



**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**

April 24, 2019

Wisconsin Department of Natural Resources

Attn: Ms. Carrie Stoltz
107 Sutliff Avenue
Rhineland, WI 54501



Subject:

Update Report
Mack Lake Tavern
N10202 County Highway K
Trego, WI, 54888
BRRTS #03-66-000858
PECFA #54888-9299-02-A

Dear Ms. Stoltz:

On behalf of Kelly Grimes, REI Engineering, Inc. (REI) hereby submits one copy of the above referenced report. REI is recommending this investigation be reviewed for case closure consideration.

If upon review of this report you have any comments, questions and/or require additional information please contact our office at (715) 675-9784.

Sincerely,
REI Engineering, Inc.

David N. Larsen P.G.
Hydrogeologist/Project Manager

Enclosure (A/S)

cc: Ms. Kelly Grimes, N10202 County Highway K, Trego, WI 54888



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4080 N. 20th Avenue Wausau, WI 54401
715-675-9784 REIengineering.com



REI

**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**

**UPDATE REPORT
MACK LAKE TAVERN
N10202 COUNTY HIGHWAY K
TREGO, WI 54888**

**BRRTS #03-66-000858
PECFA #54888-9299-02-A
REI PROJECT #5586**



**COMPREHENSIVE
SERVICES WITH
PRACTICAL
SOLUTIONS**



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N10202 COUNTY HIGHWAY K
TREGO, WI 54888**

**BRRTS #03-66-000858
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REI PROJECT #5586

PREPARED FOR:

**Ms. Kelly Grimes
N10202 County Highway K
Trego, WI 54888**

APRIL 2019

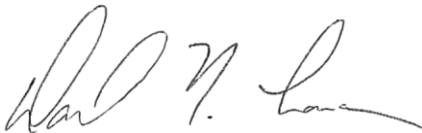
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The recommendations contained in this report are based on the information obtained from our study of the site and were arrived at in accordance with accepted hydrogeologic and engineering practices at this time and location.

"I, David N. Larsen, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Admn. Code, and that to the best of my knowledge, all the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."



Hydrogeologist

4-25-19
Date

"I, Brian J. Bailey, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."



Environmental Scientist

4-25-19
Date

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1.0 INTRODUCTION

1.1 Purpose

This report presents the completion of three (3) additional rounds of groundwater sampling from select wells at the Mack Lake Tavern. The Mack Lake Tavern site is located at N10202 County Highway K, Trego, Wisconsin.

2.0 SITE LOCATION

The Mack Lake Tavern site is located at N10202 County Highway K in the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 29, Township 41 North, Range 12 West, Town of Brooklyn, Washburn County, Wisconsin (Figure 1). Site layout is depicted in Figure 2. WTM coordinates are: 372657, 616012.

3.0 SUMMARY OF WORK

3.1 Groundwater Monitoring and Analytical Results

Three (3) rounds of groundwater sampling were completed from select wells from the existing well network on February 2, 2018, June 21, 2018 and January 12, 2019. Depth to groundwater was measured in each well prior to sampling. Table 1 presents the depth to groundwater and groundwater elevations for this investigation. Groundwater samples were collected and submitted to Pace Analytical, Green Bay, WI for analysis of PVOOC and naphthalene compounds. Groundwater analytical results are summarized in Tables 2a-n. The complete laboratory analytical report is included as Appendix A.

Groundwater sample results document residual groundwater contamination in concentrations exceeding the NR 140.10 Groundwater Quality Enforcement Standards (ES) for petroleum compounds following the January 23, 2019 sample event at MW9 only. Preventive Action Limit (PAL) exceedances were only reported at MW1000.

Figure 3 presents the water table contour map from the June 21, 2018 groundwater sampling event. The groundwater flow direction is shown to be to the southwest and is consistent with the historical flow directions. Figure 4 presents the piezometric contour map (PZ2, PZ3 and PZ4) from the January 21, 2019 groundwater sampling event. The groundwater flow direction is shown to be to the west southwest and is consistent with the historical flow directions.

3.2 Potable Well Sampling

REI collected samples from the source property (N10202 Cty Hwy K) potable well during the sampling events on June 21, 2018 and January 23, 2019. In addition, a sample was collected from the potable well at N10189 Cty Hwy K residence during the February 3 and June 21, 2018 sampling events. All samples were submitted to a state certified lab and analyzed for drinking water VOCs (EPA Method 524.2). All potable well samples analyzed revealed no VOC impact to potable water supply wells. Analytical results are summarized in Table 2n and copies of the laboratory analytical reports are included in Appendix A.

4.0 CONCLUSION AND RECOMMENDATIONS

REI has completed the additional tasks identified following the 2017 case closure denial. Based on the analytical results collected to date, this investigation appears ready for case closure reconsideration.

Table 1
Depth to Water and Water Table Elevations
Mack Lake
Trego, Wisconsin

Depth to Water (feet) below Reference Elevation

Date	MW500	MW600	MW700	SP800	MW900	MW1000	MW1200	MW1300	MW1400	PZ100	PZ2	PZ3	PZ4
10/11/2004	20.65	15.89	16.82							19.69			
11/18/2004	20.67	15.94	16.85	5.96						19.72			
2/1/2005	21.02	16.29	17.25	3.35	18.03					20.07			
3/24/2005	21.23		17.49		18.26	20.91				20.31			
6/1/2006	Well	16.32	17.34	3.19	18.17	20.85	25.51			20.2			
May-07	Under	23.30	23.50	Dry	23.40	Dry	27.30	Dry	23.50				
Aug-07	Asphalt	17.85	18.82	4.45	19.63	Dry	27.00	Dry	20.68				
Nov-07	Not	17.65	18.70	4.20	19.50		26.82	22.60	20.42				
Mar-08	Sampled	17.85	18.90	4.05			27.50	22.65	20.60				
1/12/2011		21.82			18.85	21.52		21.93	19.82	20.86			
4/28/2011		21.41	16.57	17.68		21.13	25.81	21.50	19.42	20.43			
9/22/2011		20.52	15.74	16.76		17.51	20.19	24.85	20.62	18.50	19.55		
5/9/2012						18.34	21.03	25.68		19.33	20.36		
5/7/2013	22.23	17.40	18.50		19.26	21.93	26.60	22.37	20.24	21.23			
6/30/2015	19.06	14.30	15.38	3.10	16.04	18.70	23.35	19.12	17.01	18.09			
10/9/2017					15.44	18.06	22.75	18.55					
10/31/2017									16.45	17.55	17.24	22.64	17.63
2/13/2018					16.07	18.25	23.41	19.23	17.06	17.86	17.86	23.26	18.45
6/21/2018	19.18	14.36	15.50		16.16	18.84	23.5		17.15	18.18	17.42	23.36	18.54
1/23/2019				Dry	16.42	19.1	23.74	19.5	16.93	Dry	18.2	24.65	18.76

Measuring Point Elevations

Elevations referenced to a U.S.G.S. Benchmark (feet MSL)

Initial Survey	1,052.24	1,047.83	1,048.30	1,048.30	1,048.66	1,051.01	1,055.36	1,051.59	1,049.45	1,051.09	1,049.40	1,054.20	1,049.69
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Ground Surface Elevation

	1,052.67	1,048.14	1,048.61	1,046.20	1,049.10	1,051.65	1,055.57	1,051.59	1,049.45	1,051.53	1,049.95	1,054.54	1,050.12
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Depth to Water (feet) below Ground Surface

Average	21.21	17.19	18.15	1.94	18.51	20.68	25.48	20.81	19.08	20.15	18.23	23.82	18.78
Maximum	22.66	23.61	23.81	3.86	23.84	22.57	27.71	22.65	23.50	21.67	18.75	24.99	19.19
Minimum	19.49	14.61	15.69	1.00	15.88	18.70	22.96	18.55	16.45	17.99	17.79	22.98	18.06
Range	3.17	9.00	8.12	2.86	7.96	3.87	4.75	4.10	7.05	3.68	0.96	2.01	1.13

Water Level Elevation (feet MSL)

Date	MW500	MW600	MW700	SP800	MW900	MW1000	MW1200	MW1300	MW1400	PZ100	PZ2	PZ3	PZ4
10/11/2004	1,031.59	1,031.94	1,031.48							1,031.40			
11/18/2004	1,031.57	1,031.89	1,031.45	1,042.34						1,031.37			
2/1/2005	1,031.22	1,031.54	1,031.05	1,044.95	1,030.63					1,031.02			
3/24/2005	1,031.01		1,030.81		1,030.40	1,030.10				1,030.78			
6/1/2006		1,031.51	1,030.96	1,045.11	1,030.49	1,030.16	1,029.85			1,030.89			
May-07		1,024.53	1,024.80		1,025.26		1,028.06		1,025.95				
Aug-07		1,029.98	1,029.48	1,043.85	1,029.03		1,028.36		1,028.77				
Nov-07		1,030.18	1,029.60	1,044.10	1,029.16		1,028.54	1,028.99	1,029.03				
Mar-08		1,029.98	1,029.40	1,044.25			1,027.86	1,028.94	1,028.85				
1/12/2011	1,030.42		1,030.22		1,029.81	1,029.49		1,029.66	1,029.63	1,030.23			
4/28/2011	1,030.83	1,031.26	1,030.82			1,029.88	1,029.55	1,030.09	1,030.03	1,030.66			
9/22/2011	1,031.72	1,032.09	1,031.54		1,031.15	1,030.82	1,030.51	1,030.97	1,030.95	1,031.54			
5/9/2012					1,030.32	1,029.98	1,029.68		1,030.12	1,030.73			
5/7/2013	1,030.01	1,030.43	1,029.80		1,029.40	1,029.08	1,028.76	1,029.22	1,029.21	1,029.86			
6/30/2015	1,033.18	1,033.53	1,032.92	1,045.20	1,032.62	1,032.31	1,032.01	1,032.47	1,032.44	1,033.00			
10/9/2017					1,033.22	1,032.95	1,032.61	1,033.04					
10/31/2017									1,033.00	1,033.54			
2/13/2018					1,032.59	1,032.76	1,031.95	1,032.36	1,032.39		1,031.54	1,030.94	1,031.24
6/21/2018	1,033.06	1,033.47	1,032.80		1,032.50	1,032.17	1,031.86	1,032.30	1,032.30	1,032.91	1,031.98	1,030.84	1,031.15
1/23/2019					1,032.24	1,031.91	1,031.62	1,032.09	1,032.52		1,031.20	1,029.55	1,030.93

