97818 COC
Project Name		Olson's Corner		Lab Project #				P VOC + Naph.	Parameter	
Project Location/State		Hannibal, WI		Lab PM						
Sampler		Sandie Fredrick								
1		MW-1	6/23/15	1130	2	W	X			
2		MW-2	6/23/15	1530	2	W	X			
3		MW-2P	6/23/15	1500	2	W	X			
4		MW-3	6/23/15	1430	2	W	X			
5		MW-4	6/23/15	1330	2	W	X			
6		MW-4P	6/23/15	1400	2	W	X			
7		MW-6	6/23/15	1200	2	W	X			
8		MW-6P	6/23/15	1230	2	W	X			
9		MW-8P	6/23/15	1000	2	W	X			
10		MW-12P	6/23/15	10:30	2	W	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	Company	Date	Time	Received By	Company	Date	Time
Max King	Cedar Corp.	6/23/15	11:40	[Signature]	TAL	6/25/15	1030
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: \_\_\_\_\_  
 Shipped: \_\_\_\_\_  
 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: Scott McCurdy (optional)  
 Contact: [Signature]  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_  
 Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-97818  
 Chain of Custody Number: \_\_\_\_\_  
 Page 2 of 2  
 Temperature °C of Cooler: 6.0

Client		Client Project #		Preservative																Preservative Key	
Cedar Corp.		4178																		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																Comments	
Olson's Corner		4		PVOCT Naph.																	
Project Location/State		Lab PM																			
Hannibal, WI		Sandie Fredrick																			
Sampler																					
Lab ID	MSMSD	Sample ID		Sampling		# of Containers	Matrix														
		Date	Time																		
11		MW-12D	6/23/15	1100	2	W	X														
12		N. Sump	6/23/15	1600	2	W	X														
13		S. Sump	6/23/15	1300	2	W	X														
14		Olson	6/23/15	1415	2	DW	X														
15		Witkowski	6/23/15	945	2	DW	X														

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: <u>MacKenzie Supply Cedar Corp.</u> Company Date: <u>6/23/15</u> Time: <u>1640</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>06/25/15</u> Time: <u>1030</u>	Lab Courier: _____
Relinquished By: _____ Company Date: _____ Time: _____	Received By: _____ Company Date: _____ Time: _____	Shipped: _____
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: \_\_\_\_\_



**TestAmerica Chicago**

2417 Bond Street  
 University Park, IL 60484  
 Phone (708) 534-5200 Fax (708) 534-5211

**Chain of Custody Record**



**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information (Sub Contract Lab)</b>	Sampler: Fredrick, Sandie J	Lab PM: Fredrick, Sandie J	Carrier Tracking No(s):	COC No: 500-62606.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 1 of 2

Company: TestAmerica Laboratories, Inc	<b>Analysis Requested</b>			Job #: 500-97818-1		
Address: 2960 Foster Creighton Drive, City: Nashville State, Zip: TN, 37204 Phone: 615-726-0177(Tel) 615-726-3404(Fax) Email:	Due Date Requested: 7/7/2015 TAT Requested (days):	<table border="1"> <tr><td>Field Filtered Sample (Yes or No)</td><td>WL_GRC05030B (MOD) WISC PVOC + Nap</td></tr> </table>		Field Filtered Sample (Yes or No)	WL_GRC05030B (MOD) WISC PVOC + Nap	<b>Preservation Codes:</b> A - HCL                    M - Hexane B - NaOH                 N - None C - Zn Acetate         O - AsNaO2 D - Nitric Acid         P - Na2O4S E - NaHSO4             Q - Na2SO3 F - MeOH                R - Na2S2SO3 G - Amchlor            S - H2SO4 H - Ascorbic Acid     T - TSP Dodecahydrate I - Ice                    U - Acetone J - DI Water            V - MCAA K - EDTA                W - ph 4-5 L - EDA                 Z - other (specify)
Field Filtered Sample (Yes or No)	WL_GRC05030B (MOD) WISC PVOC + Nap					
Project Name: Olson's Comer - 4178 Site:	Project #: 50006556 SSOW#:			Other:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	WL_GRC05030B (MOD) WISC PVOC + Nap	Total Number of Containers	Special Instructions/Note:
MW-1 (500-97818-1)	6/23/15	11:30 Central		Water	X		2	
MW-2 (500-97818-2)	6/23/15	15:30 Central		Water	X		2	
MW-2P (500-97818-3)	6/23/15	15:00 Central		Water	X		2	
MW-3 (500-97818-4)	6/23/15	14:30 Central		Water	X		2	
MW-4 (500-97818-5)	6/23/15	13:30 Central		Water	X		2	
MW-4P (500-97818-6)	6/23/15	14:00 Central		Water	X		2	
MW-6 (500-97818-7)	6/23/15	12:00 Central		Water	X		2	
MW-6P (500-97818-8)	6/23/15	12:30 Central		Water	X		2	
MW-8P (500-97818-9)	6/23/15	10:00 Central		Water	X		2	
MW-12P (500-97818-10)	6/23/15	10:30 Central		Water	X		2	
MW-12D (500-97818-11)	6/23/15	11:00 Central		Water	X		2	

<b>Possible Hazard Identification</b> Unconfirmed	<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month )</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	Date/Time: 6/25/15 1600	Company: TAN	Received by: <i>[Signature]</i> Date/Time: 6/26/15 8:45 Company: TAN
Relinquished by:	Date/Time:	Company:	Received by:
Relinquished by:	Date/Time:	Company:	Received by:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.9
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7/7/2015

TestAmerica Chicago

2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record



Main form containing client information, analysis requested details, sample identification table with columns for Sample Date, Sample Time, Sample Type, Matrix, and Preservation Code. Includes sections for Possible Hazard Identification, Sample Disposal, and Empty Kit Relinquished by.

Page 30 of 33

7/7/2015

Loc: 500
97818

Cooler Temperature(s) °C and Other Remarks: 2.9



**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING  
 Nashville, TN

**COOLER RECEIPT FORM**

Loc: 500  
97818

Cooler Received/Opened On 6/26/2015 @ 0845

1. Tracking # 7312 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 2.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler?  YES...NO...NA

If yes, how many and where: front

5. Were the seals intact, signed, and dated correctly?  YES...NO...NA

6. Were custody papers inside cooler?  YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) MS

7. Were custody seals on containers: YES  NO and intact YES...NO... NA

Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used?  Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process:  Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA

12. Did all container labels and tags agree with custody papers?  YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES... NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) ADH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO... NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO... NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) ADH

17. Were custody papers properly filled out (ink, signed, etc)?  YES...NO...NA

18. Did you sign the custody papers in the appropriate place?  YES...NO...NA

19. Were correct containers used for the analysis requested?  YES...NO...NA

20. Was sufficient amount of sample sent in each container?  YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) ADH

I certify that I attached a label with the unique LIMS number to each container (initial) ADH

21. Were there Non-Conformance issues at login? YES... NO...# Was a NCM generated? YES... NO...#

## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-97818-1

**Login Number: 97818**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

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	6.0c
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 <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.	True	

## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-97818-1

Login Number: 97818  
List Number: 2  
Creator: Huskey, Adam

List Source: TestAmerica Nashville  
List Creation: 06/26/15 11:51 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	N/A	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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: 500-104388-1  
Client Project/Site: Olson's Corner - 4178

For:  
Cedar Corporation  
604 Wilson Avenue  
Menomonie, Wisconsin 54751

Attn: Scott McCurdy



Authorized for release by:  
12/4/2015 4:48:43 PM

Sandie Fredrick, Project Manager II  
(920)261-1660  
sandie.fredrick@testamericainc.com

### LINKS

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*The test results in this report meet all 2003 NELAP 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: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

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**Job ID: 500-104388-1**

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**Laboratory: TestAmerica Chicago**

**Narrative**

---

**Job Narrative**  
**500-104388-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 11/21/2015 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

**Receipt Exceptions**

Received 1 vial for sample 4 with larger than pea size bubble.

**GC VOA**

Method(s) WI-GRO: Surrogate recovery for the following samples was outside control limits: MW-2 (500-104388-2), MW-3 (500-104388-4), MW-4P (500-104388-6), MW-8P (500-104388-9) and MW-12P (500-104388-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) WI-GRO: Data is reported with E- Flags due to insufficient holding time remaining. MW-3 (500-104388-4) and MW-8P (500-104388-9)

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

**VOA Prep**

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

## Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

### Client Sample ID: MW-1

### Lab Sample ID: 500-104388-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	13		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	2.6		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	4.1		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	17		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	20		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	16		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	2.4		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	18		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-2

### Lab Sample ID: 500-104388-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	7500		50	30	ug/L	100		WDNR	Total/NA
1,3,5-Trimethylbenzene	1800		50	30	ug/L	100		WDNR	Total/NA
Benzene	16000		50	36	ug/L	100		WDNR	Total/NA
Ethylbenzene	4600		50	37	ug/L	100		WDNR	Total/NA
Methyl tert-butyl ether	980		50	24	ug/L	100		WDNR	Total/NA
Naphthalene	3300		500	240	ug/L	100		WDNR	Total/NA
Toluene	92000		500	330	ug/L	1000		WDNR	Total/NA
Xylenes, Total	31000		150	58	ug/L	100		WDNR	Total/NA

### Client Sample ID: MW-2P

### Lab Sample ID: 500-104388-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2.2		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	0.57		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	33		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	3.3		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	1.3		0.50	0.24	ug/L	1		WDNR	Total/NA
Toluene	2.4		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	4.1		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-3

### Lab Sample ID: 500-104388-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	310	E	0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	86		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	60		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	62		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	98		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	94		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	13		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	310		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-4

### Lab Sample ID: 500-104388-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	1000		5.0	3.0	ug/L	10		WDNR	Total/NA
1,3,5-Trimethylbenzene	520		5.0	3.0	ug/L	10		WDNR	Total/NA
Benzene	3300		5.0	3.6	ug/L	10		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

## Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

### Client Sample ID: MW-4 (Continued)

Lab Sample ID: 500-104388-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	540		5.0	3.7	ug/L	10		WDNR	Total/NA
Methyl tert-butyl ether	72		5.0	2.4	ug/L	10		WDNR	Total/NA
Naphthalene	1000		50	24	ug/L	10		WDNR	Total/NA
Toluene	710		5.0	3.3	ug/L	10		WDNR	Total/NA
Xylenes, Total	2100		15	5.8	ug/L	10		WDNR	Total/NA

### Client Sample ID: MW-4P

Lab Sample ID: 500-104388-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	4.8		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	4.5		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	140		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	63		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	16		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	20		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	17		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	17		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-6

Lab Sample ID: 500-104388-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2.8		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	3.1		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	3.0		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	6.7		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	0.42	J	0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	91		5.0	2.4	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-6P

Lab Sample ID: 500-104388-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.4		0.50	0.36	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	0.35	J	0.50	0.24	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-8P

Lab Sample ID: 500-104388-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	4.4		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	3.1		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	620	E	0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	380		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	510	E	0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	6.4		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	14		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	34		1.5	0.58	ug/L	1		WDNR	Total/NA

### Client Sample ID: MW-12P

Lab Sample ID: 500-104388-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	0.45	J	0.50	0.30	ug/L	1		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

## Client Sample ID: MW-12P (Continued)

Lab Sample ID: 500-104388-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	210		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	1.2		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	65		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	4.1	J	5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	1.1		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	2.0		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-12D

Lab Sample ID: 500-104388-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	0.53		0.50	0.30	ug/L	1		WDNR	Total/NA
Xylenes, Total	1.2	J	1.5	0.58	ug/L	1		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Method Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

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Method	Method Description	Protocol	Laboratory
WDNR	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	TAL NSH

---

**Protocol References:**

WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Sample Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104388-1	MW-1	Water	11/19/15 11:00	11/21/15 10:10
500-104388-2	MW-2	Water	11/19/15 12:45	11/21/15 10:10
500-104388-3	MW-2P	Water	11/19/15 12:15	11/21/15 10:10
500-104388-4	MW-3	Water	11/19/15 12:00	11/21/15 10:10
500-104388-5	MW-4	Water	11/19/15 11:30	11/21/15 10:10
500-104388-6	MW-4P	Water	11/19/15 11:45	11/21/15 10:10
500-104388-7	MW-6	Water	11/19/15 13:15	11/21/15 10:10
500-104388-8	MW-6P	Water	11/19/15 14:00	11/21/15 10:10
500-104388-9	MW-8P	Water	11/19/15 10:00	11/21/15 10:10
500-104388-10	MW-12P	Water	11/19/15 10:30	11/21/15 10:10
500-104388-11	MW-12D	Water	11/19/15 10:45	11/21/15 10:10

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Client Sample ID: MW-1**

**Lab Sample ID: 500-104388-1**

Date Collected: 11/19/15 11:00

Matrix: Water

Date Received: 11/21/15 10:10

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	13		0.50	0.30	ug/L			12/03/15 14:51	1
1,3,5-Trimethylbenzene	2.6		0.50	0.30	ug/L			12/03/15 14:51	1
Benzene	4.1		0.50	0.36	ug/L			12/03/15 14:51	1
Ethylbenzene	17		0.50	0.37	ug/L			12/03/15 14:51	1
Methyl tert-butyl ether	20		0.50	0.24	ug/L			12/03/15 14:51	1
Naphthalene	16		5.0	2.4	ug/L			12/03/15 14:51	1
Toluene	2.4		0.50	0.33	ug/L			12/03/15 14:51	1
Xylenes, Total	18		1.5	0.58	ug/L			12/03/15 14:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	97		80 - 120					12/03/15 14:51	1

**Client Sample ID: MW-2**

**Lab Sample ID: 500-104388-2**

Date Collected: 11/19/15 12:45

Matrix: Water

Date Received: 11/21/15 10:10

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	7500		50	30	ug/L			12/03/15 21:41	100
1,3,5-Trimethylbenzene	1800		50	30	ug/L			12/03/15 21:41	100
Benzene	16000		50	36	ug/L			12/03/15 21:41	100
Ethylbenzene	4600		50	37	ug/L			12/03/15 21:41	100
Methyl tert-butyl ether	980		50	24	ug/L			12/03/15 21:41	100
Naphthalene	3300		500	240	ug/L			12/03/15 21:41	100
Toluene	92000		500	330	ug/L			12/03/15 22:12	1000
Xylenes, Total	31000		150	58	ug/L			12/03/15 21:41	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	176	X	80 - 120					12/03/15 21:41	100
a,a,a-Trifluorotoluene	131	X	80 - 120					12/03/15 22:12	1000