Survey elevations provided by others
 NM = Not Measured

**Table 2a
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI**

Sample Location				PZ100					Project Bid	Tetra Tech				Project Stalled
Sampled By				Northern Environmental						May-07	Aug-07	Nov-07	Mar-08	
Date				10/11/2004	11/18/2004	2/1/2005	3/24/2005	6/1/2006						
Parameter	ES	PAL	Units											
DRO			mg/l	1,700	NA	NA	NA	NA						
GRO			mg/l	3,100	NA	NA	NA	NA						
Lead	15	1.5	µg/l	NA	NA	< 1.4	NA	NA						
VOC Parameters														
Benzene	5	0.5	µg/l	3.3	11	NA	8	3.6						
Toluene	800	160	µg/l	32	< 0.22	NA	< 1.1	1.32*	Not Sampled	Not Sampled	Not Sampled	Not Sampled		
Ethylbenzene	700	140	µg/l	34	8.1	NA	4.1	1.16*						
Xylenes (mixed isomers)	2,000	400	µg/l	150	23	NA	7	3.3*						
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50	10	NA	< 0.88	< 0.52						
Naphthalene	100	10	µg/l	7.4	NA	NA	NA	NA						
Trimethylbenzenes (mixed isomers)	480	96	µg/l	300	244	NA	113	23.6						

Sample Location				PZ100									Soil Excavation	Not Sampled	Well Dry Not Sampled		
Sampled By				REI													
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/31/2017	2/3/2018				6/21/2018	1/23/2019
Parameter	ES	PAL	Units														
DRO			mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
GRO			mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Lead	15	1.5	µg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
VOC Parameters																	
Benzene	5	0.5	µg/l		<i>1.78*</i>	259	18.2	< 0.39	7.10	< 0.40	< 0.40		< 0.31				
Toluene	800	160	µg/l		<i>1.81*</i>	19.8	5.1	0.79*	0.85*	< 0.39	< 0.39		< 0.49				
Ethylbenzene	700	140	µg/l		<i>0.794*</i>	58.1	12.1	4.7	2.30	5.60	0.66*		1.7				
Xylenes (mixed isomers)	2,000	400	µg/l		3.24	98.2	24.49	7.9	4.97	16.50	1.6*		21.5				
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 0.30	< 0.76	< 0.38	< 0.38	< 0.38	< 0.48	< 0.48		< 0.32				
Naphthalene	100	10	µg/l		< 2.0	<i>10.9</i>	5.1	1.6	0.84*	2.0	0.80*		1.9				
Trimethylbenzenes (mixed isomers)	480	96	µg/l		2.33*	34.5	10.7	6.0	3.8	10.4	13.4		49.2				

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
NS = Not Sampled
NA = Not Analyzed
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded	BOLD
Preventive Action Limit exceeded	<i>Italics</i>

Table 2b
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				MW500					Project Bid	Tetra Tech				Project Stalled
Sampled By				Northern Environmental						May-07	Aug-07	Nov-07	Mar-08	
Parameter	ES	PAL	Units	10/11/2004	11/18/2004	2/1/2005	3/24/2005	6/1/2006						
DRO			mg/l	< 100	NA	NA	NA	Not Sampled - No Access to Well	Not Sampled - Well Under Asphalt	Not Sampled - Well Under Asphalt	Not Sampled - Well Under Asphalt	Not Sampled - Well Under Asphalt		
GRO			mg/l	< 50	NA	NA	NA							
Lead	15	1.5	µg/l	NA	NA	NA	NA							
VOC Parameters														
Benzene	5	0.5	µg/l	< 0.20	< 0.25	NA	< 0.25							
Toluene	800	160	µg/l	< 0.20	< 0.11	NA	< 0.11							
Ethylbenzene	700	140	µg/l	< 0.50	< 0.22	NA	< 0.22							
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.50	< 0.39	NA	< 0.39							
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50	< 0.23	NA	< 0.23							
Naphthalene	100	10	µg/l	< 0.25	NA	NA	NA							
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.20	< 0.44	NA	< 0.44							
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l	NA	NA	NA	NA							
Nitrate/Nitrite	10	2	mg/l	NA	NA	NA	NA							
Sulfate	250	125	mg/l	NA	NA	NA	NA							

Sample Location				MW500										
Sampled By				REI										
Parameter	ES	PAL	Units	10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019
DRO			mg/l	Soil Excavation	NA	NA	NA	Not Sampled	NA	NA	Not Sampled	Not Sampled	NA	Not Sampled
GRO			mg/l		NA	NA	NA		NA	NA				
Lead	15	1.5	µg/l		NA	NA	NA		NA	NA				
VOC Parameters														
Benzene	5	0.5	µg/l		< 0.31	< 0.39	< 0.39		< 0.39	< 0.40				
Toluene	800	160	µg/l		0.669*	< 0.42	< 0.42		< 0.42	< 0.39				
Ethylbenzene	700	140	µg/l		< 0.50	< 0.41	< 0.41		< 0.41	< 0.39				
Xylenes (mixed isomers)	2,000	400	µg/l		< 0.62	< 0.87	< 0.87		< 0.87	< 0.80				
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 0.50	< 0.38	< 0.38		< 0.38	< 0.48				
Naphthalene	100	10	µg/l		< 2.0	< 0.40	< 0.40		< 0.40	< 0.42				
Trimethylbenzenes (mixed isomers)	480	96	µg/l		< 0.44	< 0.43	< 0.43		< 0.43	< 0.42				
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l		NA	NA	NA		NA	NA				
Nitrate/Nitrite	10	2	mg/l		NA	NA	NA		NA	NA				
Sulfate	250	125	mg/l		NA	NA	NA		NA	NA				

Notes:
ES = NR140.10 Enforcement Standards
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NS = Not Sampled
NA = Not Analyzed
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded	BOLD
Preventive Action Limit exceeded	<i>Italics</i>

**Table 2c
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI**

Sample Location				MW600										
Sampled By				Northern Environmental						Project Bid	Tetra Tech			
Date				10/11/2004	11/18/2004	2/1/2005	3/24/2005	6/1/2006	May-07		Aug-07	Nov-07	Mar-08	
Parameter	ES	PAL	Units											
DRO			mg/l	< 100	NA	NA		NA		NA	NA	NA	NA	
GRO			mg/l	< 50	NA	NA		NA		NA	NA	NA	NA	
Lead	15	1.5	µg/l	NA	NA	NA		NA		NA	NA	NA	NA	
VOC Parameters														
Benzene	5	0.5	µg/l	< 0.20	< 0.25	NA		< 0.17		< 0.25	< 0.25	< 0.25	< 0.25	
Toluene	800	160	µg/l	< 0.20	< 0.11	NA		< 0.78		< 0.11	< 0.11	< 0.11	< 0.11	
Ethylbenzene	700	140	µg/l	< 0.50	< 0.22	NA		< 1.0		< 0.22	< 0.22	< 0.22	< 0.22	
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.50	< 0.39	NA		< 2.84		< 0.39	< 0.39	< 0.39	< 0.39	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50	< 0.23	NA		< 0.52		< 0.23	< 0.23	< 0.23	< 0.23	
Naphthalene	100	10	µg/l	< 0.25	NA	NA		NA		< 0.50	< 0.50	< 0.50	< 0.50	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.20	< 0.44	NA		< 1.95		< 0.25	< 0.25	< 0.25	< 0.25	
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l	NA	NA	NA		NA		2.3	34	4.2	72	
Nitrate/Nitrite	10	2	mg/l	NA	NA	NA		NA		< 0.1	< 0.1	< 0.5	< 0.1	
Sulfate	250	125	mg/l	NA	NA	NA		NA		5.00	1.00	1.80	< 1.5	

Sample Location				MW600										
Sampled By				REI										
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019
Parameter	ES	PAL	Units											
DRO			mg/l			NA	NA		NA	NA			NA	
GRO			mg/l			NA	NA		NA	NA			NA	
Lead	15	1.5	µg/l			NA	NA		NA	NA			NA	
VOC Parameters														
Benzene	5	0.5	µg/l			< 0.39	< 0.39		< 0.39	< 0.40			< 0.31	
Toluene	800	160	µg/l			< 0.42	< 0.42		< 0.42	< 0.39			< 0.49	
Ethylbenzene	700	140	µg/l			< 0.41	< 0.41		< 0.41	< 0.39			< 0.33	
Xylenes (mixed isomers)	2,000	400	µg/l			< 0.87	< 0.87		< 0.87	< 0.80			< 0.66	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l			< 0.38	< 0.38		< 0.38	< 0.48			< 0.32	
Naphthalene	100	10	µg/l			< 0.40	< 0.40		< 0.40	< 0.42			< 0.51	
Trimethylbenzenes (mixed isomers)	480	96	µg/l			< 0.43	< 0.43		< 0.43	< 0.42			< 0.34	
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l			NA	NA		NA	NA			NA	
Nitrate/Nitrite	10	2	mg/l			NA	NA		NA	NA			NA	
Sulfate	250	125	mg/l			NA	NA		NA	NA			NA	

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NS = Not Sampled

NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

**Table 2d
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI**

Sample Location				MW700					Project Bid	Tetra Tech				Project Stalled
Sampled By				Northern Environmental						May-07	Aug-07	Nov-07	Mar-08	
Date				10/11/2004	11/18/2004	2/1/2005	3/24/2005	6/1/2006						
Parameter	ES	PAL	Units											
DRO			mg/l	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	
GRO			mg/l	470	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lead	15	1.5	µg/l	NA	NA	< 1.4	NA	NA	NA	NA	NA	NA	NA	
VOC Parameters														
Benzene	5	0.5	µg/l	31	37	NA	53	11.6		<i>1.60</i>	<i>1.30</i>	<i>0.83</i>	<i>1.10</i>	
Toluene	800	160	µg/l	1.2	2.0	NA	2.4	5.9	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	
Ethylbenzene	700	140	µg/l	8.9	10	NA	19	3.6	4.00	1.00	1.00	0.29	0.29	
Xylenes (mixed isomers)	2,000	400	µg/l	1.3	1.5	NA	3.4	< 1.28	< 0.39	< 0.39	< 0.39	< 0.39	< 0.39	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50	< 0.23	NA	< 0.63	< 0.34	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	
Naphthalene	100	10	µg/l	0.82	NA	NA	NA	< 2.2	< 0.5	< 0.5	0.97	< 0.5	< 0.5	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	0.23	< 0.44	NA	0.3	< 1.36	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l	NA	NA	NA	NA	NA	8.7	13	8.7	13	13	
Nitrate/Nitrite	10	2	mg/l	NA	NA	NA	NA	NA	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	
Sulfate	250	125	mg/l	NA	NA	NA	NA	NA	4.00	1.00	0.18	< 1.5	< 1.5	

Sample Location				MW700									Soil Excavation	Not Sampled	Not Sampled	Not Sampled
Sampled By				REI												
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018				
Parameter	ES	PAL	Units													
DRO			mg/l		NA	NA	NA		NA	NA				NA	NA	
GRO			mg/l		NA	NA	NA		NA	NA				NA	NA	
Lead	15	1.5	µg/l		NA	NA	NA		NA	NA				NA	NA	
VOC Parameters																
Benzene	5	0.5	µg/l		<i>2.71</i>	<i>2.0</i>	< 0.39		< 0.39	< 0.40				< 0.31	< 0.31	
Toluene	800	160	µg/l		<i>0.659*</i>	<i>2.0</i>	< 0.42		< 0.42	< 0.39				< 0.49	< 0.49	
Ethylbenzene	700	140	µg/l		<i>2.71</i>	< 0.41	< 0.41		< 0.41	< 0.39				< 0.33	< 0.33	
Xylenes (mixed isomers)	2,000	400	µg/l		< 0.62	< 0.87	< 0.87		< 0.87	< 0.80				< 0.66	< 0.66	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 0.50	< 0.38	< 0.38		< 0.38	< 0.48				< 0.32	< 0.32	
Naphthalene	100	10	µg/l		< 2.0	< 0.40	< 0.40		< 0.40	< 0.42				< 0.51	< 0.51	
Trimethylbenzenes (mixed isomers)	480	96	µg/l		< 0.44	< 0.43	< 0.43		< 0.43	< 0.42				< 0.34	< 0.34	
Natural Attenuation Parameters																
Iron	0.30	0.15	mg/l		NA	NA	NA		NA	NA				NA	NA	
Nitrate/Nitrite	10	2	mg/l		NA	NA	NA		NA	NA				NA	NA	
Sulfate	250	125	mg/l		NA	NA	NA		NA	NA				NA	NA	

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NS = Not Sampled

NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

**Table 2e
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI**

Sample Location				SP800				Project Bid	Tetra Tech				Project Stalled
Sampled By				Northern Environmental					May-07	Aug-07	Nov-07	Mar-08	
Date	ES	PAL	Units	11/18/2004	2/1/2005	3/24/2005	6/1/2006		Well	Dry	Not	Sampled	
Parameter													
DRO			mg/l	NA	NA	Not	NA						
GRO			mg/l	NA	NA	Sampled	NA						
Lead	15	1.5	µg/l	NA	NA		NA						
VOC Parameters													
Benzene	5	0.5	µg/l	<i>1.6</i>	NA		< 0.17	Not		0.30	< 0.25	0.26	
Toluene	800	160	µg/l	12	NA	Well	1.69*	Sampled	8.00	0.87	0.15		
Ethylbenzene	700	140	µg/l	< 0.50	NA	Frozen	< 0.2		< 0.22	< 0.22	< 0.22		
Xylenes (mixed isomers)	2,000	400	µg/l	3.6	NA		< 1.28		< 0.39	< 0.39	< 0.39		
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50	NA		< 0.34		< 0.23	< 0.23	< 0.23		
Naphthalene	100	10	µg/l	0.43	NA		< 2.2		< 0.5	< 0.5	< 0.5		
Trimethylbenzenes (mixed isomers)	480	96	µg/l	0.44	NA		< 1.36		< 0.25	< 0.25	< 0.25		
Natural Attenuation Parameters													
Iron	0.30	0.15	mg/l	NA	NA		NA		40	22	6.8		
Nitrate/Nitrite	10	2	mg/l	NA	NA		NA		< 0.1	< 0.5	< 0.1		
Sulfate	250	125	mg/l	NA	NA		NA		< 0.25	2.9	820		

Sample Location				SP800										
Sampled By				REI										
Date	ES	PAL	Units	10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019
Parameter														
DRO			mg/l		NA	NA	NA		NA	NA	NA		NA	
GRO			mg/l		NA	NA	NA		NA	NA	NA		NA	
Lead	15	1.5	µg/l		NA	NA	NA		NA	NA	NA		NA	
VOC Parameters														
Benzene	5	0.5	µg/l		< 0.31	< 0.39	< 0.39		< 0.39	< 0.40	< 0.40		< 0.31	
Toluene	800	160	µg/l		0.669*	< 0.42	1.2		< 0.42	2.1	3.6		2.0	
Ethylbenzene	700	140	µg/l		< 0.50	< 0.41	< 0.41		< 0.41	< 0.39	< 0.39		< 0.33	
Xylenes (mixed isomers)	2,000	400	µg/l		< 0.62	< 0.87	< 0.87		< 0.87	< 0.80	< 0.80		< 0.66	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 0.50	< 0.38	< 0.38		< 0.38	< 0.48	< 0.48		< 0.32	
Naphthalene	100	10	µg/l		< 2.0	< 0.40	< 0.40		< 0.40	< 0.42	< 0.42		< 0.51	
Trimethylbenzenes (mixed isomers)	480	96	µg/l		< 0.44	< 0.43	< 0.43		< 0.43	0.44*	< 0.42		< 0.34	
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l		NA	NA	NA		NA	NA	NA		NA	
Nitrate/Nitrite	10	2	mg/l		NA	NA	NA		NA	NA	NA		NA	
Sulfate	250	125	mg/l		NA	NA	NA		NA	NA	NA		NA	

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NS = Not Sampled

NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

**Table 2f
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI**

Sample Location				MW900									
Sampled By				Northern Environmental			Project Bid	Tetra Tech				Project Stalled	
Date				2/1/2005	3/24/2005	6/1/2006		May-07	Aug-07	Nov-07	Mar-08		
Parameter	ES	PAL	Units										
DRO			mg/l	1.1	NA	NA	NA	NA	NA	NA	NA		
GRO			mg/l	3,600	NA	NA	NA	NA	NA	NA	NA		
Lead	15	1.5	µg/l	< 1.4	NA	NA	NA	NA	NA	NA	NA		
VOC Parameters													
Benzene	5	0.5	µg/l	47	46	<i>3.15</i>	12	<i>3.0</i>	< 5.9	< 0.25			
Toluene	800	160	µg/l	<i>630</i>	<i>560</i>	86	28	13	29	0.38			
Ethylbenzene	700	140	µg/l	<i>360</i>	<i>370</i>	76	39	24	65	0.41			
Xylenes (mixed isomers)	2,000	400	µg/l	<i>1,200</i>	<i>1,200</i>	239	130	42	170	1.40			
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 5.0	< 1.2	< 0.34	< 2.0	< 0.23	< 0.23	< 0.23			
Naphthalene	100	10	µg/l	<i>54</i>	<i>57</i>	<i>11.1</i>	7.0	2.0	8.2	< 0.5			
Trimethylbenzenes (mixed isomers)	480	96	µg/l	<i>439</i>	<i>410</i>	92.1	80	20	98	1.91			
Natural Attenuation Parameters													
Iron	0.30	0.15	mg/l	NA	NA	NA	12	9	12	0.380			
Nitrate/Nitrite	10	2	mg/l	NA	NA	NA	< 0.1	< 0.1	< 0.5	0.35			
Sulfate	250	125	mg/l	NA	NA	NA	4	70	NA	21			

Sample Location				MW900											
Sampled By				REI											
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019	
Parameter	ES	PAL	Units	Soil Excavation											
DRO			mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO			mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	1.5	µg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC Parameters															
Benzene	5	0.5	µg/l		77.9	8.7	213	89.2	104	66.9	47.9	17.6	34.5	28.6	
Toluene	800	160	µg/l		86.9	1.1	14.7	20.1	130	149	292	109	186	191	
Ethylbenzene	700	140	µg/l		75.8	5.0	88.5	74.7	126	425	719	284	567	568	
Xylenes (mixed isomers)	2,000	400	µg/l		246.2	6.3	142.7	132.5	297	912	1,973	599.9	1,268	1,388	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		8.48	< 0.38	2.9	0.76*	0.85*	5.1	3.2*	< 1.9	< 3.2	4.5*	
Naphthalene	100	10	µg/l		22.2	0.92*	14.2	10.8	20.1	106	125	86.3	129	94.4	
Trimethylbenzenes (mixed isomers)	480	96	µg/l		135.1	7.8	163	69.4	108.5	328	1,053	396.6	1,383	691	
Natural Attenuation Parameters															
Iron	0.30	0.15	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrate/Nitrite	10	2	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Sulfate	250	125	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:

ES = NR140.10 Enforcement Standards
 PAL = NR140.10 Preventive Action Limits
 NS = Not Sampled
 NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded
 Preventive Action Limit exceeded

BOLD
<i>Italics</i>

Table 2g
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				MW1000							
Sampled By				Northern Environmental		Tetra Tech					
Date				3/24/2005	6/1/2006	May-07	Aug-07	Nov-07	Mar-08		
Parameter	ES	PAL	Units								
DRO			mg/l	4.9	NA	Project Bid	Well Dry Not Sampled	Well Dry Not Sampled	Well Filled In Not Sampled	Well Filled In Not Sampled	Project Stalled
GRO			mg/l	9,700	NA						
Lead	15	1.5	µg/l	NA	NA						
VOC Parameters											
Benzene	5	0.5	µg/l	34	212						
Toluene	800	160	µg/l	110	1,190						
Ethylbenzene	700	140	µg/l	<i>610</i>	910						
Xylenes (mixed isomers)	2,000	400	µg/l	<i>1,800</i>	<i>2,515*</i>						
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 20	< 26						
Naphthalene	100	10	µg/l	140	106*						
Trimethylbenzenes (mixed isomers)	480	96	µg/l	1,550	731						
Natural Attenuation Parameters											
Iron	0.30	0.15	mg/l	NA	NA						
Nitrate/Nitrite	10	2	mg/l	NA	NA						
Sulfate	250	125	mg/l	NA	NA						

Sample Location				MW1000										
Sampled By				REI										
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019
Parameter	ES	PAL	Units											
DRO			mg/l	Soil Excavation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO			mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	1.5	µg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC Parameters														
Benzene	5	0.5	µg/l		33.4	8.7	< 0.39	22.1	23.5	16.1	<i>0.62*</i>	<i>1.2</i>	<i>1.2</i>	<i>4.9</i>
Toluene	800	160	µg/l		159	1.1	< 0.42	37.6	8.8	< 0.39	< 0.39	< 0.39	< 0.49	< 0.49
Ethylbenzene	700	140	µg/l		<i>531</i>	5.0	< 0.41	<i>286</i>	308	17	15.4	23	9.9	15.1
Xylenes (mixed isomers)	2,000	400	µg/l		<i>1,076.8</i>	6.3	< 0.87	<i>564.8</i>	<i>587.2</i>	25.9	23.7	28.5	13.5	17.4
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		<i>30.3</i>	< 0.38	< 0.38	2.9	3.3	< 0.48	< 0.48	0.80*	< 0.32	<i>0.72*</i>
Naphthalene	100	10	µg/l		<i>87.8</i>	<i>0.92*</i>	< 0.40	<i>67.8</i>	<i>61.9</i>	<i>19.8</i>	5.8	8.2	4.2	8.3
Trimethylbenzenes (mixed isomers)	480	96	µg/l		<i>445</i>	7.8	< 0.43	<i>230.6</i>	<i>243.4</i>	10.5	28.9	26.9	21.9	20.1
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite	10	2	mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	125	mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
NS = Not Sampled
NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded	BOLD
Preventive Action Limit exceeded	<i>Italics</i>