**Client Sample ID: MW-2P**

**Lab Sample ID: 500-104388-3**

Date Collected: 11/19/15 12:15

Matrix: Water

Date Received: 11/21/15 10:10

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.2		0.50	0.30	ug/L			12/03/15 15:23	1
1,3,5-Trimethylbenzene	0.57		0.50	0.30	ug/L			12/03/15 15:23	1
Benzene	33		0.50	0.36	ug/L			12/03/15 15:23	1
Ethylbenzene	3.3		0.50	0.37	ug/L			12/03/15 15:23	1
Methyl tert-butyl ether	1.3		0.50	0.24	ug/L			12/03/15 15:23	1
Naphthalene	<2.4		5.0	2.4	ug/L			12/03/15 15:23	1
Toluene	2.4		0.50	0.33	ug/L			12/03/15 15:23	1
Xylenes, Total	4.1		1.5	0.58	ug/L			12/03/15 15:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	103		80 - 120					12/03/15 15:23	1

TestAmerica Chicago



# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Client Sample ID: MW-3**

**Lab Sample ID: 500-104388-4**

Date Collected: 11/19/15 12:00

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	310	E	0.50	0.30	ug/L			12/03/15 16:26	1
1,3,5-Trimethylbenzene	86		0.50	0.30	ug/L			12/03/15 16:26	1
Benzene	60		0.50	0.36	ug/L			12/03/15 16:26	1
Ethylbenzene	62		0.50	0.37	ug/L			12/03/15 16:26	1
Methyl tert-butyl ether	98		0.50	0.24	ug/L			12/03/15 16:26	1
Naphthalene	94		5.0	2.4	ug/L			12/03/15 16:26	1
Toluene	13		0.50	0.33	ug/L			12/03/15 16:26	1
Xylenes, Total	310		1.5	0.58	ug/L			12/03/15 16:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	578	X	80 - 120		12/03/15 16:26	1

**Client Sample ID: MW-4**

**Lab Sample ID: 500-104388-5**

Date Collected: 11/19/15 11:30

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	1000		5.0	3.0	ug/L			12/03/15 19:35	10
1,3,5-Trimethylbenzene	520		5.0	3.0	ug/L			12/03/15 19:35	10
Benzene	3300		5.0	3.6	ug/L			12/03/15 19:35	10
Ethylbenzene	540		5.0	3.7	ug/L			12/03/15 19:35	10
Methyl tert-butyl ether	72		5.0	2.4	ug/L			12/03/15 19:35	10
Naphthalene	1000		50	24	ug/L			12/03/15 19:35	10
Toluene	710		5.0	3.3	ug/L			12/03/15 19:35	10
Xylenes, Total	2100		15	5.8	ug/L			12/03/15 19:35	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		80 - 120		12/03/15 19:35	10

**Client Sample ID: MW-4P**

**Lab Sample ID: 500-104388-6**

Date Collected: 11/19/15 11:45

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	4.8		0.50	0.30	ug/L			12/03/15 16:57	1
1,3,5-Trimethylbenzene	4.5		0.50	0.30	ug/L			12/03/15 16:57	1
Benzene	140		0.50	0.36	ug/L			12/03/15 16:57	1
Ethylbenzene	63		0.50	0.37	ug/L			12/03/15 16:57	1
Methyl tert-butyl ether	16		0.50	0.24	ug/L			12/03/15 16:57	1
Naphthalene	20		5.0	2.4	ug/L			12/03/15 16:57	1
Toluene	17		0.50	0.33	ug/L			12/03/15 16:57	1
Xylenes, Total	17		1.5	0.58	ug/L			12/03/15 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	132	X	80 - 120		12/03/15 16:57	1

TestAmerica Chicago

## Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Client Sample ID: MW-6**

**Lab Sample ID: 500-104388-7**

Date Collected: 11/19/15 13:15

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.8		0.50	0.30	ug/L			12/03/15 17:28	1
1,3,5-Trimethylbenzene	3.1		0.50	0.30	ug/L			12/03/15 17:28	1
Benzene	3.0		0.50	0.36	ug/L			12/03/15 17:28	1
Ethylbenzene	6.7		0.50	0.37	ug/L			12/03/15 17:28	1
Methyl tert-butyl ether	0.42	J	0.50	0.24	ug/L			12/03/15 17:28	1
Naphthalene	91		5.0	2.4	ug/L			12/03/15 17:28	1
Toluene	<0.33		0.50	0.33	ug/L			12/03/15 17:28	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			12/03/15 17:28	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	84		80 - 120					12/03/15 17:28	1

**Client Sample ID: MW-6P**

**Lab Sample ID: 500-104388-8**

Date Collected: 11/19/15 14:00

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			12/03/15 18:00	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			12/03/15 18:00	1
Benzene	5.4		0.50	0.36	ug/L			12/03/15 18:00	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			12/03/15 18:00	1
Methyl tert-butyl ether	0.35	J	0.50	0.24	ug/L			12/03/15 18:00	1
Naphthalene	<2.4		5.0	2.4	ug/L			12/03/15 18:00	1
Toluene	<0.33		0.50	0.33	ug/L			12/03/15 18:00	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			12/03/15 18:00	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	102		80 - 120					12/03/15 18:00	1

**Client Sample ID: MW-8P**

**Lab Sample ID: 500-104388-9**

Date Collected: 11/19/15 10:00

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	4.4		0.50	0.30	ug/L			12/03/15 19:04	1
1,3,5-Trimethylbenzene	3.1		0.50	0.30	ug/L			12/03/15 19:04	1
Benzene	620	E	0.50	0.36	ug/L			12/03/15 19:04	1
Ethylbenzene	380		0.50	0.37	ug/L			12/03/15 19:04	1
Methyl tert-butyl ether	510	E	0.50	0.24	ug/L			12/03/15 19:04	1
Naphthalene	6.4		5.0	2.4	ug/L			12/03/15 19:04	1
Toluene	14		0.50	0.33	ug/L			12/03/15 19:04	1
Xylenes, Total	34		1.5	0.58	ug/L			12/03/15 19:04	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	128	X	80 - 120					12/03/15 19:04	1

## Client Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Client Sample ID: MW-12P**

**Lab Sample ID: 500-104388-10**

Date Collected: 11/19/15 10:30

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.45	J	0.50	0.30	ug/L			12/03/15 15:54	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			12/03/15 15:54	1
Benzene	210		0.50	0.36	ug/L			12/03/15 15:54	1
Ethylbenzene	1.2		0.50	0.37	ug/L			12/03/15 15:54	1
Methyl tert-butyl ether	65		0.50	0.24	ug/L			12/03/15 15:54	1
Naphthalene	4.1	J	5.0	2.4	ug/L			12/03/15 15:54	1
Toluene	1.1		0.50	0.33	ug/L			12/03/15 15:54	1
Xylenes, Total	2.0		1.5	0.58	ug/L			12/03/15 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	184	X	80 - 120		12/03/15 15:54	1

**Client Sample ID: MW-12D**

**Lab Sample ID: 500-104388-11**

Date Collected: 11/19/15 10:45

Matrix: Water

Date Received: 11/21/15 10:10

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.53		0.50	0.30	ug/L			12/03/15 18:32	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			12/03/15 18:32	1
Benzene	<0.36		0.50	0.36	ug/L			12/03/15 18:32	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			12/03/15 18:32	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			12/03/15 18:32	1
Naphthalene	<2.4		5.0	2.4	ug/L			12/03/15 18:32	1
Toluene	<0.33		0.50	0.33	ug/L			12/03/15 18:32	1
Xylenes, Total	1.2	J	1.5	0.58	ug/L			12/03/15 18:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	98		80 - 120		12/03/15 18:32	1

# Definitions/Glossary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

## Qualifiers

### GC VOA

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.
X	Surrogate is outside control limits
E	Result exceeded calibration range.

## 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: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

## GC VOA

### Prep Batch: 301708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-301708/5-A	Lab Control Sample	Total/NA	Water	5035	
LCSD 490-301708/6-A	Lab Control Sample Dup	Total/NA	Water	5035	
MB 490-301708/4-A	Method Blank	Total/NA	Water	5035	

### Analysis Batch: 303543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104388-1	MW-1	Total/NA	Water	WDNR	
500-104388-2	MW-2	Total/NA	Water	WDNR	
500-104388-2	MW-2	Total/NA	Water	WDNR	
500-104388-3	MW-2P	Total/NA	Water	WDNR	
500-104388-4	MW-3	Total/NA	Water	WDNR	
500-104388-5	MW-4	Total/NA	Water	WDNR	
500-104388-6	MW-4P	Total/NA	Water	WDNR	
500-104388-7	MW-6	Total/NA	Water	WDNR	
500-104388-8	MW-6P	Total/NA	Water	WDNR	
500-104388-9	MW-8P	Total/NA	Water	WDNR	
500-104388-10	MW-12P	Total/NA	Water	WDNR	
500-104388-11	MW-12D	Total/NA	Water	WDNR	
LCS 490-301708/5-A	Lab Control Sample	Total/NA	Water	WDNR	301708
LCSD 490-301708/6-A	Lab Control Sample Dup	Total/NA	Water	WDNR	301708
MB 490-301708/4-A	Method Blank	Total/NA	Water	WDNR	301708
MB 490-301708/4-A	Method Blank	Total/NA	Water	WDNR	301708

# Surrogate Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

**Matrix: Water**

**Prep Type: Total/NA**

**Percent Surrogate Recovery (Acceptance Limits)**

Lab Sample ID	Client Sample ID	TFT (80-120)
500-104388-1	MW-1	97
500-104388-2	MW-2	176 X
500-104388-2	MW-2	131 X
500-104388-3	MW-2P	103
500-104388-4	MW-3	578 X
500-104388-5	MW-4	99
500-104388-6	MW-4P	132 X
500-104388-7	MW-6	84
500-104388-8	MW-6P	102
500-104388-9	MW-8P	128 X
500-104388-10	MW-12P	184 X
500-104388-11	MW-12D	98
LCS 490-301708/5-A	Lab Control Sample	96
LCSD 490-301708/6-A	Lab Control Sample Dup	93
MB 490-301708/4-A	Method Blank	98
MB 490-301708/4-A	Method Blank	96

**Surrogate Legend**

TFT = a,a,a-Trifluorotoluene

# QC Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

**Lab Sample ID: MB 490-301708/4-A**  
**Matrix: Water**  
**Analysis Batch: 303543**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 301708**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L		11/25/15 12:34	12/03/15 14:20	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L		11/25/15 12:34	12/03/15 14:20	1
Benzene	<0.36		0.50	0.36	ug/L		11/25/15 12:34	12/03/15 14:20	1
Ethylbenzene	<0.37		0.50	0.37	ug/L		11/25/15 12:34	12/03/15 14:20	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L		11/25/15 12:34	12/03/15 14:20	1
Naphthalene	<2.4		5.0	2.4	ug/L		11/25/15 12:34	12/03/15 14:20	1
Toluene	<0.33		0.50	0.33	ug/L		11/25/15 12:34	12/03/15 14:20	1
Xylenes, Total	<0.58		1.5	0.58	ug/L		11/25/15 12:34	12/03/15 14:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	96		80 - 120				11/25/15 12:34	12/03/15 14:20	1

**Lab Sample ID: MB 490-301708/4-A**  
**Matrix: Water**  
**Analysis Batch: 303543**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 301708**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L		11/25/15 12:34	12/03/15 21:09	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L		11/25/15 12:34	12/03/15 21:09	1
Benzene	<0.36		0.50	0.36	ug/L		11/25/15 12:34	12/03/15 21:09	1
Ethylbenzene	<0.37		0.50	0.37	ug/L		11/25/15 12:34	12/03/15 21:09	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L		11/25/15 12:34	12/03/15 21:09	1
Naphthalene	<2.4		5.0	2.4	ug/L		11/25/15 12:34	12/03/15 21:09	1
Toluene	<0.33		0.50	0.33	ug/L		11/25/15 12:34	12/03/15 21:09	1
Xylenes, Total	<0.58		1.5	0.58	ug/L		11/25/15 12:34	12/03/15 21:09	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	98		80 - 120				11/25/15 12:34	12/03/15 21:09	1

**Lab Sample ID: LCS 490-301708/5-A**  
**Matrix: Water**  
**Analysis Batch: 303543**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 301708**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trimethylbenzene	100	92.3		ug/L		92	60 - 131
1,3,5-Trimethylbenzene	100	93.3		ug/L		93	70 - 130
Benzene	100	93.4		ug/L		93	69 - 129
Ethylbenzene	100	97.9		ug/L		98	70 - 130
Methyl tert-butyl ether	100	97.4		ug/L		97	57 - 138
m-Xylene & p-Xylene	200	179		ug/L		90	65 - 127
Naphthalene	100	100		ug/L		100	69 - 133
o-Xylene	100	88.5		ug/L		89	64 - 128
Toluene	100	92.4		ug/L		92	66 - 127
Xylenes, Total	300	268		ug/L		89	
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
a,a,a-Trifluorotoluene	96		80 - 120				

TestAmerica Chicago

# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Lab Sample ID: LCSD 490-301708/6-A**  
**Matrix: Water**  
**Analysis Batch: 303543**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 301708**  
**%Rec. RPD**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,2,4-Trimethylbenzene	100	93.1		ug/L		93	60 - 131	1	43
1,3,5-Trimethylbenzene	100	94.2		ug/L		94	70 - 130	1	20
Benzene	100	94.0		ug/L		94	69 - 129	1	33
Ethylbenzene	100	98.7		ug/L		99	70 - 130	1	35
Methyl tert-butyl ether	100	98.6		ug/L		99	57 - 138	1	40
m-Xylene & p-Xylene	200	180		ug/L		90	65 - 127	1	39
Naphthalene	100	103		ug/L		103	69 - 133	2	48
o-Xylene	100	89.1		ug/L		89	64 - 128	1	35
Toluene	100	93.2		ug/L		93	66 - 127	1	34
Xylenes, Total	300	269		ug/L		90		1	

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene	93		80 - 120



# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Client Sample ID: MW-1**  
Date Collected: 11/19/15 11:00  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-1**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 14:51	BK	TAL NSH

**Client Sample ID: MW-2**  
Date Collected: 11/19/15 12:45  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-2**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		100	303543	12/03/15 21:41	BK	TAL NSH
Total/NA	Analysis	WDNR		1000	303543	12/03/15 22:12	BK	TAL NSH

**Client Sample ID: MW-2P**  
Date Collected: 11/19/15 12:15  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-3**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 15:23	BK	TAL NSH

**Client Sample ID: MW-3**  
Date Collected: 11/19/15 12:00  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-4**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 16:26	BK	TAL NSH

**Client Sample ID: MW-4**  
Date Collected: 11/19/15 11:30  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-5**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		10	303543	12/03/15 19:35	BK	TAL NSH

**Client Sample ID: MW-4P**  
Date Collected: 11/19/15 11:45  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-6**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 16:57	BK	TAL NSH

TestAmerica Chicago

# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

**Client Sample ID: MW-6**  
Date Collected: 11/19/15 13:15  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-7**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 17:28	BK	TAL NSH

**Client Sample ID: MW-6P**  
Date Collected: 11/19/15 14:00  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-8**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 18:00	BK	TAL NSH

**Client Sample ID: MW-8P**  
Date Collected: 11/19/15 10:00  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-9**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 19:04	BK	TAL NSH

**Client Sample ID: MW-12P**  
Date Collected: 11/19/15 10:30  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-10**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 15:54	BK	TAL NSH

**Client Sample ID: MW-12D**  
Date Collected: 11/19/15 10:45  
Date Received: 11/21/15 10:10

**Lab Sample ID: 500-104388-11**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	303543	12/03/15 18:32	BK	TAL NSH

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Certification Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-104388-1

## 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

## Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	998020430	08-31-16



THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 604  
Phone: 708.534.5200 Fax: 708.534.



500-104388 COC

Report To: Scott McCurdy  
Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104388  
Chain of Custody Number: \_\_\_\_\_  
Page 1 of 2  
Temperature °C of Cooler: 1/1

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 #		Date		Time		# of Containers		
Project Location/State		Lab PM		Date		Time		# of Containers		
<u>Cedar Corp</u>		<u>4178</u>		<u>1</u>		<u>1</u>		<u>1</u>		Comments
<u>Olson's Corner</u>										
<u>Hannibal, WI</u>										
<u>Pete Schae</u>		<u>Sandra Friedrich</u>								
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix				
<u>1</u>		<u>MW-1</u>	<u>11/19/15</u>	<u>1100</u>	<u>2</u>	<u>W</u>	<u>X</u>			
<u>2</u>		<u>MW-2</u>		<u>1245</u>						
<u>3</u>		<u>MW-2P</u>		<u>1215</u>						
<u>4</u>		<u>MW-3</u>		<u>1200</u>						
<u>5</u>		<u>MW-4</u>		<u>1130</u>						
<u>6</u>		<u>MW-4P</u>		<u>1145</u>						
<u>7</u>		<u>MW-6</u>		<u>1315</u>						
<u>8</u>		<u>MW-6P</u>		<u>1400</u>						
<u>9</u>		<u>MW-8P</u>		<u>1000</u>						
<u>10</u>		<u>MW-12P</u>		<u>1030</u>						

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: <u>[Signature]</u>	Company: <u>Cedar Corp</u>	Date: <u>11/19/15</u>	Time: <u>1200</u>	Received By: <u>[Signature]</u>	Company: <u>TestAmerica</u>	Date: <u>11/21/15</u>	Time: <u>1010</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 (optional)  
 Contact: Scott McCurdy  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

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

## Chain of Custody Record

Lab Job #: 500-104388  
 Chain of Custody Number: \_\_\_\_\_  
 Page 2 of 2  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter		Comments	
<u>Cedar Corp</u>		<u>4178</u>		<u>1</u>		<u>1</u>		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		Comments	
<u>O/Sons Corner</u>		<u>Hannibal, WI</u>		_____		<u>Sandie Fredrick</u>		_____	
Sampler		Sample ID		Sampling		# of Containers		Matrix	
<u>Ryan Spivey</u>		_____		Date Time		_____		_____	
Lab ID	M/S/MSD	Sample ID		Date	Time	# of Containers	Matrix	Comments	
<u>11</u>		<u>MW-12D</u>		<u>11/19/15</u>	<u>1045</u>	<u>2</u>	<u>W</u>	<u>X</u>	

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 <u>Ryan Spivey</u>	Company <u>Cedar Corp</u>	Date <u>11/19/15</u>	Time <u>1700</u>	Received By <u>Shawn Scott</u>	Company <u>TA-CST</u>	Date <u>11/21/15</u>	Time <u>1010</u>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: \_\_\_\_\_  
 Shipped: Feed 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: \_\_\_\_\_

### Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:		Lab PM: Fredrick, Sandie J		Carrier Tracking No(s):		COC No: 500-67637.1	
Client Contact: Shipping/Receiving		Phone:		E-Mail: sandie.fredrick@testamericainc.com				Page: Page 1 of 1	
Company: TestAmerica Laboratories, Inc				<b>Analysis Requested</b>				Job #: 500-104388-1	
Address: 2960 Foster Creighton Drive,		Due Date Requested: 12/3/2015						Preservation Codes:	
City: Nashville		TAT Requested (days):		Field Filter Sample (Yes or No) WI_GRO/5030B (MOD) WISC PVOC + Nap		Total Number of Containers		A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                  Q - Na2SO3 F - MeOH                     R - Na2S2SO3 G - Amchlor                 S - H2SO4 H - Ascorbic Acid          T - TSP Dodecahydrate I - Ice                         U - Acetone J - DI Water                 V - MCAA K - EDTA                    W - ph 4-5 L - EDA                      Z - other (specify)	
State, Zip: TN, 37204		PO #:						Special Instructions/Note:	
Project Name: Olson's Comer - 4178		Project #: 50006556							
Site: SSOW#:									
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)</b>	
								Preservation Code:	
MW-1 (500-104388-1)		11/19/15		11:00 Central		Water		X	
MW-2 (500-104388-2)		11/19/15		12:45 Central		Water		X	
MW-2P (500-104388-3)		11/19/15		12:15 Central		Water		X	
MW-3 (500-104388-4)		11/19/15		12:00 Central		Water		X	
MW-4 (500-104388-5)		11/19/15		11:30 Central		Water		X	
MW-4P (500-104388-6)		11/19/15		11:45 Central		Water		X	
MW-6 (500-104388-7)		11/19/15		13:15 Central		Water		X	
MW-6P (500-104388-8)		11/19/15		14:00 Central		Water		X	
MW-8P (500-104388-9)		11/19/15		10:00 Central		Water		X	
MW-12P (500-104388-10)		11/19/15		10:30 Central		Water		X	
MW-12D (500-104388-11)		11/19/15		10:45 Central		Water		X	
<b>Possible Hazard Identification</b>						<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>			
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <i>[Signature]</i>		Date/Time: 11/23/15 1300		Company: TAL		Received by: <i>[Signature]</i>		Date/Time: 11/25/15 09:00	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 4.6					



## COOLER RECEIPT FORM

Loc: 500  
104388

Cooler Received/Opened On 11/25/2015 @ 0920

1. Tracking # 0084 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun ID 97310166

2. Temperature of rep. sample or temp blank when opened: 4.6 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO  NA

4. Were custody seals on outside of cooler?  YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly?  YES...NO...NA

6. Were custody papers inside cooler?  YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EVA

7. Were custody seals on containers: YES  NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used?  Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process:  Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA

12. Did all container labels and tags agree with custody papers?  YES...NO...NA

13a. Were VOA vials received?  YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES  NO...NA If multiple coolers, sequence # ADH

I certify that I unloaded the cooler and answered questions 7-14 (initial) ADH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used  YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) ADH

17. Were custody papers properly filled out (ink, signed, etc)?  YES...NO...NA

18. Did you sign the custody papers in the appropriate place?  YES...NO...NA

19. Were correct containers used for the analysis requested?  YES...NO...NA

20. Was sufficient amount of sample sent in each container?  YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) ADH

I certify that I attached a label with the unique LIMS number to each container (initial) ADH

21. Were there Non-Conformance Issues at login? YES...NO... Was a PIPE generated? YES...NO...#

## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-104388-1

**Login Number: 104388**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Scott, Sherri L**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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	1.1
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.	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 $<6\text{mm}$ (1/4").	False	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-104388-1

Login Number: 104388

List Number: 2

Creator: Huskey, Adam

List Source: TestAmerica Nashville

List Creation: 11/25/15 12:12 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	N/A	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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: 500-109984-1  
Client Project/Site: Olson's Corners - 4178

For:  
Cedar Corporation  
604 Wilson Avenue  
Menomonie, Wisconsin 54751

Attn: Scott McCurdy



Authorized for release by:  
4/22/2016 5:15:26 PM

Sandie Fredrick, Project Manager II  
(920)261-1660  
sandie.fredrick@testamericainc.com

### LINKS

Review your project  
results through

**Total Access**

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**?** Ask  
The  
Expert

Visit us at:

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

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

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

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

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# Case Narrative

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

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**Job ID: 500-109984-1**

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**Laboratory: TestAmerica Chicago**

**Narrative**

---

**Job Narrative  
500-109984-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 4/9/2016 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -0.6° C.

**GC VOA**

Method(s) WI-GRO: Surrogate recovery for the following samples was outside control limits: MW-1 (500-109984-1), MW-2 (500-109984-2) and MW-8p (500-109984-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) WI-GRO: The following sample was diluted due to the nature of the sample matrix: MW-2p (500-109984-3). Elevated reporting limits (RLs) are provided.

Method(s) WI-GRO: The continuing calibration verification (CCV) associated with batch <333050> recovered above the upper control limit for <MTBE>. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) WI-GRO: Reanalysis of the following sample was performed outside of the analytical holding time: MW-6 (500-109984-7). Confirming results.

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

**VOA Prep**

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



# Detection Summary

Client: Cedar Corporation  
 Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Client Sample ID: MW-1

## Lab Sample ID: 500-109984-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	68		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	9.8		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	13		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	98		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	22		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	35		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	160		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	300		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-2

## Lab Sample ID: 500-109984-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	4400		50	30	ug/L	100		WDNR	Total/NA
1,3,5-Trimethylbenzene	1000		50	30	ug/L	100		WDNR	Total/NA
Benzene	16000		50	36	ug/L	100		WDNR	Total/NA
Ethylbenzene	3400		50	37	ug/L	100		WDNR	Total/NA
Methyl tert-butyl ether	630		50	24	ug/L	100		WDNR	Total/NA
Naphthalene	1700		500	240	ug/L	100		WDNR	Total/NA
Toluene	35000		50	33	ug/L	100		WDNR	Total/NA
Xylenes, Total	24000		150	58	ug/L	100		WDNR	Total/NA

## Client Sample ID: MW-2p

## Lab Sample ID: 500-109984-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	12		5.0	3.0	ug/L	10		WDNR	Total/NA
Benzene	390		5.0	3.6	ug/L	10		WDNR	Total/NA
Ethylbenzene	17		5.0	3.7	ug/L	10		WDNR	Total/NA
Methyl tert-butyl ether	16		5.0	2.4	ug/L	10		WDNR	Total/NA
Toluene	27		5.0	3.3	ug/L	10		WDNR	Total/NA
Xylenes, Total	31		15	5.8	ug/L	10		WDNR	Total/NA

## Client Sample ID: MW-3

## Lab Sample ID: 500-109984-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	18		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	5.8		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	19		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	84		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	48		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	48		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	6.5		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	70		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-4

## Lab Sample ID: 500-109984-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	880		50	30	ug/L	100		WDNR	Total/NA
1,3,5-Trimethylbenzene	500		50	30	ug/L	100		WDNR	Total/NA
Benzene	2900		50	36	ug/L	100		WDNR	Total/NA
Ethylbenzene	490		50	37	ug/L	100		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Client Sample ID: MW-4 (Continued)

Lab Sample ID: 500-109984-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	98		50	24	ug/L	100		WDNR	Total/NA
Naphthalene	1100		500	240	ug/L	100		WDNR	Total/NA
Toluene	530		50	33	ug/L	100		WDNR	Total/NA
Xylenes, Total	2100		150	58	ug/L	100		WDNR	Total/NA

## Client Sample ID: MW-4p

Lab Sample ID: 500-109984-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	0.86		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	32		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	11		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	2.3		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	4.9	J	5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	3.2		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	4.2		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-6

Lab Sample ID: 500-109984-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2.0	H	0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	2.3	H	0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	3.9	H	0.50	0.37	ug/L	1		WDNR	Total/NA
Naphthalene	74	H	5.0	2.4	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-6p

Lab Sample ID: 500-109984-8

No Detections.

## Client Sample ID: MW-8p

Lab Sample ID: 500-109984-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2600		5.0	3.6	ug/L	10		WDNR	Total/NA
Ethylbenzene	120		0.50	0.37	ug/L	1		WDNR	Total/NA
Toluene	7.2		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	8.0		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-12D

Lab Sample ID: 500-109984-10

No Detections.