Table 2h
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				MW1200				
Sampled By				Northern	Tetra Tech			
Date				6/1/2006	May-07	Aug-07	Nov-07	Mar-08
Parameter	ES	PAL	Units					
DRO			mg/l	NA	NA	NA	NA	NA
GRO			mg/l	NA	NA	NA	NA	NA
Lead	15	1.5	µg/l	NA	NA	NA	NA	NA
VOC Parameters								
Benzene	5	0.5	µg/l	< 0.17	< 0.25	< 0.25	< 0.25	< 0.25
Toluene	800	160	µg/l	< 0.59	< 0.11	< 0.11	< 0.11	< 0.11
Ethylbenzene	700	140	µg/l	< 0.2	< 0.22	< 0.22	< 0.22	< 0.22
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.28	< 0.39	< 0.39	< 0.39	< 0.39
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.34	< 0.23	< 0.23	< 0.23	< 0.23
Naphthalene	100	10	µg/l	< 2.2	< 0.5	< 0.5	< 0.5	< 0.5
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 1.36	< 0.25	< 0.25	< 0.25	< 0.25
Natural Attenuation Parameters								
Iron	0.30	0.15	mg/l	NA	3.3	7.5	8.5	6.8
Nitrate/Nitrite	10	2	mg/l	NA	0.80	0.14	< 0.5	< 0.1
Sulfate	250	125	mg/l	NA	7	4	2	< 1.5

Project Bid

Project Stalled

Sample Location				MW1200										
Sampled By				REI										
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019
Parameter	ES	PAL	Units											
DRO			mg/l			NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO			mg/l			NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	1.5	µg/l			NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC Parameters														
Benzene	5	0.5	µg/l			< 0.39	<i>1.6</i>	< 0.39	< 0.39	< 0.40	< 0.40	< 0.40	< 0.31	< 0.31
Toluene	800	160	µg/l			< 0.42	8.3	< 0.42	< 0.42	< 0.39	< 0.39	< 0.39	< 0.49	< 0.49
Ethylbenzene	700	140	µg/l			< 0.41	65.4	< 0.41	< 0.41	< 0.39	< 0.39	< 0.39	< 0.33	< 0.33
Xylenes (mixed isomers)	2,000	400	µg/l			< 0.87	126.8	< 0.87	< 0.87	< 0.80	< 0.80	< 0.80	< 0.66	< 0.66
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l			< 0.38	1.6	< 0.38	< 0.38	< 0.48	< 0.48	< 0.48	< 0.32	< 0.32
Naphthalene	100	10	µg/l			< 0.40	13.7	< 0.40	< 0.40	< 0.42	< 0.42	< 0.42	< 0.51	< 0.51
Trimethylbenzenes (mixed isomers)	480	96	µg/l			< 0.43	73.3	< 0.43	< 0.43	< 0.42	< 0.42	< 0.42	< 0.34	< 0.34
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l			NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite	10	2	mg/l			NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	125	mg/l			NA	NA	NA	NA	NA	NA	NA	NA	NA

Soil Excavation

Not Sampled Under Truck

Notes:

- ES = NR140.10 Enforcement Standards
- PAL = NR140.10 Preventive Action Limits
- NS = Not Sampled
- NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

- Enforcement Standard exceeded
- Preventive Action Limit exceeded

BOLD
<i>Italics</i>

Table 2i
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				MW1300							
Sampled By				Tetra Tech							
Date				May-07	Aug-07	Nov-07	Mar-08				
Parameter	ES	PAL	Units								
DRO			mg/l	Well Dry Not Sampled	Well Dry Not Sampled	NA	Well Dry Not Sampled	Project Stalled			
GRO			mg/l			NA					
Lead	15	1.5	µg/l			NA					
VOC Parameters											
Benzene	5	0.5	µg/l			< 0.25					
Toluene	800	160	µg/l			< 0.11					
Ethylbenzene	700	140	µg/l			< 0.22					
Xylenes (mixed isomers)	2,000	400	µg/l			< 0.39					
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l			< 0.23					
Naphthalene	100	10	µg/l			< 0.5					
Trimethylbenzenes (mixed isomers)	480	96	µg/l			< 0.25					
Natural Attenuation Parameters											
Iron	0.30	0.15	mg/l			48					
Nitrate/Nitrite	10	2	mg/l			NA					
Sulfate	250	125	mg/l	NA							

Sample Location				MW1300													
Sampled By				REI													
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019			
Parameter	ES	PAL	Units														
DRO			mg/l	Soil Excavation	Well Dry Not Sampled	NA	NA	Not Sampled	NA	NA	NA	NA	Not Sampled	NA			
GRO			mg/l			NA	NA		NA	NA							
Lead	15	1.5	µg/l			NA	NA		NA	NA							
VOC Parameters																	
Benzene	5	0.5	µg/l			< 0.39	< 0.39		< 0.39	< 0.40	< 0.40	< 0.40		< 0.40	< 0.40	< 0.40	< 0.31
Toluene	800	160	µg/l			< 0.42	< 0.42		< 0.42	< 0.39	< 0.39	< 0.39		< 0.39	< 0.39	< 0.39	< 0.49
Ethylbenzene	700	140	µg/l			< 0.41	< 0.41		< 0.41	< 0.39	< 0.39	< 0.39		< 0.39	< 0.39	< 0.39	< 0.33
Xylenes (mixed isomers)	2,000	400	µg/l			< 0.87	< 0.87		< 0.87	< 0.80	< 0.80	< 0.80		< 0.80	< 0.80	< 0.80	< 0.66
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l			< 0.38	< 0.38		< 0.38	< 0.48	< 0.48	< 0.48		< 0.48	< 0.48	< 0.48	< 0.32
Naphthalene	100	10	µg/l			< 0.40	< 0.40		< 0.40	< 0.42	< 0.42	< 0.42		< 0.42	< 0.42	< 0.42	< 0.51
Trimethylbenzenes (mixed isomers)	480	96	µg/l			< 0.43	< 0.43		< 0.43	< 0.42	< 0.42	< 0.42		< 0.42	< 0.42	< 0.42	< 0.34
Natural Attenuation Parameters																	
Iron	0.30	0.15	mg/l			NA	NA		NA	NA	NA	NA		NA	NA	NA	NA
Nitrate/Nitrite	10	2	mg/l			NA	NA		NA	NA	NA	NA		NA	NA	NA	NA
Sulfate	250	125	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				

Notes:

- ES = NR140.10 Enforcement Standards
- PAL = NR140.10 Preventive Action Limits
- NS = Not Sampled
- NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded	BOLD
Preventive Action Limit exceeded	<i>Italics</i>

Table 2j
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				MW1400			
Sampled By				Tetra Tech			
Date				May-07	Aug-07	Nov-07	Mar-08
Parameter	ES	PAL	Units				
DRO			mg/l	NA	NA	NA	NA
GRO			mg/l	NA	NA	NA	NA
Lead	15	1.5	µg/l	NA	NA	NA	NA
VOC Parameters							
Benzene	5	0.5	µg/l	< 4.7	< 5.0	< 0.25	< 0.25
Toluene	800	160	µg/l	< 0.11	< 6	< 0.11	< 0.11
Ethylbenzene	700	140	µg/l	< 0.22	< 0.6	< 0.22	< 0.22
Xylenes (mixed isomers)	2,000	400	µg/l	0.80	< 0.39	< 0.39	< 0.39
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	0.70	< 0.23	< 0.23	< 0.23
Naphthalene	100	10	µg/l	< 0.8	< 0.5	< 0.5	< 0.5
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.25	< 0.25	< 0.25	< 0.25
Natural Attenuation Parameters							
Iron	0.30	0.15	mg/l	10	12	10	1.7
Nitrate/Nitrite	10	2	mg/l	< 0.1	< 0.1	< 0.5	< 0.1
Sulfate	250	125	mg/l	4	11	0.24	2.5

Project Stalled

Sample Location				MW1400										
Sampled By				REI										
Date				10/20/2010	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/31/2017	2/3/2018	6/21/2018	1/23/2019
Parameter	ES	PAL	Units											
DRO			mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO			mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	1.5	µg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC Parameters														
Benzene	5	0.5	µg/l		<i>1.77*</i>	<i>0.97*</i>	<i>0.96*</i>	<i>0.71*</i>	<i>0.63*</i>	< 0.40	< 0.40	< 0.40	< 0.31	< 0.31
Toluene	800	160	µg/l		< 0.37	0.70*	0.67*	< 0.42	< 0.42	< 0.39	< 0.39	< 0.39	< 0.49	< 0.49
Ethylbenzene	700	140	µg/l		< 0.50	0.89*	0.85*	< 0.41	< 0.41	1.1	1.7	1.4	0.98*	1.5
Xylenes (mixed isomers)	2,000	400	µg/l		< 0.62	1.1*	1.3*	< 0.87	< 0.87	< 0.80	2.7	2.2	1.8*	< 0.66
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 0.30	< 0.38	0.43*	< 0.38	< 0.38	0.61*	< 0.48	< 0.48	< 0.32	< 0.32
Naphthalene	100	10	µg/l		2.23*	< 0.40	0.64*	< 0.40	< 0.40	0.69*	1.7	0.48*	1.1*	< 0.51
Trimethylbenzenes (mixed isomers)	480	96	µg/l		< 0.40	< 0.43	< 0.43	< 0.43	< 0.43	< 0.42	< 0.42	< 0.42	< 0.34	< 0.34
Natural Attenuation Parameters														
Iron	0.30	0.15	mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite	10	2	mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	125	mg/l		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Soil Excavation

Notes:

- ES = NR140.10 Enforcement Standards
- PAL = NR140.10 Preventive Action Limits
- NS = Not Sampled
- NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

- Enforcement Standard exceeded
- Preventive Action Limit exceeded

BOLD
<i>Italics</i>

Table 2k
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				PZ2			
Sampled By				REI			
Date				10/31/17	2/3/2018	6/21/2018	1/23/2019
Parameter	ES	PAL	Units				
Benzene	5	0.5	µg/l	< 0.40	< 0.40	< 0.31	< 0.31
Toluene	800	160	µg/l	< 0.39	< 0.39	< 0.49	< 0.49
Ethylbenzene	700	140	µg/l	< 0.39	< 0.39	< 0.33	< 0.33
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.80	< 0.80	< 0.66	< 0.66
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.48	< 0.48	< 0.32	< 0.32
Naphthalene	100	10	µg/l	< 0.42	< 0.42	< 0.51	< 0.51
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.42	< 0.42	< 0.34	< 0.34

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NS = Not Sampled

NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD
<i>Italics</i>

Preventive Action Limit exceeded

Table 21
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				PZ3			
Sampled By				REI			
Date				10/31/17	2/3/2018	6/21/2018	1/23/2019
Parameter	ES	PAL	Units				
Benzene	5	0.5	µg/l	< 0.40	< 0.40	< 0.31	< 0.31
Toluene	800	160	µg/l	< 0.39	< 0.39	< 0.49	< 0.49
Ethylbenzene	700	140	µg/l	< 0.39	< 0.39	< 0.33	< 0.33
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.80	< 0.80	< 0.66	< 0.66
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.48	< 0.48	< 0.32	< 0.32
Naphthalene	100	10	µg/l	< 0.42	< 0.42	< 0.51	< 0.51
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.42	< 0.42	< 0.34	< 0.34