## Client Sample ID: MW-12p

Lab Sample ID: 500-109984-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	320		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	0.91		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	63		0.50	0.24	ug/L	1		WDNR	Total/NA
Toluene	0.81		0.50	0.33	ug/L	1		WDNR	Total/NA

## Client Sample ID: Trip Blank

Lab Sample ID: 500-109984-12

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Client Sample ID: Trip Blank (Continued)

Lab Sample ID: 500-109984-12

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.68	*	0.50	0.24	ug/L	1		WDNR	Total/NA

## Client Sample ID: WITKOWSKI

Lab Sample ID: 500-109984-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	18		0.50	0.36	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	2.7		0.50	0.24	ug/L	1		WDNR	Total/NA

## Client Sample ID: OLSON

Lab Sample ID: 500-109984-14

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Method Summary

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

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Method	Method Description	Protocol	Laboratory
WDNR	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	TAL NSH

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**Protocol References:**

WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



# Sample Summary

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-109984-1	MW-1	Water	04/07/16 12:00	04/09/16 10:15
500-109984-2	MW-2	Water	04/07/16 14:30	04/09/16 10:15
500-109984-3	MW-2p	Water	04/07/16 14:10	04/09/16 10:15
500-109984-4	MW-3	Water	04/07/16 13:35	04/09/16 10:15
500-109984-5	MW-4	Water	04/07/16 14:30	04/09/16 10:15
500-109984-6	MW-4p	Water	04/07/16 13:50	04/09/16 10:15
500-109984-7	MW-6	Water	04/07/16 14:05	04/09/16 10:15
500-109984-8	MW-6p	Water	04/07/16 13:45	04/09/16 10:15
500-109984-9	MW-8p	Water	04/07/16 11:35	04/09/16 10:15
500-109984-10	MW-12D	Water	04/07/16 11:55	04/09/16 10:15
500-109984-11	MW-12p	Water	04/07/16 11:40	04/09/16 10:15
500-109984-12	Trip Blank	Water	04/07/16 00:00	04/09/16 10:15
500-109984-13	WITKOWSKI	Water	04/07/16 11:00	04/09/16 10:15
500-109984-14	OLSON	Water	04/07/16 13:30	04/09/16 10:15

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

**Client Sample ID: MW-1**

**Lab Sample ID: 500-109984-1**

Date Collected: 04/07/16 12:00

Matrix: Water

Date Received: 04/09/16 10:15

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	68		0.50	0.30	ug/L			04/21/16 13:03	1
1,3,5-Trimethylbenzene	9.8		0.50	0.30	ug/L			04/21/16 13:03	1
Benzene	13		0.50	0.36	ug/L			04/21/16 13:03	1
Ethylbenzene	98		0.50	0.37	ug/L			04/21/16 13:03	1
Methyl tert-butyl ether	22		0.50	0.24	ug/L			04/21/16 13:03	1
Naphthalene	35		5.0	2.4	ug/L			04/21/16 13:03	1
Toluene	160		0.50	0.33	ug/L			04/21/16 13:03	1
Xylenes, Total	300		1.5	0.58	ug/L			04/21/16 13:03	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	162	X	80 - 120					04/21/16 13:03	1

**Client Sample ID: MW-2**

**Lab Sample ID: 500-109984-2**

Date Collected: 04/07/16 14:30

Matrix: Water

Date Received: 04/09/16 10:15

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	4400		50	30	ug/L			04/21/16 21:30	100
1,3,5-Trimethylbenzene	1000		50	30	ug/L			04/21/16 21:30	100
Benzene	16000		50	36	ug/L			04/21/16 21:30	100
Ethylbenzene	3400		50	37	ug/L			04/21/16 21:30	100
Methyl tert-butyl ether	630		50	24	ug/L			04/21/16 21:30	100
Naphthalene	1700		500	240	ug/L			04/21/16 21:30	100
Toluene	35000		50	33	ug/L			04/21/16 21:30	100
Xylenes, Total	24000		150	58	ug/L			04/21/16 21:30	100
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	146	X	80 - 120					04/21/16 21:30	100

**Client Sample ID: MW-2p**

**Lab Sample ID: 500-109984-3**

Date Collected: 04/07/16 14:10

Matrix: Water

Date Received: 04/09/16 10:15

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	12		5.0	3.0	ug/L			04/21/16 22:02	10
1,3,5-Trimethylbenzene	<3.0		5.0	3.0	ug/L			04/21/16 22:02	10
Benzene	390		5.0	3.6	ug/L			04/21/16 22:02	10
Ethylbenzene	17		5.0	3.7	ug/L			04/21/16 22:02	10
Methyl tert-butyl ether	16		5.0	2.4	ug/L			04/21/16 22:02	10
Naphthalene	<24		50	24	ug/L			04/21/16 22:02	10
Toluene	27		5.0	3.3	ug/L			04/21/16 22:02	10
Xylenes, Total	31		15	5.8	ug/L			04/21/16 22:02	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	92		80 - 120					04/21/16 22:02	10

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

**Client Sample ID: MW-3**

**Lab Sample ID: 500-109984-4**

Date Collected: 04/07/16 13:35

Matrix: Water

Date Received: 04/09/16 10:15

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	18		0.50	0.30	ug/L			04/21/16 13:34	1
1,3,5-Trimethylbenzene	5.8		0.50	0.30	ug/L			04/21/16 13:34	1
Benzene	19		0.50	0.36	ug/L			04/21/16 13:34	1
Ethylbenzene	84		0.50	0.37	ug/L			04/21/16 13:34	1
Methyl tert-butyl ether	48		0.50	0.24	ug/L			04/21/16 13:34	1
Naphthalene	48		5.0	2.4	ug/L			04/21/16 13:34	1
Toluene	6.5		0.50	0.33	ug/L			04/21/16 13:34	1
Xylenes, Total	70		1.5	0.58	ug/L			04/21/16 13:34	1
<hr/>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	98		80 - 120					04/21/16 13:34	1

**Client Sample ID: MW-4**

**Lab Sample ID: 500-109984-5**

Date Collected: 04/07/16 14:30

Matrix: Water

Date Received: 04/09/16 10:15

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	880		50	30	ug/L			04/21/16 22:33	100
1,3,5-Trimethylbenzene	500		50	30	ug/L			04/21/16 22:33	100
Benzene	2900		50	36	ug/L			04/21/16 22:33	100
Ethylbenzene	490		50	37	ug/L			04/21/16 22:33	100
Methyl tert-butyl ether	98		50	24	ug/L			04/21/16 22:33	100
Naphthalene	1100		500	240	ug/L			04/21/16 22:33	100
Toluene	530		50	33	ug/L			04/21/16 22:33	100
Xylenes, Total	2100		150	58	ug/L			04/21/16 22:33	100
<hr/>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	95		80 - 120					04/21/16 22:33	100

**Client Sample ID: MW-4p**

**Lab Sample ID: 500-109984-6**

Date Collected: 04/07/16 13:50

Matrix: Water

Date Received: 04/09/16 10:15

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.86		0.50	0.30	ug/L			04/21/16 14:06	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 14:06	1
Benzene	32		0.50	0.36	ug/L			04/21/16 14:06	1
Ethylbenzene	11		0.50	0.37	ug/L			04/21/16 14:06	1
Methyl tert-butyl ether	2.3		0.50	0.24	ug/L			04/21/16 14:06	1
Naphthalene	4.9	J	5.0	2.4	ug/L			04/21/16 14:06	1
Toluene	3.2		0.50	0.33	ug/L			04/21/16 14:06	1
Xylenes, Total	4.2		1.5	0.58	ug/L			04/21/16 14:06	1
<hr/>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	98		80 - 120					04/21/16 14:06	1

TestAmerica Chicago



# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Client Sample ID: MW-6

Lab Sample ID: 500-109984-7

Date Collected: 04/07/16 14:05

Matrix: Water

Date Received: 04/09/16 10:15

### Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	2.0	H	0.50	0.30	ug/L			04/22/16 08:30	1
1,3,5-Trimethylbenzene	<0.30	H	0.50	0.30	ug/L			04/22/16 08:30	1
<b>Benzene</b>	<b>2.3</b>	<b>H</b>	0.50	0.36	ug/L			04/22/16 08:30	1
<b>Ethylbenzene</b>	<b>3.9</b>	<b>H</b>	0.50	0.37	ug/L			04/22/16 08:30	1
Methyl tert-butyl ether	<0.24	H	0.50	0.24	ug/L			04/22/16 08:30	1
<b>Naphthalene</b>	<b>74</b>	<b>H</b>	5.0	2.4	ug/L			04/22/16 08:30	1
Toluene	<0.33	H	0.50	0.33	ug/L			04/22/16 08:30	1
Xylenes, Total	<0.58	H	1.5	0.58	ug/L			04/22/16 08:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	83		80 - 120					04/22/16 08:30	1

## Client Sample ID: MW-6p

Lab Sample ID: 500-109984-8

Date Collected: 04/07/16 13:45

Matrix: Water

Date Received: 04/09/16 10:15

### Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 18:21	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 18:21	1
Benzene	<0.36		0.50	0.36	ug/L			04/21/16 18:21	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			04/21/16 18:21	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			04/21/16 18:21	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 18:21	1
Toluene	<0.33		0.50	0.33	ug/L			04/21/16 18:21	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 18:21	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	87		80 - 120					04/21/16 18:21	1

## Client Sample ID: MW-8p

Lab Sample ID: 500-109984-9

Date Collected: 04/07/16 11:35

Matrix: Water

Date Received: 04/09/16 10:15

### Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 18:53	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 18:53	1
<b>Benzene</b>	<b>2600</b>		5.0	3.6	ug/L			04/21/16 23:36	10
<b>Ethylbenzene</b>	<b>120</b>		0.50	0.37	ug/L			04/21/16 18:53	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			04/21/16 18:53	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 18:53	1
<b>Toluene</b>	<b>7.2</b>		0.50	0.33	ug/L			04/21/16 18:53	1
<b>Xylenes, Total</b>	<b>8.0</b>		1.5	0.58	ug/L			04/21/16 18:53	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	207	X	80 - 120					04/21/16 18:53	1
a,a,a-Trifluorotoluene	101		80 - 120					04/21/16 23:36	10

TestAmerica Chicago



# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Client Sample ID: MW-12D

Lab Sample ID: 500-109984-10

Date Collected: 04/07/16 11:55

Matrix: Water

Date Received: 04/09/16 10:15

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 19:24	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 19:24	1
Benzene	<0.36		0.50	0.36	ug/L			04/21/16 19:24	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			04/21/16 19:24	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			04/21/16 19:24	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 19:24	1
Toluene	<0.33		0.50	0.33	ug/L			04/21/16 19:24	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 19:24	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	83		80 - 120					04/21/16 19:24	1

## Client Sample ID: MW-12p

Lab Sample ID: 500-109984-11

Date Collected: 04/07/16 11:40

Matrix: Water

Date Received: 04/09/16 10:15

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 19:56	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 19:56	1
<b>Benzene</b>	<b>320</b>		0.50	0.36	ug/L			04/21/16 19:56	1
<b>Ethylbenzene</b>	<b>0.91</b>		0.50	0.37	ug/L			04/21/16 19:56	1
<b>Methyl tert-butyl ether</b>	<b>63</b>		0.50	0.24	ug/L			04/21/16 19:56	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 19:56	1
<b>Toluene</b>	<b>0.81</b>		0.50	0.33	ug/L			04/21/16 19:56	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 19:56	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	115		80 - 120					04/21/16 19:56	1

## Client Sample ID: Trip Blank

Lab Sample ID: 500-109984-12

Date Collected: 04/07/16 00:00

Matrix: Water

Date Received: 04/09/16 10:15

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 17:54	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 17:54	1
Benzene	<0.36		0.50	0.36	ug/L			04/21/16 17:54	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			04/21/16 17:54	1
<b>Methyl tert-butyl ether</b>	<b>0.68 *</b>		0.50	0.24	ug/L			04/21/16 17:54	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 17:54	1
Toluene	<0.33		0.50	0.33	ug/L			04/21/16 17:54	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 17:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	96		80 - 120					04/21/16 17:54	1

TestAmerica Chicago

# Client Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

**Client Sample ID: WITKOWSKI**

**Lab Sample ID: 500-109984-13**

Date Collected: 04/07/16 11:00

Matrix: Water

Date Received: 04/09/16 10:15

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 20:27	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 20:27	1
<b>Benzene</b>	<b>18</b>		0.50	0.36	ug/L			04/21/16 20:27	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			04/21/16 20:27	1
<b>Methyl tert-butyl ether</b>	<b>2.7</b>		0.50	0.24	ug/L			04/21/16 20:27	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 20:27	1
Toluene	<0.33		0.50	0.33	ug/L			04/21/16 20:27	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 20:27	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>a,a,a-Trifluorotoluene</i>	90		80 - 120					04/21/16 20:27	1

**Client Sample ID: OLSON**

**Lab Sample ID: 500-109984-14**

Date Collected: 04/07/16 13:30

Matrix: Water

Date Received: 04/09/16 10:15

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 20:59	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 20:59	1
Benzene	<0.36		0.50	0.36	ug/L			04/21/16 20:59	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			04/21/16 20:59	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			04/21/16 20:59	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 20:59	1
Toluene	<0.33		0.50	0.33	ug/L			04/21/16 20:59	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 20:59	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>a,a,a-Trifluorotoluene</i>	86		80 - 120					04/21/16 20:59	1

# Definitions/Glossary

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Qualifiers

### GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.
H	Sample was prepped or analyzed beyond the specified holding time
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: Cedar Corporation  
 Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## GC VOA

### Prep Batch: 330942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-330942/2-A	Lab Control Sample	Total/NA	Water	5035	
MB 490-330942/1-A	Method Blank	Total/NA	Water	5035	

### Analysis Batch: 333050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109984-12	Trip Blank	Total/NA	Water	WDNR	
LCS 490-333050/28	Lab Control Sample	Total/NA	Water	WDNR	
LCSD 490-333050/40	Lab Control Sample Dup	Total/NA	Water	WDNR	
MB 490-333050/58	Method Blank	Total/NA	Water	WDNR	

### Analysis Batch: 333341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-109984-1	MW-1	Total/NA	Water	WDNR	
500-109984-2	MW-2	Total/NA	Water	WDNR	
500-109984-3	MW-2p	Total/NA	Water	WDNR	
500-109984-4	MW-3	Total/NA	Water	WDNR	
500-109984-5	MW-4	Total/NA	Water	WDNR	
500-109984-6	MW-4p	Total/NA	Water	WDNR	
500-109984-7	MW-6	Total/NA	Water	WDNR	
500-109984-8	MW-6p	Total/NA	Water	WDNR	
500-109984-9	MW-8p	Total/NA	Water	WDNR	
500-109984-9	MW-8p	Total/NA	Water	WDNR	
500-109984-10	MW-12D	Total/NA	Water	WDNR	
500-109984-11	MW-12p	Total/NA	Water	WDNR	
500-109984-13	WITKOWSKI	Total/NA	Water	WDNR	
500-109984-14	OLSON	Total/NA	Water	WDNR	
LCS 490-330942/2-A	Lab Control Sample	Total/NA	Water	WDNR	330942
LCS 490-330942/2-A	Lab Control Sample	Total/NA	Water	WDNR	330942
LCS 490-333341/34	Lab Control Sample	Total/NA	Water	WDNR	
LCSD 490-333341/35	Lab Control Sample Dup	Total/NA	Water	WDNR	
MB 490-330942/1-A	Method Blank	Total/NA	Water	WDNR	330942
MB 490-333341/14	Method Blank	Total/NA	Water	WDNR	