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NS = Not Sampled

NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

<i>Italics</i>

Table 2m
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI

Sample Location				PZ4			
Sampled By				REI			
Date				10/31/17	2/3/2018	6/21/2018	1/23/2019
Parameter	ES	PAL	Units				
Benzene	5	0.5	µg/l	< 0.40	< 0.40	< 0.31	< 0.31
Toluene	800	160	µg/l	< 0.39	< 0.39	< 0.49	< 0.49
Ethylbenzene	700	140	µg/l	< 0.39	< 0.39	< 0.33	< 0.33
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.80	< 0.80	< 0.66	< 0.66
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.48	< 0.48	< 0.32	< 0.32
Naphthalene	100	10	µg/l	< 0.42	< 0.42	< 0.51	< 0.51
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.42	< 0.42	< 0.34	< 0.34

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NS = Not Sampled

NA - Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

<i>Italics</i>

**Table 2a
Summary of Groundwater Analytical Results
Mack Lake Tavern
Trego, WI**

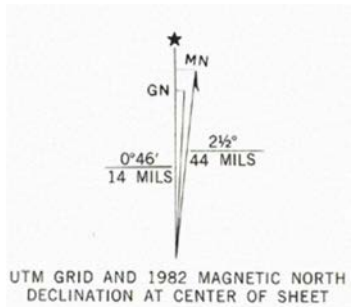
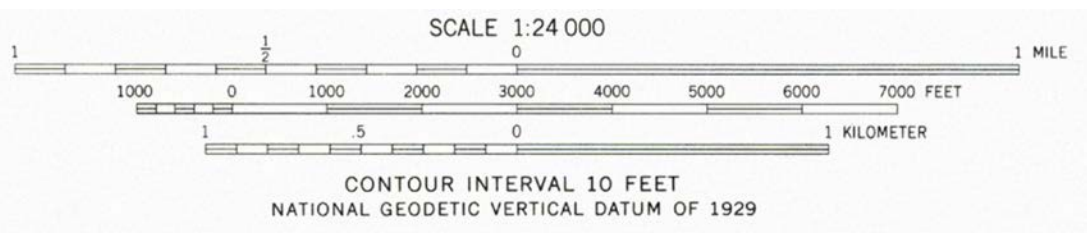
Sample Location				PW1 (N10202 Cty Hwy K Well)																				
Sampled By				Northern Environmental				Tetra Tech				REI												
Date				10/11/2004	11/18/2004	3/24/2005	6/1/2006	May-07	Aug-07	Nov-07	Mar-08	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019			
Parameter	ES	PAL	Units					Project Bid				Project Stalled												
Benzene	5	0.5	µg/l	< 0.20	< 0.25	< 0.25	< 0.17	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	< 0.41	< 0.047	< 0.21	< 0.23	Not Sampled	Not Sampled	< 0.11	< 0.19			
Toluene	800	160	µg/l	< 0.20	< 0.11	< 0.11	< 0.25							< 0.038	< 0.045	< 0.67	< 0.065			< 0.12	< 0.22	< 0.17	< 0.21	
Ethylbenzene	700	140	µg/l	< 0.50	< 0.22	< 0.22	< 0.20							< 0.034	< 0.54	< 0.078	< 0.23			< 0.22	< 0.14	< 0.18		
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.50	< 0.39	< 0.39	< 0.51							< 1.8	< 0.15	< 0.41	< 0.20			< 0.24	< 0.30			
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50	< 0.23	< 0.23	< 0.34							< 0.12	< 0.61	< 0.048	< 0.16			< 0.48	< 0.097	NA		
Naphthalene	100	10	µg/l	< 0.55	NA	NA	< 2.2							< 0.040	< 0.89	< 0.11	< 0.14			< 0.23	< 0.42	< 0.19		
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.20	< 0.44	< 0.44	< 1.36							< 0.058	< 0.83	< 0.086	< 0.20			< 0.22	< 0.093	< 0.18		

Sample Location				PW2 (N10212 Cty Hwy K)																				
Sampled By				Northern Environmental				Tetra Tech				REI												
Date				10/11/2004	11/18/2004	3/24/2005	6/1/2006	May-07	Aug-07	Nov-07	Mar-08	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/3/2018	6/21/2018	1/23/2019			
Parameter	ES	PAL	Units					Project Bid				Project Stalled												
Benzene	5	0.5	µg/l	< 0.20	< 0.25			Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	< 0.41	< 0.047			Not Sampled	Not Sampled					
Toluene	800	160	µg/l	< 0.20	< 0.11									< 0.038	< 0.045	< 0.67	< 0.065					< 0.17	< 0.21	
Ethylbenzene	700	140	µg/l	< 0.50	< 0.22									< 0.034	< 0.54	< 0.078					< 0.14	< 0.18		
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.50	< 0.39	Not Sampled	Not Sampled							< 1.8	< 0.15	< 0.41	< 0.20			< 0.24	< 0.30			
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50	< 0.23									< 0.12	< 0.61	< 0.048					< 0.097	NA		
Naphthalene	100	10	µg/l	< 0.55	NA									< 0.040	< 0.89	< 0.11					< 0.42	< 0.19		
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.20	< 0.44									< 0.058	< 0.83	< 0.086					< 0.093	< 0.18		

Sample Location				PW3 (N10189 Cty Hwy K)																				
Sampled By				Northern Environmental				Tetra Tech				REI												
Date				10/11/2004	11/18/2004	3/24/2005	6/1/2006	May-07	Aug-07	Nov-07	Mar-08	1/12/2011	4/28/2011	9/22/2011	5/9/2012	5/8/2013	6/30/2015	10/9/2017	2/13/2018	6/21/2018	1/23/2019			
Parameter	ES	PAL	Units					Project Bid				Project Stalled												
Benzene	5	0.5	µg/l	Well	< 0.20			Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	< 0.41	< 0.047			< 0.23	< 0.23	< 0.11				
Toluene	800	160	µg/l	Not	< 0.20									< 0.038	< 0.045	< 0.67	< 0.065			< 0.17	< 0.21			
Ethylbenzene	700	140	µg/l	Sampled	< 0.50									< 0.034	< 0.54	< 0.078			< 0.14	< 0.18				
Xylenes (mixed isomers)	2,000	400	µg/l		< 0.50	Not Sampled								< 1.8	< 0.15	< 0.41	< 0.20	< 0.24	< 0.30					
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 0.50									< 0.12	< 0.61	< 0.048			< 0.097	NA				
Naphthalene	100	10	µg/l		< 0.25									< 0.040	< 0.89	< 0.11			< 0.42	< 0.19				
Trimethylbenzenes (mixed isomers)	480	96	µg/l		< 0.40									< 0.058	< 0.83	< 0.086			< 0.093	< 0.18				

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
NS = Not Sampled
NA = Not Analyzed
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*

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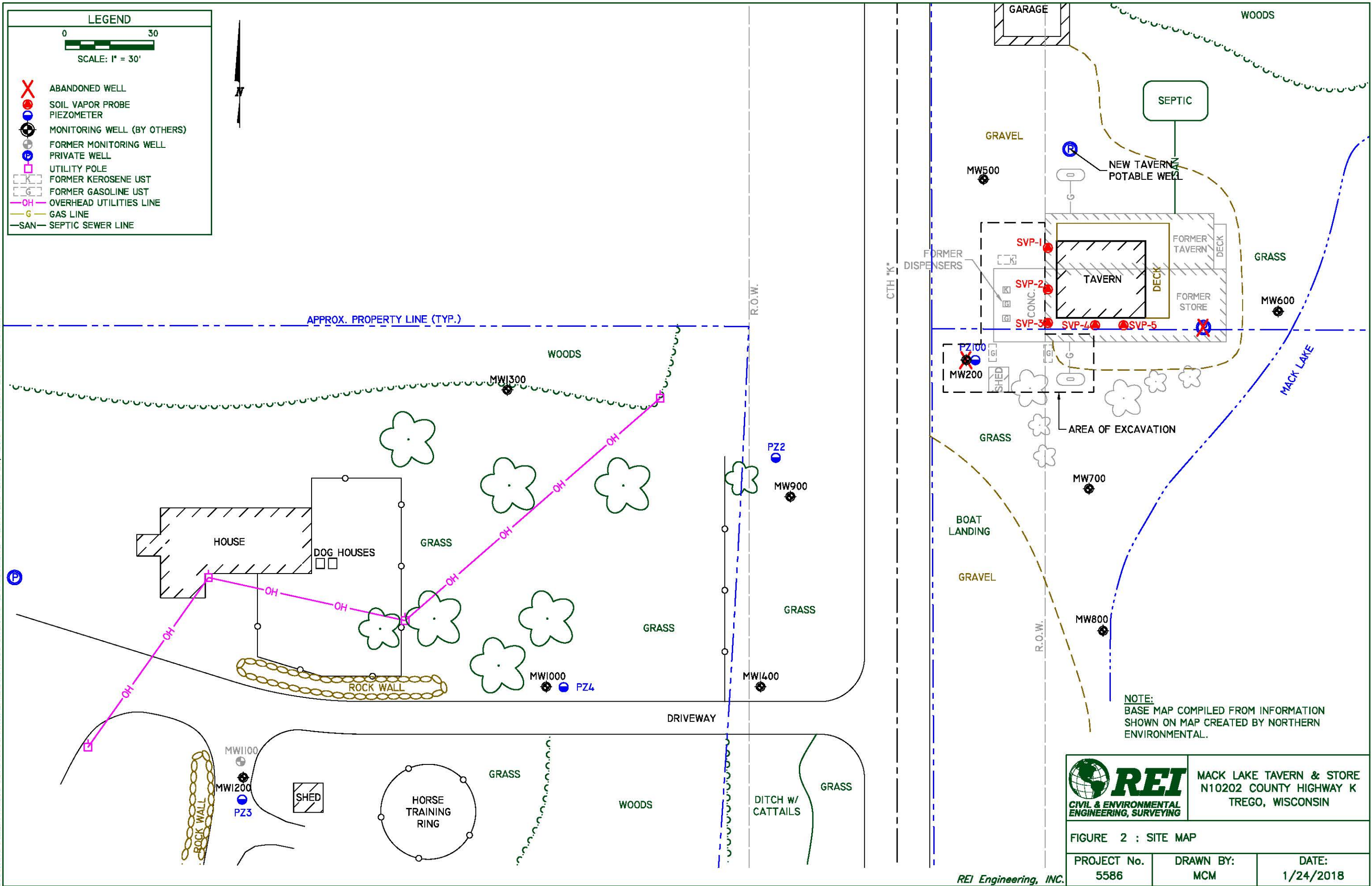


HORSESHOE LAKE, WIS.
SW/4 MINONG 15' QUADRANGLE
N4600-W9152.5/7.5
1982
REI Engineering, INC.

MACK LAKE TAVERN & STORE
N10202 COUNTY HIGHWAY K
TREGO, WISCONSIN

FIGURE 1 : SITE VICINITY MAP			
PROJECT NO.	DRAWN BY:	DATE:	
5586	TAW	11/2/2010	

DRAWING FILE: P:\5500-5599\5586-MACK LAKE\DWG\5586-SITE.DWG LAYOUT: SITE PLOTTED: JAN 25, 2018 - 9:06AM PLOTTED BY: MATTM



DRAWING FILE: P:\15500-5599\5586-MACK LAKE\DWG\5586-GW FLOW MW 062118.dwg LAYOUT: gw PLOTTED: APR 25, 2019 - 9:12AM PLOTTED BY: NATHANP

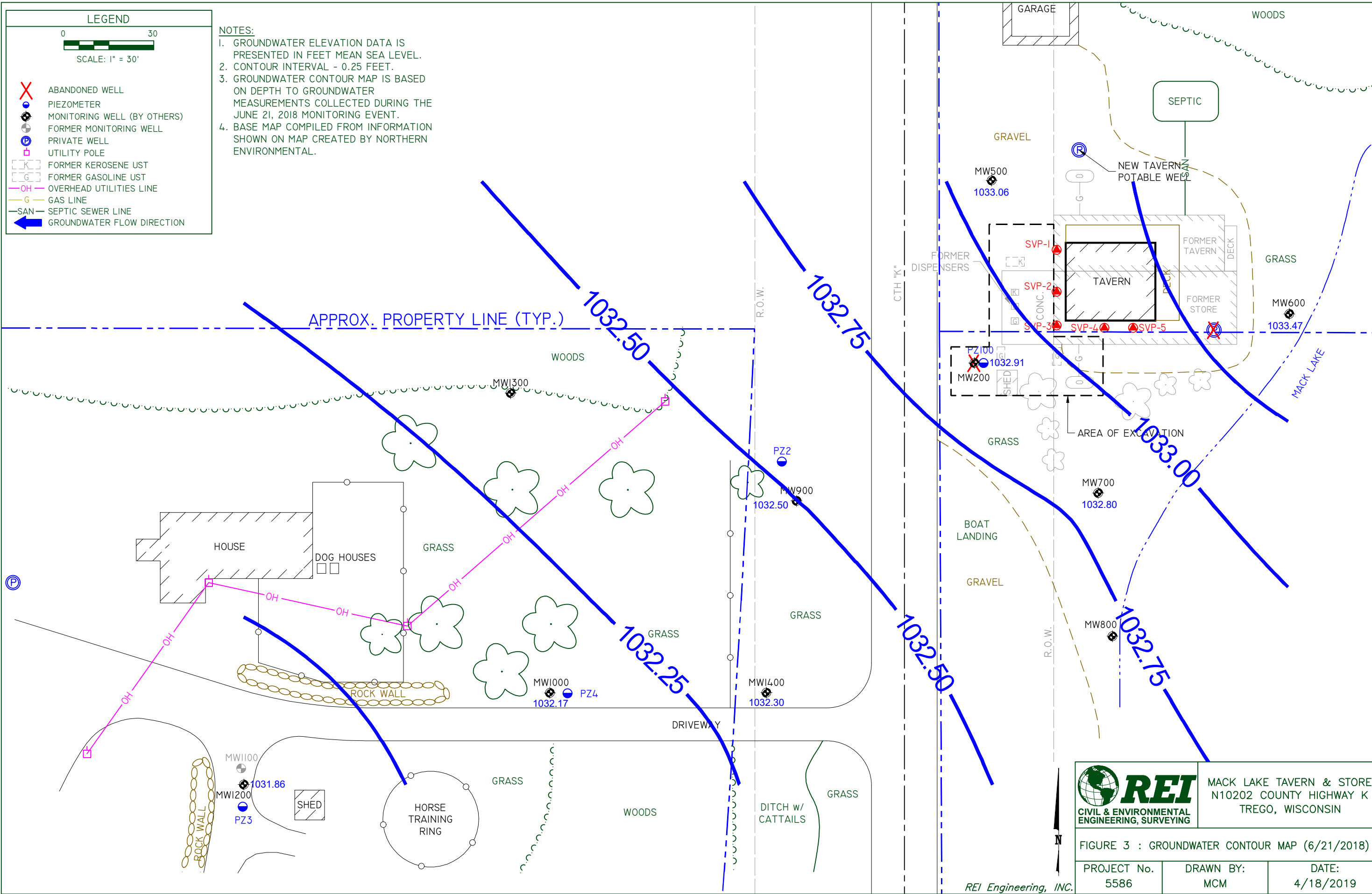
LEGEND

0 30
SCALE: 1" = 30'

- ABANDONED WELL
- PIEZOMETER
- MONITORING WELL (BY OTHERS)
- FORMER MONITORING WELL
- PRIVATE WELL
- UTILITY POLE
- FORMER KEROSENE UST
- FORMER GASOLINE UST
- OVERHEAD UTILITIES LINE
- GAS LINE
- SEPTIC SEWER LINE
- GROUNDWATER FLOW DIRECTION

NOTES:

- GROUNDWATER ELEVATION DATA IS PRESENTED IN FEET MEAN SEA LEVEL.
- CONTOUR INTERVAL - 0.25 FEET.
- GROUNDWATER CONTOUR MAP IS BASED ON DEPTH TO GROUNDWATER MEASUREMENTS COLLECTED DURING THE JUNE 21, 2018 MONITORING EVENT.
- BASE MAP COMPILED FROM INFORMATION SHOWN ON MAP CREATED BY NORTHERN ENVIRONMENTAL.



REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING

MACK LAKE TAVERN & STORE
N10202 COUNTY HIGHWAY K
TREGO, WISCONSIN

FIGURE 3 : GROUNDWATER CONTOUR MAP (6/21/2018)

PROJECT No. 5586	DRAWN BY: MCM	DATE: 4/18/2019
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REI Engineering, INC.

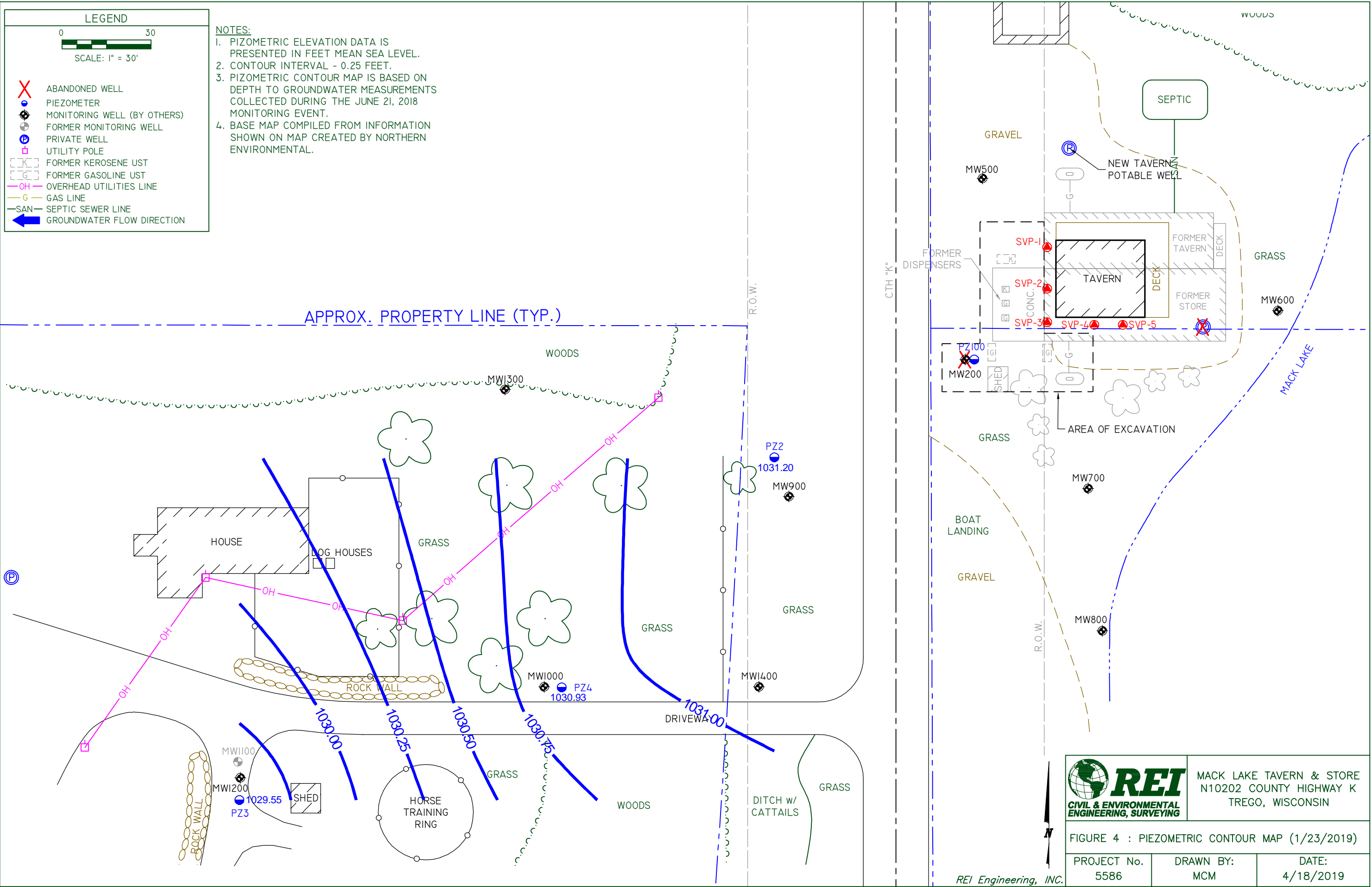
DRAWING FILE: P:\5500-5599\5586-Mack Lake\DWG\5586-GW Flow PZ 012319.DWG LAYOUT: gw PLOTTED: APR 18, 2019 - 9:53AM PLOTTED BY: MATTM

LEGEND

0 30
SCALE: 1" = 30'

- ABANDONED WELL
- PIEZOMETER
- MONITORING WELL (BY OTHERS)
- FORMER MONITORING WELL
- PRIVATE WELL
- UTILITY POLE
- FORMER KEROSENE UST
- FORMER GASOLINE UST
- OVERHEAD UTILITIES LINE
- GAS LINE
- SEPTIC SEWER LINE
- GROUNDWATER FLOW DIRECTION

- NOTES:**
1. PIZOMETRIC ELEVATION DATA IS PRESENTED IN FEET MEAN SEA LEVEL.
 2. CONTOUR INTERVAL - 0.25 FEET.
 3. PIZOMETRIC CONTOUR MAP IS BASED ON DEPTH TO GROUNDWATER MEASUREMENTS COLLECTED DURING THE JUNE 21, 2018 MONITORING EVENT.
 4. BASE MAP COMPILED FROM INFORMATION SHOWN ON MAP CREATED BY NORTHERN ENVIRONMENTAL.



<p>CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING</p>	<p>MACK LAKE TAVERN & STORE N10202 COUNTY HIGHWAY K TREGO, WISCONSIN</p>	
	<p>FIGURE 4 : PIEZOMETRIC CONTOUR MAP (1/23/2019)</p>	
<p>PROJECT No. 5586</p>	<p>DRAWN BY: MCM</p>	<p>DATE: 4/18/2019</p>

REI Engineering, INC.