# Surrogate Summary

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT (80-120)
500-109984-1	MW-1	162 X
500-109984-2	MW-2	146 X
500-109984-3	MW-2p	92
500-109984-4	MW-3	98
500-109984-5	MW-4	95
500-109984-6	MW-4p	98
500-109984-7	MW-6	83
500-109984-8	MW-6p	87
500-109984-9	MW-8p	207 X
500-109984-9	MW-8p	101
500-109984-10	MW-12D	83
500-109984-11	MW-12p	115
500-109984-12	Trip Blank	96
500-109984-13	WITKOWSKI	90
500-109984-14	OLSON	86
LCS 490-330942/2-A	Lab Control Sample	89
LCS 490-330942/2-A	Lab Control Sample	93
LCS 490-333050/28	Lab Control Sample	101
LCS 490-333341/34	Lab Control Sample	88
LCSD 490-333341/35	Lab Control Sample Dup	87
MB 490-330942/1-A	Method Blank	87
MB 490-333050/58	Method Blank	100
MB 490-333341/14	Method Blank	99

#### Surrogate Legend

TFT = a,a,a-Trifluorotoluene

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT
LCSD 490-333050/40	Lab Control Sample Dup	

#### Surrogate Legend

TFT = a,a,a-Trifluorotoluene

# QC Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

**Lab Sample ID: MB 490-330942/1-A**

**Matrix: Water**

**Analysis Batch: 333341**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 330942**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<15		25	15	ug/L		04/12/16 14:34	04/21/16 04:32	1
1,3,5-Trimethylbenzene	<15		25	15	ug/L		04/12/16 14:34	04/21/16 04:32	1
Benzene	<18		25	18	ug/L		04/12/16 14:34	04/21/16 04:32	1
Ethylbenzene	<19		25	19	ug/L		04/12/16 14:34	04/21/16 04:32	1
Methyl tert-butyl ether	<12		25	12	ug/L		04/12/16 14:34	04/21/16 04:32	1
Naphthalene	<120		250	120	ug/L		04/12/16 14:34	04/21/16 04:32	1
Toluene	<17		25	17	ug/L		04/12/16 14:34	04/21/16 04:32	1
Xylenes, Total	<29		75	29	ug/L		04/12/16 14:34	04/21/16 04:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	87		80 - 120	04/12/16 14:34	04/21/16 04:32	1

**Lab Sample ID: LCS 490-330942/2-A**

**Matrix: Water**

**Analysis Batch: 333341**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 330942**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trimethylbenzene	50.0	45.6		ug/L		91	60 - 131
1,3,5-Trimethylbenzene	50.0	46.4		ug/L		93	70 - 130
Benzene	50.0	46.4		ug/L		93	69 - 129
Ethylbenzene	50.0	47.6		ug/L		95	70 - 130
Methyl tert-butyl ether	50.0	45.4		ug/L		91	57 - 138
m-Xylene & p-Xylene	100	92.4		ug/L		92	65 - 127
Naphthalene	50.0	49.0		ug/L		98	69 - 133
o-Xylene	50.0	46.1		ug/L		92	64 - 128
Toluene	50.0	46.9		ug/L		94	66 - 127
Xylenes, Total	150	139		ug/L		92	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	89		80 - 120

**Lab Sample ID: LCS 490-330942/2-A**

**Matrix: Water**

**Analysis Batch: 333341**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 330942**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trimethylbenzene	50.0	44.8		ug/L		90	60 - 131
1,3,5-Trimethylbenzene	50.0	45.7		ug/L		91	70 - 130
Benzene	50.0	45.7		ug/L		91	69 - 129
Ethylbenzene	50.0	46.9		ug/L		94	70 - 130
Methyl tert-butyl ether	50.0	45.6		ug/L		91	57 - 138
m-Xylene & p-Xylene	100	91.1		ug/L		91	65 - 127
Naphthalene	50.0	47.6		ug/L		95	69 - 133
o-Xylene	50.0	45.5		ug/L		91	64 - 128
Toluene	50.0	46.2		ug/L		92	66 - 127
Xylenes, Total	150	137		ug/L		91	

TestAmerica Chicago

# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCS 490-330942/2-A  
 Matrix: Water  
 Analysis Batch: 333341

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 330942

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	93		80 - 120

Lab Sample ID: MB 490-333050/58  
 Matrix: Water  
 Analysis Batch: 333050

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 17:12	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 17:12	1
Benzene	<0.36		0.50	0.36	ug/L			04/21/16 17:12	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			04/21/16 17:12	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			04/21/16 17:12	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 17:12	1
Toluene	<0.33		0.50	0.33	ug/L			04/21/16 17:12	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 17:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	100		80 - 120		04/21/16 17:12	1

Lab Sample ID: LCS 490-333050/28  
 Matrix: Water  
 Analysis Batch: 333050

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	100	94.1		ug/L		94	60 - 131
1,3,5-Trimethylbenzene	100	94.2		ug/L		94	70 - 130
Benzene	100	95.1		ug/L		95	69 - 129
Ethylbenzene	100	96.5		ug/L		96	70 - 130
Methyl tert-butyl ether	100	143 *		ug/L		143	57 - 138
m-Xylene & p-Xylene	200	189		ug/L		94	65 - 127
Naphthalene	100	90.5		ug/L		90	69 - 133
o-Xylene	100	95.4		ug/L		95	64 - 128
Toluene	100	96.6		ug/L		97	66 - 127
Xylenes, Total	300	284		ug/L		95	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	101		80 - 120

Lab Sample ID: LCSD 490-333050/40  
 Matrix: Water  
 Analysis Batch: 333050

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	100	91.7	^	ug/L					
1,3,5-Trimethylbenzene	100	91.9		ug/L					
Benzene	100	93.8		ug/L					
Ethylbenzene	100	94.8	^	ug/L					

TestAmerica Chicago

# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 490-333050/40  
 Matrix: Water  
 Analysis Batch: 333050

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	100	140		ug/L					
m-Xylene & p-Xylene	200	185		ug/L					
Naphthalene	100	93.2		ug/L					
o-Xylene	100	94.0	^	ug/L					
Toluene	100	95.5	^	ug/L					
Xylenes, Total	300	279		ug/L					

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene			

Lab Sample ID: MB 490-333341/14  
 Matrix: Water  
 Analysis Batch: 333341

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 12:31	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			04/21/16 12:31	1
Benzene	<0.36		0.50	0.36	ug/L			04/21/16 12:31	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			04/21/16 12:31	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			04/21/16 12:31	1
Naphthalene	<2.4		5.0	2.4	ug/L			04/21/16 12:31	1
Toluene	<0.33		0.50	0.33	ug/L			04/21/16 12:31	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			04/21/16 12:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		80 - 120		04/21/16 12:31	1

Lab Sample ID: LCS 490-333341/34  
 Matrix: Water  
 Analysis Batch: 333341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	100	87.0		ug/L		87	60 - 131
1,3,5-Trimethylbenzene	100	88.0		ug/L		88	70 - 130
Benzene	100	89.9		ug/L		90	69 - 129
Ethylbenzene	100	92.3		ug/L		92	70 - 130
Methyl tert-butyl ether	100	87.2		ug/L		87	57 - 138
m-Xylene & p-Xylene	200	175		ug/L		87	65 - 127
Naphthalene	100	90.8		ug/L		91	69 - 133
o-Xylene	100	88.9		ug/L		89	64 - 128
Toluene	100	90.7		ug/L		91	66 - 127
Xylenes, Total	300	264		ug/L		88	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	88		80 - 120



# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 490-333341/35  
 Matrix: Water  
 Analysis Batch: 333341

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	100	86.5		ug/L		86	60 - 131	1	43
1,3,5-Trimethylbenzene	100	87.5		ug/L		87	70 - 130	1	20
Benzene	100	88.9		ug/L		89	69 - 129	1	33
Ethylbenzene	100	91.7		ug/L		92	70 - 130	1	35
Methyl tert-butyl ether	100	84.9		ug/L		85	57 - 138	3	40
m-Xylene & p-Xylene	200	173		ug/L		87	65 - 127	1	39
Naphthalene	100	92.3		ug/L		92	69 - 133	2	48
o-Xylene	100	88.2		ug/L		88	64 - 128	1	35
Toluene	100	89.5		ug/L		89	66 - 127	1	34
Xylenes, Total	300	261		ug/L		87		1	

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
a,a,a-Trifluorotoluene	87		80 - 120

# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## Client Sample ID: MW-1

Date Collected: 04/07/16 12:00

Date Received: 04/09/16 10:15

Lab Sample ID: 500-109984-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 13:03	FKG	TAL NSH

## Client Sample ID: MW-2

Date Collected: 04/07/16 14:30

Date Received: 04/09/16 10:15

Lab Sample ID: 500-109984-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		100	333341	04/21/16 21:30	FKG	TAL NSH

## Client Sample ID: MW-2p

Date Collected: 04/07/16 14:10

Date Received: 04/09/16 10:15

Lab Sample ID: 500-109984-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		10	333341	04/21/16 22:02	FKG	TAL NSH

## Client Sample ID: MW-3

Date Collected: 04/07/16 13:35

Date Received: 04/09/16 10:15

Lab Sample ID: 500-109984-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 13:34	FKG	TAL NSH

## Client Sample ID: MW-4

Date Collected: 04/07/16 14:30

Date Received: 04/09/16 10:15

Lab Sample ID: 500-109984-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		100	333341	04/21/16 22:33	FKG	TAL NSH

## Client Sample ID: MW-4p

Date Collected: 04/07/16 13:50

Date Received: 04/09/16 10:15

Lab Sample ID: 500-109984-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 14:06	FKG	TAL NSH

TestAmerica Chicago

# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

**Client Sample ID: MW-6**

Date Collected: 04/07/16 14:05

Date Received: 04/09/16 10:15

**Lab Sample ID: 500-109984-7**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/22/16 08:30	FKG	TAL NSH

**Client Sample ID: MW-6p**

Date Collected: 04/07/16 13:45

Date Received: 04/09/16 10:15

**Lab Sample ID: 500-109984-8**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 18:21	FKG	TAL NSH

**Client Sample ID: MW-8p**

Date Collected: 04/07/16 11:35

Date Received: 04/09/16 10:15

**Lab Sample ID: 500-109984-9**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 18:53	FKG	TAL NSH
Total/NA	Analysis	WDNR		10	333341	04/21/16 23:36	FKG	TAL NSH

**Client Sample ID: MW-12D**

Date Collected: 04/07/16 11:55

Date Received: 04/09/16 10:15

**Lab Sample ID: 500-109984-10**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 19:24	FKG	TAL NSH

**Client Sample ID: MW-12p**

Date Collected: 04/07/16 11:40

Date Received: 04/09/16 10:15

**Lab Sample ID: 500-109984-11**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 19:56	FKG	TAL NSH

**Client Sample ID: Trip Blank**

Date Collected: 04/07/16 00:00

Date Received: 04/09/16 10:15

**Lab Sample ID: 500-109984-12**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333050	04/21/16 17:54	GWM	TAL NSH

TestAmerica Chicago

# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

**Client Sample ID: WITKOWSKI**

**Lab Sample ID: 500-109984-13**

Date Collected: 04/07/16 11:00

Matrix: Water

Date Received: 04/09/16 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 20:27	FKG	TAL NSH

**Client Sample ID: OLSON**

**Lab Sample ID: 500-109984-14**

Date Collected: 04/07/16 13:30

Matrix: Water

Date Received: 04/09/16 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	333341	04/21/16 20:59	FKG	TAL NSH

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



# Certification Summary

Client: Cedar Corporation  
Project/Site: Olson's Corners - 4178

TestAmerica Job ID: 500-109984-1

## 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

## Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	998020430	08-31-16

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To \_\_\_\_\_  
Contact: Scott McCurdy  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

Bill To \_\_\_\_\_  
Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-109984

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

Page 1 of 2

Temperature °C of Cooler: -0.6

Client		Client Project #		Preservative												
<u>Cedar Corporation</u>		<u>4178</u>		<u>1</u>												
Project Name		Project Location/State		Lab Project #		Parameter										
<u>Olson Corners</u>		<u>WI</u>				<u>PVOC + nap</u>										
Sampler		Lab PM														
<u>RDS / KSB</u>		<u>Sandie Fradrick</u>														
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix										
			Date	Time												
<u>1</u>		<u>MW-1</u>	<u>4-7-16</u>	<u>1200</u>	<u>2</u>	<u>W</u>										
<u>2</u>		<u>MW-2</u>	<u>4-7-16</u>	<u>1430</u>												
<u>3</u>		<u>MW-2p</u>		<u>1410</u>												
<u>4</u>		<u>MW-3</u>		<u>1335</u>												
<u>5</u>		<u>MW-4</u>		<u>1430</u>												
<u>6</u>		<u>MW-4p</u>		<u>1350</u>												
<u>7</u>		<u>MW-6</u>		<u>1405</u>												
<u>8</u>		<u>MW-6p</u>		<u>1345</u>												
<u>9</u>		<u>MW-8p</u>		<u>1135</u>												
<u>10</u>		<u>MW-12D</u>	<u>↓</u>	<u>1155</u>	<u>↓</u>	<u>↓</u>										



FP

Turnaround Time Required (Business Days) \_\_\_\_\_  
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>Cedar Corp</u>	Date: <u>4-8-16</u>	Time: <u>1000</u>	Received By: <u>[Signature]</u>	Company: <u>TA-MTE</u>	Date: <u>04/08/16</u>	Time: <u>10:15</u>	Lab Courier: _____
Relinquished By: _____	Company: _____	Date: _____	Time: _____	Received By: _____	Company: _____	Date: _____	Time: _____	Shipped: <u>FX SATURDAY</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: \_\_\_\_\_

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To (optional)  
 Contact: Scott McCurdy  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

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

## Chain of Custody Record

Lab Job #: 500-109984  
 Chain of Custody Number: \_\_\_\_\_  
 Page 2 of 2  
 Temperature °C of Cooler: -0.6

Client		Client Project #		Preservative		Parameter		Comments			
Cedar Corporation		4178		1				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 #		PVOC + Nap							
Olson Corners											
Project Location/State		Lab PM									
WI		Sandie Fredrick									
Sampler											
RDS / KJB											
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix					
11		MW-12P	4-7-16	1140	2	W	X				
12		Trip Blank									
13		WITKOWSKI	4-7-16	11:00	2	W		Added by TA AS 4/9/16			
14		OLSON	4-7-16	13:30	2	W					

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	Company	Date	Time	Received By	Company	Date	Time
<i>[Signature]</i>	Cedar Corp	4-8-16	1200	<i>[Signature]</i>	TA/MS	04/09/16	10:15
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier \_\_\_\_\_  
 Shipped \_\_\_\_\_  
 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 - W/pe
  - DW - Drinking Water
  - O - Other

Client Comments

Lab Comments:

00047

00352

**FedEx** Package Express **US Airbill**

FedEx Tracking Number

8063 2393 7733

**1 From**

Date 4-8-16

Sender's Name Ken. Bartol

Phone 714 235-9681

Company Cedar Corporation

Address 614 Wilson Ave

Dept./Floor/Suite/Room

City Muskegon

State MI ZIP 49751

**2 Your Internal Billing Reference**

**3 To**

Recipient's Name SAMPLE RECEIPT

Phone 708 534-5200

Company TESTAMERICA CHICAGO

Address 2417 BOND ST

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City UNIVERSITY PARK

State IL ZIP 60484-3101

0115523186



8063 2393 7733



500-109984 Waybill

fedex.com 1.800.GoFedEx 1.800.463.3339

fedex.com 1.800.GoFedEx 1.800.463.3339



**4 Express Package Service**

\* To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.  
For packages over 70 lbs, use the  
FedEx Express Freight US Airbill.