APPENDIX A

GROUNDWATER LABORATORY ANALYTICAL RESULTS



March 01, 2018

DAVID LARSEN
REI
4080 NORTH 20TH AVENUE
Wausau, WI 54401

RE: Project: 5586 MACK LAKE
Pace Project No.: 40164822

Dear DAVID LARSEN:

Enclosed are the analytical results for sample(s) received by the laboratory on February 17, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 5586 MACK LAKE
Pace Project No.: 40164822

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40164822001	MW 900	Water	02/13/18 11:45	02/17/18 08:40
40164822002	MW 1000	Water	02/13/18 12:00	02/17/18 08:40
40164822003	MW 1200	Water	02/13/18 11:30	02/17/18 08:40
40164822004	MW 1300	Water	02/13/18 11:15	02/17/18 08:40
40164822005	MW 1400	Water	02/13/18 12:15	02/17/18 08:40
40164822006	PZ-2	Water	02/13/18 12:30	02/17/18 08:40
40164822007	PZ-3	Water	02/13/18 12:45	02/17/18 08:40
40164822008	PZ-4	Water	02/13/18 13:00	02/17/18 08:40
40164822009	PW-SUSAN	Water	02/13/18 13:30	02/17/18 08:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40164822001	MW 900	WI MOD GRO	ALD	10
40164822002	MW 1000	WI MOD GRO	ALD	10
40164822003	MW 1200	WI MOD GRO	ALD	10
40164822004	MW 1300	WI MOD GRO	ALD	10
40164822005	MW 1400	WI MOD GRO	ALD	10
40164822006	PZ-2	WI MOD GRO	ALD	10
40164822007	PZ-3	WI MOD GRO	ALD	10
40164822008	PZ-4	WI MOD GRO	ALD	10

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Sample: MW 900 Lab ID: 40164822001 Collected: 02/13/18 11:45 Received: 02/17/18 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	17.6	ug/L	4.0	1.6	4		02/20/18 19:28	71-43-2	
Ethylbenzene	284	ug/L	4.0	1.6	4		02/20/18 19:28	100-41-4	
Methyl-tert-butyl ether	<1.9	ug/L	4.0	1.9	4		02/20/18 19:28	1634-04-4	
Naphthalene	86.3	ug/L	4.0	1.7	4		02/20/18 19:28	91-20-3	
Toluene	109	ug/L	4.0	1.6	4		02/20/18 19:28	108-88-3	
1,2,4-Trimethylbenzene	333	ug/L	4.0	1.7	4		02/20/18 19:28	95-63-6	
1,3,5-Trimethylbenzene	60.6	ug/L	4.0	1.7	4		02/20/18 19:28	108-67-8	
m&p-Xylene	509	ug/L	8.0	3.2	4		02/20/18 19:28	179601-23-1	
o-Xylene	90.9	ug/L	4.0	1.8	4		02/20/18 19:28	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		4		02/20/18 19:28	98-08-8	

Sample: MW 1000 Lab ID: 40164822002 Collected: 02/13/18 12:00 Received: 02/17/18 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	1.2	ug/L	1.0	0.40	1		02/20/18 21:11	71-43-2	
Ethylbenzene	23.4	ug/L	1.0	0.39	1		02/20/18 21:11	100-41-4	
Methyl-tert-butyl ether	0.80J	ug/L	1.0	0.48	1		02/20/18 21:11	1634-04-4	
Naphthalene	8.2	ug/L	1.0	0.42	1		02/20/18 21:11	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		02/20/18 21:11	108-88-3	
1,2,4-Trimethylbenzene	16.5	ug/L	1.0	0.42	1		02/20/18 21:11	95-63-6	
1,3,5-Trimethylbenzene	10.4	ug/L	1.0	0.42	1		02/20/18 21:11	108-67-8	
m&p-Xylene	28.5	ug/L	2.0	0.80	1		02/20/18 21:11	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		02/20/18 21:11	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		1		02/20/18 21:11	98-08-8	

Sample: MW 1200 Lab ID: 40164822003 Collected: 02/13/18 11:30 Received: 02/17/18 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.40	ug/L	1.0	0.40	1		02/20/18 14:18	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		02/20/18 14:18	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		02/20/18 14:18	1634-04-4	
Naphthalene	<0.42	ug/L	1.0	0.42	1		02/20/18 14:18	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		02/20/18 14:18	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 14:18	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 14:18	108-67-8	
m&p-Xylene	<0.80	ug/L	2.0	0.80	1		02/20/18 14:18	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		02/20/18 14:18	95-47-6	

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Sample: MW 1200									
Lab ID: 40164822003									
Collected: 02/13/18 11:30									
Received: 02/17/18 08:40									
Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV									
Analytical Method: WI MOD GRO									
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		1		02/20/18 14:18	98-08-8	

Sample: MW 1300									
Lab ID: 40164822004									
Collected: 02/13/18 11:15									
Received: 02/17/18 08:40									
Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV									
Analytical Method: WI MOD GRO									
Benzene	<0.40	ug/L	1.0	0.40	1		02/20/18 14:44	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		02/20/18 14:44	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		02/20/18 14:44	1634-04-4	
Naphthalene	<0.42	ug/L	1.0	0.42	1		02/20/18 14:44	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		02/20/18 14:44	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 14:44	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 14:44	108-67-8	
m&p-Xylene	<0.80	ug/L	2.0	0.80	1		02/20/18 14:44	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		02/20/18 14:44	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-120		1		02/20/18 14:44	98-08-8	

Sample: MW 1400									
Lab ID: 40164822005									
Collected: 02/13/18 12:15									
Received: 02/17/18 08:40									
Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV									
Analytical Method: WI MOD GRO									
Benzene	<0.40	ug/L	1.0	0.40	1		02/20/18 15:10	71-43-2	
Ethylbenzene	1.4	ug/L	1.0	0.39	1		02/20/18 15:10	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		02/20/18 15:10	1634-04-4	
Naphthalene	0.48J	ug/L	1.0	0.42	1		02/20/18 15:10	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		02/20/18 15:10	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 15:10	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 15:10	108-67-8	
m&p-Xylene	2.2	ug/L	2.0	0.80	1		02/20/18 15:10	179601-23-1	
o-Xylene	0.49J	ug/L	1.0	0.45	1		02/20/18 15:10	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	115	%	80-120		1		02/20/18 15:10	98-08-8	

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Sample: PZ-2 Lab ID: 40164822006 Collected: 02/13/18 12:30 Received: 02/17/18 08:40 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.40	ug/L	1.0	0.40	1		02/20/18 15:36	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		02/20/18 15:36	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		02/20/18 15:36	1634-04-4	
Naphthalene	<0.42	ug/L	1.0	0.42	1		02/20/18 15:36	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		02/20/18 15:36	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 15:36	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 15:36	108-67-8	
m&p-Xylene	<0.80	ug/L	2.0	0.80	1		02/20/18 15:36	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		02/20/18 15:36	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1		02/20/18 15:36	98-08-8	

Sample: PZ-3 Lab ID: 40164822007 Collected: 02/13/18 12:45 Received: 02/17/18 08:40 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.40	ug/L	1.0	0.40	1		02/20/18 16:02	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		02/20/18 16:02	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		02/20/18 16:02	1634-04-4	
Naphthalene	<0.42	ug/L	1.0	0.42	1		02/20/18 16:02	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		02/20/18 16:02	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 16:02	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 16:02	108-67-8	
m&p-Xylene	<0.80	ug/L	2.0	0.80	1		02/20/18 16:02	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		02/20/18 16:02	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-120		1		02/20/18 16:02	98-08-8	

Sample: PZ-4 Lab ID: 40164822008 Collected: 02/13/18 13:00 Received: 02/17/18 08:40 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.40	ug/L	1.0	0.40	1		02/20/18 16:27	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		02/20/18 16:27	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		02/20/18 16:27	1634-04-4	
Naphthalene	<0.42	ug/L	1.0	0.42	1		02/20/18 16:27	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		02/20/18 16:27	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 16:27	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		02/20/18 16:27	108-67-8	
m&p-Xylene	<0.80	ug/L	2.0	0.80	1		02/20/18 16:27	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		02/20/18 16:27	95-47-6	

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Sample: PZ-4 **Lab ID: 40164822008** Collected: 02/13/18 13:00 Received: 02/17/18 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Surrogates

a,a,a-Trifluorotoluene (S)	101	%	80-120		1		02/20/18 16:27	98-08-8	
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QUALITY CONTROL DATA

Project: 5586 MACK LAKE

Pace Project No.: 40164822

QC Batch:	281471	Analysis Method:	WI MOD GRO
QC Batch Method:	WI MOD GRO	Analysis Description:	WIGRO GCV Water
Associated Lab Samples:	40164822001, 40164822002, 40164822003, 40164822004, 40164822005, 40164822006, 40164822007, 40164822008		

METHOD BLANK:	1650091	Matrix:	Water
Associated Lab Samples:	40164822001, 40164822002, 40164822003, 40164822004, 40164822005, 40164822006, 40164822007, 40164822008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	02/20/18 09:08	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	02/20/18 09:08	
Benzene	ug/L	<0.40	1.0	02/20/18 09:08	
Ethylbenzene	ug/L	<0.39	1.0	02/20/18 09:08	
m&p-Xylene	ug/L	<0.80	2.0	02/20/18 09:08	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	02/20/18 09:08	
Naphthalene	ug/L	<0.42	1.0	02/20/18 09:08	
o-Xylene	ug/L	<0.45	1.0	02/20/18 09:08	
Toluene	ug/L	<0.39	1.0	02/20/18 09:08	
a,a,a-Trifluorotoluene (S)	%	101	80-120	02/20/18 09:08	

Parameter	Units	1650092		1650093		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	% Rec				
1,2,4-Trimethylbenzene	ug/L	20	21.3	21.1	107	105	80-120	1	20
1,3,5-Trimethylbenzene	ug/L	20	20.6	20.4	103	102	80-120	1	20
Benzene	ug/L	20	20.6	20.1	103	100	80-120	2	20
Ethylbenzene	ug/L	20	20.7	20.4	103	102	80-120	1	20
m&p-Xylene	ug/L	40	40.6	40.1	102	100	80-120	1	20
Methyl-tert-butyl ether	ug/L	20	19.9	20.3	100	102	80-120	2	20
Naphthalene	ug/L	20	18.7	19.7	94	99	80-120	5	20
o-Xylene	ug/L	20	20.5	20.2	102	101	80-120	1	20
Toluene	ug/L	20	20.4	20.1	102	100	80-120	1	20
a,a,a-Trifluorotoluene (S)	%				99	101	80-120		

Parameter	Units	1650413		1650414		% Rec Limits	RPD	Max RPD	Qual		
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					% Rec	% Rec
1,2,4-Trimethylbenzene	ug/L	<0.42	20	20	20.8	20.9	104	104	11-200	0	20
1,3,5-Trimethylbenzene	ug/L	<0.42	20	20	20.9	21.3	105	106	54-142	1	20
Benzene	ug/L	<0.40	20	20	21.4	21.8	107	109	66-140	2	20
Ethylbenzene	ug/L	<0.39	20	20	21.8	22.6	109	113	66-143	3	20
m&p-Xylene	ug/L	<0.80	40	40	42.5	44.1	106	110	60-141	4	20
Methyl-tert-butyl ether	ug/L	<0.48	20	20	20.2	20.3	101	101	70-129	0	20
Naphthalene	ug/L	<0.42	20	20	19.4	20.2	97	101	64-129	4	20
o-Xylene	ug/L	<0.45	20	20	21.3	22.0	106	110	68-132	3	20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1650413		1650414		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40164818021 Result	MS Spike Conc.	MSD Spike Conc.									
Toluene	ug/L	<0.39	20	20	21.2	21.4	106	107	76-130	1	20		
a,a,a-Trifluorotoluene (S)	%						99	98	80-120				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 5586 MACK LAKE