**Next Business Day**

FedEx First Overnight  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Priority Overnight  
Next business morning.\* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Standard Overnight  
Next business afternoon.\* Saturday Delivery NOT available.

**2 or 3 Business Days**

FedEx 2Day A.M.  
Second business morning.\* Saturday Delivery NOT available.

FedEx 2Day  
Second business afternoon.\* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Express Saver  
Third business day.\* Saturday Delivery NOT available.

**5 Packaging**

\* Declared value limit \$500.

FedEx Envelope\*

FedEx Pak\*

FedEx Box

FedEx Tube

Other

**6 Special Handling and Delivery Signature Options**

SATURDAY Delivery  
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

No Signature Required  
Packages may be left without obtaining a signature for delivery.

Direct Signature  
Someone at recipient's address may sign for delivery. Fee applies.

Indirect Signature  
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

**Does this shipment contain dangerous goods?**

One box must be checked.

No  Yes  
As per attached Shipper's Declaration.

Yes  
Shipper's Declaration not required.

Dry Ice  
Dry Ice, 8, UN 1845 \_\_\_\_\_ x \_\_\_\_\_ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

Cargo Aircraft Only

**7 Payment Bill to:**

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip Acct. No

Sender Acct. No. in Section 1 will be billed.

Recipient

Third Party

Credit Card

Cash/Check

Total Packages \_\_\_\_\_ Total Weight \_\_\_\_\_

415 lbs.

Credit Card Auth. \_\_\_\_\_

Your liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.



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**COOLER RECEIPT FORM**



Cooler Received/Opened On 4-12-16 @ 0930  
 Time Samples Removed From Cooler 1230 Time Samples Placed In Storage 1430 (2 Hour Window)  
 1. Tracking # 1565 (last 4 digits, FedEx) Courier: FedEx  
 IR Gun ID 17960358 pH Strip Lot HC568401 Chlorine Strip Lot 1211515B

2. Temperature of rep. sample or temp blank when opened: 2.7 Degrees Celsius  
 3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA  
 4. Were custody seals on outside of cooler? YES...NO...NA  
 If yes, how many and where: 2 Front  
 5. Were the seals intact, signed, and dated correctly? YES...NO...NA  
 6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) Ⓟ

7. Were custody seals on containers: YES NO and intact YES...NO...NA  
 Were these signed and dated correctly? YES...NO...NA  
 8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None  
 9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None  
 10. Did all containers arrive in good condition (unbroken)? YES...NO...NA  
 11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA  
 12. Did all container labels and tags agree with custody papers? YES...NO...NA  
 13a. Were VOA vials received? YES...NO...NA  
 b. Was there any observable headspace present in any VOA vial? YES...NO...NA  
 14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) MMK

- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA  
 b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA  
 16. Was residual chlorine present? YES...NO...NA  
 I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) MMK

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA  
 18. Did you sign the custody papers in the appropriate place? YES...NO...NA  
 19. Were correct containers used for the analysis requested? YES...NO...NA  
 20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) MMK

I certify that I attached a label with the unique LIMS number to each container (initial) MMK

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO...# \_\_\_\_\_





## COOLER RECEIPT FORM



500-109984 Chain of Custody

Cooler Received/Opened On 4-12-16 @ 0930

Time Samples Removed From Cooler 1230 Time Samples Placed In Storage 1430 (2 Hour Window)

1. Tracking # 1565 (last 4 digits, FedEx) Courier: Fed-Ex

IR Gun ID 17960358 pH Strip Lot HC568401 Chlorine Strip Lot 1211515B

2. Temperature of rep. sample or temp blank when opened: 2.7 Degrees Celsius

3. If item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 2 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (Initial) [Signature]

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap, Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES NO NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (Initial) MNK

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (Initial) MNK

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (Initial) MNK

I certify that I attached a label with the unique LIMS number to each container (Initial) MNK

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO...# \_\_\_\_\_





## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-109984-1

Login Number: 109984

List Number: 1

Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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	-0.6
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-109984-1

Login Number: 109984

List Number: 2

Creator: Ramos, Martina M

List Source: TestAmerica Nashville

List Creation: 04/12/16 02:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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 (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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

# 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: 500-116373-1  
Client Project/Site: Olson's Corner - 4178

For:  
Cedar Corporation  
604 Wilson Avenue  
Menomonie, Wisconsin 54751

Attn: Scott McCurdy



Authorized for release by:  
9/8/2016 11:56:35 AM

Sandie Fredrick, Project Manager II  
(920)261-1660  
sandie.fredrick@testamericainc.com

### LINKS

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results through  
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The  
Expert**

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

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

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

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

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# Case Narrative

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

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**Job ID: 500-116373-1**

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**Laboratory: TestAmerica Chicago**

**Narrative**

---

**Job Narrative**  
**500-116373-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 8/30/2016 10:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

**GC VOA**

Method(s) WI-GRO: The following samples was diluted due to the nature of the sample matrix: MW-2 (500-116373-2) and MW-4 (500-116373-5). Elevated reporting limits (RLs) are provided.

Method(s) WI-GRO: pH is <2

MW-1 (500-116373-1), MW-2 (500-116373-2), MW-2P (500-116373-3), MW-3 (500-116373-4), MW-4 (500-116373-5), MW-4P (500-116373-6), MW-6 (500-116373-7), MW-6P (500-116373-8), MW-8P (500-116373-9), MW-12P (500-116373-10) and MW-12D (500-116373-11)

Method(s) WI-GRO: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 490-368187.

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

**VOA Prep**

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

# Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## Client Sample ID: MW-1

## Lab Sample ID: 500-116373-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	15		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	3.8		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	19		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	7.1		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	13		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	1.8		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	26		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-2

## Lab Sample ID: 500-116373-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	4800		500	300	ug/L	1000		WDNR	Total/NA
1,3,5-Trimethylbenzene	1200		500	300	ug/L	1000		WDNR	Total/NA
Benzene	15000		500	360	ug/L	1000		WDNR	Total/NA
Ethylbenzene	3400		500	370	ug/L	1000		WDNR	Total/NA
Methyl tert-butyl ether	970		500	240	ug/L	1000		WDNR	Total/NA
Naphthalene	2400	J	5000	2400	ug/L	1000		WDNR	Total/NA
Toluene	35000		500	330	ug/L	1000		WDNR	Total/NA
Xylenes, Total	25000		1500	580	ug/L	1000		WDNR	Total/NA

## Client Sample ID: MW-2P

## Lab Sample ID: 500-116373-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	89		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	19		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	1500		5.0	3.6	ug/L	10		WDNR	Total/NA
Ethylbenzene	180		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	98		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	61		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	220		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	260		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-3

## Lab Sample ID: 500-116373-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	35		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	3.3		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	4.9		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	35		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	16		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	17		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	2.7		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	49		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-4

## Lab Sample ID: 500-116373-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	1000		50	30	ug/L	100		WDNR	Total/NA
1,3,5-Trimethylbenzene	460		50	30	ug/L	100		WDNR	Total/NA
Benzene	4500		50	36	ug/L	100		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## Client Sample ID: MW-4 (Continued)

Lab Sample ID: 500-116373-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	770		50	37	ug/L	100		WDNR	Total/NA
Methyl tert-butyl ether	74		50	24	ug/L	100		WDNR	Total/NA
Naphthalene	970		500	240	ug/L	100		WDNR	Total/NA
Toluene	890		50	33	ug/L	100		WDNR	Total/NA
Xylenes, Total	2400		150	58	ug/L	100		WDNR	Total/NA

## Client Sample ID: MW-4P

Lab Sample ID: 500-116373-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	59		0.50	0.30	ug/L	1		WDNR	Total/NA
1,3,5-Trimethylbenzene	14		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	360		2.5	1.8	ug/L	5		WDNR	Total/NA
Ethylbenzene	280		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	81		0.50	0.24	ug/L	1		WDNR	Total/NA
Naphthalene	98		5.0	2.4	ug/L	1		WDNR	Total/NA
Toluene	30		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	230		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-6

Lab Sample ID: 500-116373-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	4.1		0.50	0.30	ug/L	1		WDNR	Total/NA
Benzene	2.1		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	4.2		0.50	0.37	ug/L	1		WDNR	Total/NA
Naphthalene	62		5.0	2.4	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-6P

Lab Sample ID: 500-116373-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.5		0.50	0.36	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	0.70		0.50	0.24	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-8P

Lab Sample ID: 500-116373-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2500		50	36	ug/L	100		WDNR	Total/NA
Ethylbenzene	140		0.50	0.37	ug/L	1		WDNR	Total/NA
Toluene	7.9		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	5.8		1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-12P

Lab Sample ID: 500-116373-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzene	360		0.50	0.36	ug/L	1		WDNR	Total/NA
Ethylbenzene	0.57		0.50	0.37	ug/L	1		WDNR	Total/NA
Methyl tert-butyl ether	64		0.50	0.24	ug/L	1		WDNR	Total/NA
Toluene	0.94		0.50	0.33	ug/L	1		WDNR	Total/NA
Xylenes, Total	0.99	J	1.5	0.58	ug/L	1		WDNR	Total/NA

## Client Sample ID: MW-12D

Lab Sample ID: 500-116373-11

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

**Client Sample ID: MW-12D (Continued)**

**Lab Sample ID: 500-116373-11**

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.29	J	0.50	0.24	ug/L	1		WDNR	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Method Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

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Method	Method Description	Protocol	Laboratory
WDNR	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	TAL NSH

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**Protocol References:**

WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Sample Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-116373-1	MW-1	Water	08/25/16 12:30	08/30/16 10:05
500-116373-2	MW-2	Water	08/25/16 16:00	08/30/16 10:05
500-116373-3	MW-2P	Water	08/25/16 14:30	08/30/16 10:05
500-116373-4	MW-3	Water	08/25/16 14:00	08/30/16 10:05
500-116373-5	MW-4	Water	08/25/16 15:30	08/30/16 10:05
500-116373-6	MW-4P	Water	08/25/16 15:00	08/30/16 10:05
500-116373-7	MW-6	Water	08/25/16 13:30	08/30/16 10:05
500-116373-8	MW-6P	Water	08/25/16 14:00	08/30/16 10:05
500-116373-9	MW-8P	Water	08/25/16 11:30	08/30/16 10:05
500-116373-10	MW-12P	Water	08/25/16 12:00	08/30/16 10:05
500-116373-11	MW-12D	Water	08/25/16 13:00	08/30/16 10:05

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

**Client Sample ID: MW-1**

**Lab Sample ID: 500-116373-1**

Date Collected: 08/25/16 12:30

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	15		0.50	0.30	ug/L			09/01/16 15:19	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/01/16 15:19	1
Benzene	3.8		0.50	0.36	ug/L			09/01/16 15:19	1
Ethylbenzene	19		0.50	0.37	ug/L			09/01/16 15:19	1
Methyl tert-butyl ether	7.1		0.50	0.24	ug/L			09/01/16 15:19	1
Naphthalene	13		5.0	2.4	ug/L			09/01/16 15:19	1
Toluene	1.8		0.50	0.33	ug/L			09/01/16 15:19	1
Xylenes, Total	26		1.5	0.58	ug/L			09/01/16 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	109		80 - 120		09/01/16 15:19	1

**Client Sample ID: MW-2**

**Lab Sample ID: 500-116373-2**

Date Collected: 08/25/16 16:00

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	4800		500	300	ug/L			09/01/16 22:54	1000
1,3,5-Trimethylbenzene	1200		500	300	ug/L			09/01/16 22:54	1000
Benzene	15000		500	360	ug/L			09/01/16 22:54	1000
Ethylbenzene	3400		500	370	ug/L			09/01/16 22:54	1000
Methyl tert-butyl ether	970		500	240	ug/L			09/01/16 22:54	1000
Naphthalene	2400	J	5000	2400	ug/L			09/01/16 22:54	1000
Toluene	35000		500	330	ug/L			09/01/16 22:54	1000
Xylenes, Total	25000		1500	580	ug/L			09/01/16 22:54	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		80 - 120		09/01/16 22:54	1000

**Client Sample ID: MW-2P**

**Lab Sample ID: 500-116373-3**

Date Collected: 08/25/16 14:30

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	89		0.50	0.30	ug/L			09/01/16 15:51	1
1,3,5-Trimethylbenzene	19		0.50	0.30	ug/L			09/01/16 15:51	1
Benzene	1500		5.0	3.6	ug/L			09/07/16 23:39	10
Ethylbenzene	180		0.50	0.37	ug/L			09/01/16 15:51	1
Methyl tert-butyl ether	98		0.50	0.24	ug/L			09/01/16 15:51	1
Naphthalene	61		5.0	2.4	ug/L			09/01/16 15:51	1
Toluene	220		0.50	0.33	ug/L			09/01/16 15:51	1
Xylenes, Total	260		1.5	0.58	ug/L			09/01/16 15:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	108		80 - 120		09/01/16 15:51	1
a,a,a-Trifluorotoluene	92		80 - 120		09/07/16 23:39	10

TestAmerica Chicago

# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

**Client Sample ID: MW-3**

**Lab Sample ID: 500-116373-4**

Date Collected: 08/25/16 14:00

Matrix: Water

Date Received: 08/30/16 10:05

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	35		0.50	0.30	ug/L			09/07/16 22:34	1
1,3,5-Trimethylbenzene	3.3		0.50	0.30	ug/L			09/07/16 22:34	1
Benzene	4.9		0.50	0.36	ug/L			09/07/16 22:34	1
Ethylbenzene	35		0.50	0.37	ug/L			09/07/16 22:34	1
Methyl tert-butyl ether	16		0.50	0.24	ug/L			09/07/16 22:34	1
Naphthalene	17		5.0	2.4	ug/L			09/07/16 22:34	1
Toluene	2.7		0.50	0.33	ug/L			09/07/16 22:34	1
Xylenes, Total	49		1.5	0.58	ug/L			09/07/16 22:34	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	96		80 - 120					09/07/16 22:34	1

**Client Sample ID: MW-4**

**Lab Sample ID: 500-116373-5**

Date Collected: 08/25/16 15:30

Matrix: Water

Date Received: 08/30/16 10:05

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	1000		50	30	ug/L			09/01/16 22:21	100
1,3,5-Trimethylbenzene	460		50	30	ug/L			09/01/16 22:21	100
Benzene	4500		50	36	ug/L			09/01/16 22:21	100
Ethylbenzene	770		50	37	ug/L			09/01/16 22:21	100
Methyl tert-butyl ether	74		50	24	ug/L			09/01/16 22:21	100
Naphthalene	970		500	240	ug/L			09/01/16 22:21	100
Toluene	890		50	33	ug/L			09/01/16 22:21	100
Xylenes, Total	2400		150	58	ug/L			09/01/16 22:21	100
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	87		80 - 120					09/01/16 22:21	100

**Client Sample ID: MW-4P**

**Lab Sample ID: 500-116373-6**

Date Collected: 08/25/16 15:00

Matrix: Water

Date Received: 08/30/16 10:05

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	59		0.50	0.30	ug/L			09/01/16 16:24	1
1,3,5-Trimethylbenzene	14		0.50	0.30	ug/L			09/01/16 16:24	1
Benzene	360		2.5	1.8	ug/L			09/08/16 00:11	5
Ethylbenzene	280		0.50	0.37	ug/L			09/01/16 16:24	1
Methyl tert-butyl ether	81		0.50	0.24	ug/L			09/01/16 16:24	1
Naphthalene	98		5.0	2.4	ug/L			09/01/16 16:24	1
Toluene	30		0.50	0.33	ug/L			09/01/16 16:24	1
Xylenes, Total	230		1.5	0.58	ug/L			09/01/16 16:24	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	117		80 - 120					09/01/16 16:24	1
a,a,a-Trifluorotoluene	93		80 - 120					09/08/16 00:11	5

TestAmerica Chicago



# Client Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

**Client Sample ID: MW-6**

**Lab Sample ID: 500-116373-7**

Date Collected: 08/25/16 13:30

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	4.1		0.50	0.30	ug/L			09/07/16 21:29	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/07/16 21:29	1
<b>Benzene</b>	<b>2.1</b>		0.50	0.36	ug/L			09/07/16 21:29	1
<b>Ethylbenzene</b>	<b>4.2</b>		0.50	0.37	ug/L			09/07/16 21:29	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			09/07/16 21:29	1
<b>Naphthalene</b>	<b>62</b>		5.0	2.4	ug/L			09/07/16 21:29	1
Toluene	<0.33		0.50	0.33	ug/L			09/07/16 21:29	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			09/07/16 21:29	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	91		80 - 120					09/07/16 21:29	1

**Client Sample ID: MW-6P**

**Lab Sample ID: 500-116373-8**

Date Collected: 08/25/16 14:00

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/07/16 22:01	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/07/16 22:01	1
<b>Benzene</b>	<b>2.5</b>		0.50	0.36	ug/L			09/07/16 22:01	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			09/07/16 22:01	1
<b>Methyl tert-butyl ether</b>	<b>0.70</b>		0.50	0.24	ug/L			09/07/16 22:01	1
Naphthalene	<2.4		5.0	2.4	ug/L			09/07/16 22:01	1
Toluene	<0.33		0.50	0.33	ug/L			09/07/16 22:01	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			09/07/16 22:01	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	91		80 - 120					09/07/16 22:01	1

**Client Sample ID: MW-8P**

**Lab Sample ID: 500-116373-9**

Date Collected: 08/25/16 11:30

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/01/16 18:02	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/01/16 18:02	1
<b>Benzene</b>	<b>2500</b>		50	36	ug/L			09/08/16 00:43	100
<b>Ethylbenzene</b>	<b>140</b>		0.50	0.37	ug/L			09/01/16 18:02	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			09/01/16 18:02	1
Naphthalene	<2.4		5.0	2.4	ug/L			09/01/16 18:02	1
<b>Toluene</b>	<b>7.9</b>		0.50	0.33	ug/L			09/01/16 18:02	1
<b>Xylenes, Total</b>	<b>5.8</b>		1.5	0.58	ug/L			09/01/16 18:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	103		80 - 120					09/01/16 18:02	1
a,a,a-Trifluorotoluene	91		80 - 120					09/08/16 00:43	100

TestAmerica Chicago

# Client Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

**Client Sample ID: MW-12P**

**Lab Sample ID: 500-116373-10**

Date Collected: 08/25/16 12:00

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/01/16 18:34	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/01/16 18:34	1
<b>Benzene</b>	<b>360</b>		0.50	0.36	ug/L			09/01/16 18:34	1
<b>Ethylbenzene</b>	<b>0.57</b>		0.50	0.37	ug/L			09/01/16 18:34	1
<b>Methyl tert-butyl ether</b>	<b>64</b>		0.50	0.24	ug/L			09/01/16 18:34	1
Naphthalene	<2.4		5.0	2.4	ug/L			09/01/16 18:34	1
<b>Toluene</b>	<b>0.94</b>		0.50	0.33	ug/L			09/01/16 18:34	1
<b>Xylenes, Total</b>	<b>0.99</b>	<b>J</b>	1.5	0.58	ug/L			09/01/16 18:34	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	109		80 - 120					09/01/16 18:34	1

**Client Sample ID: MW-12D**

**Lab Sample ID: 500-116373-11**

Date Collected: 08/25/16 13:00

Matrix: Water

Date Received: 08/30/16 10:05

**Method: WDNR - Wisconsin - Gasoline Range Organics (GC)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/07/16 23:06	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/07/16 23:06	1
Benzene	<0.36		0.50	0.36	ug/L			09/07/16 23:06	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			09/07/16 23:06	1
<b>Methyl tert-butyl ether</b>	<b>0.29</b>	<b>J</b>	0.50	0.24	ug/L			09/07/16 23:06	1
Naphthalene	<2.4		5.0	2.4	ug/L			09/07/16 23:06	1
<b>Toluene</b>	<b>&lt;0.33</b>		0.50	0.33	ug/L			09/07/16 23:06	1
<b>Xylenes, Total</b>	<b>&lt;0.58</b>		1.5	0.58	ug/L			09/07/16 23:06	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
a,a,a-Trifluorotoluene	88		80 - 120					09/07/16 23:06	1

# Definitions/Glossary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## Qualifiers

### GC VOA

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

## 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: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## GC VOA

### Analysis Batch: 367148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116373-1	MW-1	Total/NA	Water	WDNR	
500-116373-2	MW-2	Total/NA	Water	WDNR	
500-116373-3	MW-2P	Total/NA	Water	WDNR	
500-116373-5	MW-4	Total/NA	Water	WDNR	
500-116373-6	MW-4P	Total/NA	Water	WDNR	
500-116373-9	MW-8P	Total/NA	Water	WDNR	
500-116373-10	MW-12P	Total/NA	Water	WDNR	
MB 490-367148/5	Method Blank	Total/NA	Water	WDNR	
LCS 490-367148/2	Lab Control Sample	Total/NA	Water	WDNR	
LCSD 490-367148/3	Lab Control Sample Dup	Total/NA	Water	WDNR	

### Analysis Batch: 368187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116373-3	MW-2P	Total/NA	Water	WDNR	
500-116373-4	MW-3	Total/NA	Water	WDNR	
500-116373-6	MW-4P	Total/NA	Water	WDNR	
500-116373-7	MW-6	Total/NA	Water	WDNR	
500-116373-8	MW-6P	Total/NA	Water	WDNR	
500-116373-9	MW-8P	Total/NA	Water	WDNR	
500-116373-11	MW-12D	Total/NA	Water	WDNR	
MB 490-368187/5	Method Blank	Total/NA	Water	WDNR	
LCS 490-368187/2	Lab Control Sample	Total/NA	Water	WDNR	
LCSD 490-368187/3	Lab Control Sample Dup	Total/NA	Water	WDNR	



# Surrogate Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT (80-120)
500-116373-1	MW-1	109
500-116373-2	MW-2	99
500-116373-3	MW-2P	108
500-116373-3	MW-2P	92
500-116373-4	MW-3	96
500-116373-5	MW-4	87
500-116373-6	MW-4P	117
500-116373-6	MW-4P	93
500-116373-7	MW-6	91
500-116373-8	MW-6P	91
500-116373-9	MW-8P	103
500-116373-9	MW-8P	91
500-116373-10	MW-12P	109
500-116373-11	MW-12D	88
LCS 490-367148/2	Lab Control Sample	91
LCS 490-368187/2	Lab Control Sample	93
LCSD 490-367148/3	Lab Control Sample Dup	89
LCSD 490-368187/3	Lab Control Sample Dup	93
MB 490-367148/5	Method Blank	87
MB 490-368187/5	Method Blank	88

### Surrogate Legend

TFT = a,a,a-Trifluorotoluene

# QC Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC)

Lab Sample ID: MB 490-367148/5  
Matrix: Water  
Analysis Batch: 367148

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

Analyte	MB MB		LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/01/16 12:23	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/01/16 12:23	1
Benzene	<0.36		0.50	0.36	ug/L			09/01/16 12:23	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			09/01/16 12:23	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			09/01/16 12:23	1
Naphthalene	<2.4		5.0	2.4	ug/L			09/01/16 12:23	1
Toluene	<0.33		0.50	0.33	ug/L			09/01/16 12:23	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			09/01/16 12:23	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene	87		80 - 120		09/01/16 12:23	1

Lab Sample ID: LCS 490-367148/2  
Matrix: Water  
Analysis Batch: 367148

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	50.0	47.0		ug/L	94	70 - 130	
Benzene	50.0	46.7		ug/L	93	69 - 129	
Ethylbenzene	50.0	47.3		ug/L	95	70 - 130	
Methyl tert-butyl ether	50.0	45.2		ug/L	90	57 - 138	
m-Xylene & p-Xylene	100	89.5		ug/L	90	65 - 127	
Naphthalene	50.0	58.1		ug/L	116	69 - 133	
o-Xylene	50.0	48.0		ug/L	96	64 - 128	
Toluene	50.0	47.2		ug/L	94	66 - 127	
Xylenes, Total	150	138		ug/L	92		

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	91		80 - 120

Lab Sample ID: LCSD 490-367148/3  
Matrix: Water  
Analysis Batch: 367148

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
1,2,4-Trimethylbenzene	50.0	46.9		ug/L		94	60 - 131	1	43
1,3,5-Trimethylbenzene	50.0	47.4		ug/L		95	70 - 130	1	20
Benzene	50.0	46.8		ug/L		94	69 - 129	0	33
Ethylbenzene	50.0	47.6		ug/L		95	70 - 130	1	35
Methyl tert-butyl ether	50.0	45.3		ug/L		91	57 - 138	0	40
m-Xylene & p-Xylene	100	90.2		ug/L		90	65 - 127	1	39
Naphthalene	50.0	59.3		ug/L		119	69 - 133	2	48
o-Xylene	50.0	48.5		ug/L		97	64 - 128	1	35
Toluene	50.0	47.4		ug/L		95	66 - 127	0	34
Xylenes, Total	150	139		ug/L		92		1	

TestAmerica Chicago

# QC Sample Results

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 490-367148/3  
Matrix: Water  
Analysis Batch: 367148

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

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
a,a,a-Trifluorotoluene	89		80 - 120

Lab Sample ID: MB 490-368187/5  
Matrix: Water  
Analysis Batch: 368187

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/07/16 11:44	1
1,3,5-Trimethylbenzene	<0.30		0.50	0.30	ug/L			09/07/16 11:44	1
Benzene	<0.36		0.50	0.36	ug/L			09/07/16 11:44	1
Ethylbenzene	<0.37		0.50	0.37	ug/L			09/07/16 11:44	1
Methyl tert-butyl ether	<0.24		0.50	0.24	ug/L			09/07/16 11:44	1
Naphthalene	<2.4		5.0	2.4	ug/L			09/07/16 11:44	1
Toluene	<0.33		0.50	0.33	ug/L			09/07/16 11:44	1
Xylenes, Total	<0.58		1.5	0.58	ug/L			09/07/16 11:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	88		80 - 120		09/07/16 11:44	1

Lab Sample ID: LCS 490-368187/2  
Matrix: Water  
Analysis Batch: 368187

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	50.0	50.6		ug/L		101	60 - 131
1,3,5-Trimethylbenzene	50.0	50.8		ug/L		102	70 - 130
Benzene	50.0	49.7		ug/L		99	69 - 129
Ethylbenzene	50.0	50.3		ug/L		101	70 - 130
Methyl tert-butyl ether	50.0	48.8		ug/L		98	57 - 138
m-Xylene & p-Xylene	100	98.9		ug/L		99	65 - 127
Naphthalene	50.0	48.9		ug/L		98	69 - 133
o-Xylene	50.0	49.3		ug/L		99	64 - 128
Toluene	50.0	49.9		ug/L		100	66 - 127
Xylenes, Total	150	148		ug/L		99	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	93		80 - 120

Lab Sample ID: LCSD 490-368187/3  
Matrix: Water  
Analysis Batch: 368187

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	50.0	49.6		ug/L		99	60 - 131	2	43
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	70 - 130	2	20
Benzene	50.0	48.3		ug/L		97	69 - 129	3	33
Ethylbenzene	50.0	48.8		ug/L		98	70 - 130	3	35

TestAmerica Chicago

# QC Sample Results

Client: Cedar Corporation  
 Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## Method: WDNR - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 490-368187/3  
 Matrix: Water  
 Analysis Batch: 368187

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Methyl tert-butyl ether	50.0	47.8		ug/L		96	57 - 138	2	40
m-Xylene & p-Xylene	100	96.5		ug/L		96	65 - 127	3	39
Naphthalene	50.0	49.3		ug/L		99	69 - 133	1	48
o-Xylene	50.0	48.1		ug/L		96	64 - 128	2	35
Toluene	50.0	48.4		ug/L		97	66 - 127	3	34
Xylenes, Total	150	145		ug/L		96		2	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
a,a,a-Trifluorotoluene	93		80 - 120



# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

**Client Sample ID: MW-1**

**Lab Sample ID: 500-116373-1**

Date Collected: 08/25/16 12:30

Matrix: Water

Date Received: 08/30/16 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	367148	09/01/16 15:19	A1B	TAL NSH

**Client Sample ID: MW-2**

**Lab Sample ID: 500-116373-2**

Date Collected: 08/25/16 16:00

Matrix: Water

Date Received: 08/30/16 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1000	367148	09/01/16 22:54	A1B	TAL NSH

**Client Sample ID: MW-2P**

**Lab Sample ID: 500-116373-3**

Date Collected: 08/25/16 14:30

Matrix: Water

Date Received: 08/30/16 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	367148	09/01/16 15:51	A1B	TAL NSH
Total/NA	Analysis	WDNR		10	368187	09/07/16 23:39	FKG	TAL NSH

**Client Sample ID: MW-3**

**Lab Sample ID: 500-116373-4**

Date Collected: 08/25/16 14:00

Matrix: Water

Date Received: 08/30/16 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	368187	09/07/16 22:34	FKG	TAL NSH

**Client Sample ID: MW-4**

**Lab Sample ID: 500-116373-5**

Date Collected: 08/25/16 15:30

Matrix: Water

Date Received: 08/30/16 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		100	367148	09/01/16 22:21	A1B	TAL NSH

**Client Sample ID: MW-4P**

**Lab Sample ID: 500-116373-6**

Date Collected: 08/25/16 15:00

Matrix: Water

Date Received: 08/30/16 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	367148	09/01/16 16:24	A1B	TAL NSH
Total/NA	Analysis	WDNR		5	368187	09/08/16 00:11	FKG	TAL NSH

# Lab Chronicle

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## Client Sample ID: MW-6

Date Collected: 08/25/16 13:30  
Date Received: 08/30/16 10:05

## Lab Sample ID: 500-116373-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	368187	09/07/16 21:29	FKG	TAL NSH

## Client Sample ID: MW-6P

Date Collected: 08/25/16 14:00  
Date Received: 08/30/16 10:05

## Lab Sample ID: 500-116373-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	368187	09/07/16 22:01	FKG	TAL NSH

## Client Sample ID: MW-8P

Date Collected: 08/25/16 11:30  
Date Received: 08/30/16 10:05

## Lab Sample ID: 500-116373-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	367148	09/01/16 18:02	A1B	TAL NSH
Total/NA	Analysis	WDNR		100	368187	09/08/16 00:43	FKG	TAL NSH

## Client Sample ID: MW-12P

Date Collected: 08/25/16 12:00  
Date Received: 08/30/16 10:05

## Lab Sample ID: 500-116373-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	367148	09/01/16 18:34	A1B	TAL NSH

## Client Sample ID: MW-12D

Date Collected: 08/25/16 13:00  
Date Received: 08/30/16 10:05

## Lab Sample ID: 500-116373-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	WDNR		1	368187	09/07/16 23:06	FKG	TAL NSH

### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Certification Summary

Client: Cedar Corporation  
Project/Site: Olson's Corner - 4178

TestAmerica Job ID: 500-116373-1

## 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

## Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	998020430	08-31-17



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


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

Report To (optional)  
 Contact: Scott McCurdy  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

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

## Chain of Custody Record

Lab Job #: 500-116373  
 Chain of Custody Number: \_\_\_\_\_  
 Page 1 of 2  
 Temperature °C of Cooler: 44

Client <u>Cedar Corp</u>		Client Project # <u>4178</u>		Preservative <u>* 1</u>																Preservative Key 1. HCL, Cool to 4° 2. HCL, Cool to 4°  500-116373 COC Comments			
Project Name <u>Olsons Corner</u>				Parameter																			
Project Location/State <u>Hannibal, WI</u>				Lab Project #																			
Sampler <u>Raymond Shrie</u>				Lab PM <u>Sandie Fredrick</u>																			
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix																	
			Date	Time																			
1		MW-1	8/25/16	1230	2	W	X																
2		MW-2		1600																			
3		MW-2P		1430																			
4		MW-3		1400																			
5		MW-4		1530																			
6		MW-4P		1500																			
7		MW-6		1330																			
8		MW-6P		1400																			
9		MW-8P		1130																			
10		MW-12P		1200																			

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 <u>Raymond Shrie</u>	Company <u>Cedar Corp</u>	Date <u>8/25/16</u>	Time <u>1700</u>	Received By <u>Sandie Fredrick</u>	Company <u>TA-INT</u>	Date <u>8/30/16</u>	Time <u>1005</u>
Relinquished By _____	Company _____	Date _____	Time _____	Received By _____	Company _____	Date _____	Time _____
Relinquished By _____	Company _____	Date _____	Time _____	Received By _____	Company _____	Date _____	Time _____

Lab Courier: \_\_\_\_\_  
 Shipped: FX STD  
 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: PECCA project

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)  
Contact: Scott McCurdy  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

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

## Chain of Custody Record

Lab Job #: 500-116373  
Chain of Custody Number: \_\_\_\_\_  
Page 2 of 2  
Temperature °C of Cooler: 4.4

Client <u>Cedar Corp</u>		Client Project # <u>4178</u>		Preservative <u>1</u>														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 <u>Olsens Corner</u>				Parameter <u>PVC depth</u>																	
Project Location/State <u>Hannibal, WI</u>				Lab Project # _____																	
Sampler <u>Ryan Shyne</u>				Lab PM <u>Sandie Friedrich</u>																	
Lab ID	MS/MSD	Sample ID		Sampling		# of Containers	Matrix													Comments	
		Date	Time																		
<u>11</u>		<u>MW-120</u>		<u>8/25/16</u>	<u>1300</u>	<u>2</u>	<u>W</u>	<u>X</u>													

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 <u>Ryan Shyne</u>	Company <u>Cedar Corp</u>	Date <u>8/25/16</u>	Time <u>1700</u>	Received By <u>Sandie Friedrich</u>	Company <u>TAU</u>	Date <u>08/20/16</u>	Time <u>10:05</u>
Relinquished By _____	Company _____	Date _____	Time _____	Received By _____	Company _____	Date _____	Time _____
Relinquished By _____	Company _____	Date _____	Time _____	Received By _____	Company _____	Date _____	Time _____

Lab Courier \_\_\_\_\_  
Shipped FX STD  
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  
PCEFA Project

Lab Comments:

FedEx  
TRK#  
0215 8103 0778 5655

TUE - 30 AUG AA  
STANDARD OVERNIGHT

NA JOTA

60484  
US  
ORD



FID 643099 29AUG16 EAU 539617A853/976E

Form ID No. 0215

FedEx Express Package US Airbill

500-116373 Waybi

FedEx Tracking Number 8103 0778 5655

ST 20  
RT 519  
5 1500 A

1 From  
Date 8/29/16  
Sender's Name Ryan Shifra Phone 713 235-9081  
Company Calm Corp  
Address 604 Wilson Ave  
City Merced State CA ZIP 95351

2 Your Internal Billing Reference

3 To Recipient's Name SAMPLE RECEIPT Phone 708 304-3200

Company TESTAMERICA CHICAGO LAB

Address 2417 BOND ST  
We cannot deliver to P.O. boxes or P.D. ZIP codes. Dept./Floor/Suite/Room

Address  
Use this line for the HOLD location address or for continuation of your shipping address

City UNIVERSITY PARK State IL ZIP 60484-3101



8103 0778 5655

4 Express Package Service \* To most locations. Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Business Day

- FedEx First Overnight Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- FedEx Priority Overnight Next business morning. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- FedEx Standard Overnight Next business afternoon. Saturday Delivery NOT available.

2 or 3 Business Days

- FedEx 2Day A.M. Second business morning. Saturday Delivery NOT available.
- FedEx 2Day Second business morning. Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
- FedEx Express Saver Third business day. Saturday Delivery NOT available.

5 Packaging \* Declared value limit \$500.

- FedEx Envelope\*  FedEx Pak\*  FedEx Box  FedEx Tube  Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

- Saturday Delivery NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

- No Signature Required Package may be left without obtaining a signature for delivery. One box must be checked.
- Direct Signature Someone at recipient's address may sign for delivery.
- Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?

- No  Yes As per attached Shipper's Declaration.  Yes Shipper's Declaration not required.  Dry Ice Dry Ice, UN 1845
- Restrictions apply for dangerous goods - see the current FedEx Service Guide.  Cargo Aircraft Only

7 Payment Bill to:

- Enter FedEx Acct. No. or Credit Card No. below.  Bill in resp. Acct. No.
- Sender Acct. No. Section 1 will be billed.  Recipient  Third Party  Gift Card  Cash/Check

Total Packages Total Weight

1 3.5 lbs

\*Our liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.

Rv. Date 5/15 • Part #183124 • ©1994-2015 FedEx • PRINTED IN U.S.A. 50M

Align Open End of FedEx Pouch Here



## COOLER RECEIPT FORM



500-116373 Chain of Custody

Cooler Received/Opened On 8/31/2016 @ 0935

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # 7761 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17610176 pH Strip Lot HC564992 Chlorine Strip Lot 012516A

2. Temperature of rep. sample or temp blank when opened: 3.3 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO..  NA

4. Were custody seals on outside of cooler?  YES...NO...NA

If yes, how many and where: 1 Frat

5. Were the seals intact, signed, and dated correctly?  YES...NO...NA

6. Were custody papers inside cooler?  YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) PN

7. Were custody seals on containers: YES  NO and Intact YES...NO..  NA

Were these signed and dated correctly? YES...NO..  NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process:  Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA

12. Did all container labels and tags agree with custody papers?  YES...NO...NA

13a. Were VOA vials received?  YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES..  NO...NA

14. Was there a Trip Blank in this cooler? YES..  NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) H2G

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..  NA

b. Did the bottle labels indicate that the correct preservatives were used  YES...NO...NA

16. Was residual chlorine present? YES...NO..  NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) H2G

17. Were custody papers properly filled out (Ink, signed, etc)?  YES...NO...NA

18. Did you sign the custody papers in the appropriate place?  YES...NO...NA

19. Were correct containers used for the analysis requested?  YES...NO...NA

20. Was sufficient amount of sample sent in each container?  YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) H2G

I certify that I attached a label with the unique LIMS number to each container (initial) H2G

21. Were there Non-Conformance issues at login? YES..  NO Was a NCM generated? YES..  NO..# \_\_\_\_\_

**TestAmerica Chicago**

2417 Bond Street  
University Park, IL 60484  
Phone (708) 534-5200 Fax (708) 534-5211

**Chain of Custody Record**

Loc: 500  
**116373**



THE LEADER IN ENVIRONMENTAL TESTING

9/8/2016

<b>Client Information (Sub Contract Lab)</b>	Sampler: Fredrick, Sandie J	Lab PM: Fredrick, Sandie J	C No: 0-77460.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandie.fredrick@testamericainc.com	Page: Page 1 of 1

Company: TestAmerica Laboratories, Inc	<b>Analysis Requested</b>		Job #: 500-116373-1
Address: 2960 Foster Creighton Drive,	Due Date Requested: 9/12/2016	Field Filtered Sample (Yes or No) Performed W/IN S/B (Yes or No) W/ GRO/6030B (MOD) W/ISC PVOC + Nap	Preservation Codes:
City: Nashville	TAT Requested (days):		A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                  Q - Na2SO3 F - MeOH                    R - Na2S2O3 G - Amchlor                S - H2SO4 H - Ascorbic Acid          T - TSP Dodecahydrate I - Ice                         U - Acetone J - DI Water                 V - MCAA K - EDTA                    W - pH 4-5 L - EDA                      Z - other (specify)
State, Zip: TN, 37204	PO #:		Other:
Phone: 615-726-0177(Tel) 615-726-3404(Fax)	WO #:		
Project Name: General Projects	Project #: 50006556		
Site:	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wast/wol, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Performed W/IN S/B (Yes or No)	W/ GRO/6030B (MOD) W/ISC PVOC + Nap	Total Number of Containers	Special Instructions/Note:
MW-1 (500-116373-1)	8/25/16	12:30 Central		Water			X	2	
MW-2 (500-116373-2)	8/25/16	16:00 Central		Water			X	2	
MW-2P (500-116373-3)	8/25/16	14:30 Central		Water			X	2	
MW-3 (500-116373-4)	8/25/16	14:00 Central		Water			X	2	
MW-4 (500-116373-5)	8/25/16	15:30 Central		Water			X	2	
MW-4P (500-116373-6)	8/25/16	15:00 Central		Water			X	2	
MW-6 (500-116373-7)	8/25/16	13:30 Central		Water			X	2	
MW-6P (500-116373-8)	8/25/16	14:00 Central		Water			X	2	
MW-8P (500-116373-9)	8/25/16	11:30 Central		Water			X	2	
MW-12P (500-116373-10)	8/25/16	12:00 Central		Water			X	2	
MW-12D (500-116373-11)	8/25/16	13:00 Central		Water			X	2	

<b>Possible Hazard Identification</b>	<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>
Unconfirmed	<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:
Primary Deliverable Rank: 2	

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	Date/Time: 8/30/16 1515	Company: <i>[Signature]</i>	Received by: <i>[Signature]</i> 3.3
Relinquished by:	Date/Time:	Company:	Date/Time: 8/31/16 0935
Relinquished by:	Date/Time:	Company:	Date/Time:

Custody Seals Intact Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
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## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-116373-1

SDG Number:

**Login Number: 116373**

**List Number: 1**

**Creator: Sanchez, Ariel M**

**List Source: TestAmerica Chicago**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\neq</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	4.4
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	

## Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-116373-1

SDG Number:

**Login Number: 116373**

**List Number: 2**

**Creator: Gundi, Hozar K**

**List Source: TestAmerica Nashville**

**List Creation: 08/31/16 02:47 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	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 (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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	