Pace Project No.: 40164822

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 5586 MACK LAKE

Pace Project No.: 40164822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40164822001	MW 900	WI MOD GRO	281471		
40164822002	MW 1000	WI MOD GRO	281471		
40164822003	MW 1200	WI MOD GRO	281471		
40164822004	MW 1300	WI MOD GRO	281471		
40164822005	MW 1400	WI MOD GRO	281471		
40164822006	PZ-2	WI MOD GRO	281471		
40164822007	PZ-3	WI MOD GRO	281471		
40164822008	PZ-4	WI MOD GRO	281471		

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(Please Print Clearly)

Company Name: **RET**
 Branch/Location: **Wauson**
 Project Contact: **Dave Lawson**
 Phone: **(75) 675-9784**
 Project Number: **5586**
 Project Name: **Mark Lake**
 Project State: **WI**
 Sampled By (Print): **Jeff Kosch**
 Sampled By (Sign): *[Signature]*
 PO #:
 Regulatory Program: **PECPA**

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MW 900	2/13/18	11:45	GW
002	MW 1000		12:00	
003	MW 1200		11:30	
004	MW 1300		11:15	
005	MW 1400		12:15	
006	P2-2		12:30	
007	P2-3		12:45	
008	P2-4		1:00	
009	plw-SUSAN		1:30	DW



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED? (YES/NO)
 PRESERVATION (CODE)*

Y/N	Pick Letter	Analyses Requested
N	B	PLOC + N
N	J	VOC SA4.2

Quote #: **40164822**

Mail To Contact: **Dave Lawson**

Mail To Company: **RET**

Mail To Address: **DLawson@reieingintegrity.com**

Invoice To Contact: **SAK**

Invoice To Company: **I**

Invoice To Address: **I**

Invoice To Phone: **I**

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
 Date Needed:
 Transmit Prelim Rush Results by (complete what you want):

Email #1:
 Email #2:
 Telephone:
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *[Signature]* Date/Time: **2/17/18 0840**

Relinquished By: *[Signature]* Date/Time: **2/17/18 0840**

Relinquished By:
 Date/Time:
 Relinquished By:
 Date/Time:
 Relinquished By:
 Date/Time:

Received By:
 Date/Time:
 Received By: *[Signature]* Date/Time: **2/17/18 0840**

Received By:
 Date/Time:
 Received By:
 Date/Time:
 Received By:
 Date/Time:

PACE Project No.
40164822

Receipt Temp = **20.7** °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Sample Preservation Receipt Form

Client Name: REI

Project # 40164822

All containers needing preservation have been checked and noted below: Yes No N/A Lab Std #ID of preservation (if pH adjusted):


Initial when completed:

Date/Time:

Pace Lab #	Glass						Plastic						Vials				Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)				
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU								WPFU	SP5T	ZPLC	GN
001																	3																2.5 / 5 / 10
002																	3																2.5 / 5 / 10
003																	3																2.5 / 5 / 10
004																	3																2.5 / 5 / 10
005																	3																2.5 / 5 / 10
006																	3																2.5 / 5 / 10
007																	3																2.5 / 5 / 10
008																	3																2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Colorm, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column

AG1U 1 liter amber glass	BP1U 1 liter plastic unpres	DG9A 40 mL amber ascorbic	JGFU 4 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP2N 500 mL plastic HNO3	DG9T 40 mL amber Na Thio	WGFU 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP2Z 500 mL plastic NaOH, Znact	VG9U 40 mL clear vial unpres	WPFU 4 oz plastic jar unpres
AG4U 120 mL amber glass unpres	BP3U 250 mL plastic unpres	VG9H 40 mL clear vial HCL	
AG5U 100 mL amber glass unpres	BP3C 250 mL plastic NaOH	VG9M 40 mL clear vial MeOH	SP5T 120 mL plastic Na Thiosulfate
AG2S 500 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9D 40 mL clear vial DI	ZPLC ziploc bag
BG3U 250 mL clear glass unpres	BP3S 250 mL plastic H2SO4		GN: 40ml vial

 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 31Jan2018
	Document No.: F-GB-C-031-rev.06	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: **WO# : 40164822**

Client Name: REI



Courier: CS Logistics Fed Ex Speedee UPS Waltco
 Client Pace Other: _____

Tracking #: 1643867-1

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR - N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROD / Corr: _____

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Person examining contents:
 Date: 2/17/18
 Initials: RS

Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A MS/MSD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		<u>007 - vial has 10 "PZ-2" and time "1230" on client label, plated by <u>RS</u> 2/17/18</u>
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 2-19-18

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

ANALYTICAL REPORT

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

Printed: 03/01/18 Page 1 of 1

Client: Pace Analytical Services Inc (GB)
Attn: Brian D Basten
1241 Bellevue Street
Green Bay, WI 54302 2156

NLS Project: 294888

NLS Customer: 94575

Fax: 920 469 8827 Phone: 800 736 2436

Project: 40164822 - 5586 Mack Lake

40164822009 NLS ID: 1041581

Matrix: DW

Collected: 02/13/18 13:30 Received: 02/20/18

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					02/26/18	EPA 524.2, Rev 4.1	721026460

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

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable

DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L

MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: VOC's by EPA 524.2, Rev 4.1 - Water - Extended (Agilent5977E)

Page 1 of 2

Customer: Pace Analytical Services Inc (GB) NLS Project: 294888

Project Description: 40164822 - 5586 Mack Lake

Project Title: Template: AGIPACE Printed: 03/01/2018 08:55

Sample: 1041581 40164822009 Collected: 02/13/18 Analyzed: 02/26/18 - Analytes: 70

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.23	0.82		
Bromobenzene	ND	ug/L	1	0.26	0.91		
Bromochloromethane	ND	ug/L	1	0.34	1.2		
Bromodichloromethane	ND	ug/L	1	0.23	0.81		
Bromoform	ND	ug/L	1	0.21	0.74		
Bromomethane	ND	ug/L	1	0.37	1.3		
n-Butylbenzene	ND	ug/L	1	0.22	0.76		
sec-Butylbenzene	ND	ug/L	1	0.23	0.83		
tert-Butylbenzene	ND	ug/L	1	0.23	0.80		
Carbon Tetrachloride	ND	ug/L	1	0.22	0.76		
Chlorobenzene	ND	ug/L	1	0.24	0.86		
Chloroethane	ND	ug/L	1	1.5	5.2		
Chloroform	ND	ug/L	1	0.25	0.90		
Chloromethane	ND	ug/L	1	0.23	0.83		
2-Chlorotoluene	ND	ug/L	1	0.23	0.82		
4-Chlorotoluene	ND	ug/L	1	0.20	0.73		
Dibromochloromethane	ND	ug/L	1	0.17	0.61		
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.20	0.71		
1,2-Dibromoethane	ND	ug/L	1	0.22	0.76		
Dibromomethane	ND	ug/L	1	0.26	0.90		
1,2-Dichlorobenzene	ND	ug/L	1	0.25	0.87		
1,3-Dichlorobenzene	ND	ug/L	1	0.25	0.89		
1,4-Dichlorobenzene	ND	ug/L	1	0.28	1.0		
Dichlorodifluoromethane	ND	ug/L	1	0.22	0.77		
1,1-Dichloroethane	ND	ug/L	1	0.31	1.1		
1,2-Dichloroethane	ND	ug/L	1	0.25	0.90		
1,1-Dichloroethene	ND	ug/L	1	0.25	0.87		
cis-1,2-Dichloroethene	ND	ug/L	1	0.30	1.1		
trans-1,2-Dichloroethene	ND	ug/L	1	0.47	1.7		
1,2-Dichloropropane	ND	ug/L	1	0.23	0.81		
1,3-Dichloropropane	ND	ug/L	1	0.25	0.87		
2,2-Dichloropropane	ND	ug/L	1	0.15	0.54		
1,1-Dichloropropene	ND	ug/L	1	0.32	1.1		
cis-1,3-Dichloropropene	ND	ug/L	1	0.18	0.65		
trans-1,3-Dichloropropene	ND	ug/L	1	0.21	0.75		
Ethylbenzene	ND	ug/L	1	0.22	0.79		
Hexachlorobutadiene	ND	ug/L	1	0.24	0.83		
Isopropylbenzene	ND	ug/L	1	0.22	0.77		
p-Isopropyltoluene	ND	ug/L	1	0.22	0.78		
Methylene chloride	ND	ug/L	1	0.22	0.79		
Naphthalene	ND	ug/L	1	0.23	0.83		
n-Propylbenzene	ND	ug/L	1	0.22	0.78		
ortho-Xylene	ND	ug/L	1	0.20	0.70		
Styrene	ND	ug/L	1	0.21	0.73		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.21	0.74		
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.20	0.72		
Tetrachloroethene	ND	ug/L	1	0.28	0.99		
Toluene	ND	ug/L	1	0.22	0.79		
1,2,3-Trichlorobenzene	ND	ug/L	1	0.24	0.85		
1,2,4-Trichlorobenzene	ND	ug/L	1	0.25	0.90		
1,1,1-Trichloroethane	ND	ug/L	1	0.32	1.1		
1,1,2-Trichloroethane	ND	ug/L	1	0.27	0.94		
Trichloroethene	ND	ug/L	1	0.30	1.1		

ANALYTICAL RESULTS: VOC's by EPA 524.2, Rev 4.1 - Water - Extended (Agilent5977E)

Customer: Pace Analytical Services Inc (GB) NLS Project: 294888

Project Description: 40164822 - 5586 Mack Lake

Project Title: Template: AGIPACE Printed: 03/01/2018 08:55

Sample: 1041581 40164822009 Collected: 02/13/18 Analyzed: 02/26/18 - Analytes: 70

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Trichlorofluoromethane	ND	ug/L	1	0.30	1.1		
1,2,3-Trichloropropane	ND	ug/L	1	0.30	1.0		
1,2,4-Trimethylbenzene	ND	ug/L	1	0.21	0.73		
1,3,5-Trimethylbenzene	ND	ug/L	1	0.22	0.77		
Vinyl chloride	ND	ug/L	1	0.20	0.70		
meta,para-Xylene	ND	ug/L	1	0.48	1.7		
MTBE	ND	ug/L	1	0.29	1.0		
Acetone	ND	ug/L	1	4.2	12		
Carbon disulfide	ND	ug/L	1	0.27	0.96		
Vinyl Acetate	ND	ug/L	1	0.39	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.71	2.5		
4-Methyl-2-Pentanone	ND	ug/L	1	0.46	1.6		
2-Hexanone	ND	ug/L	1	0.44	1.6		
Trans 1,4-dichloro 2-butene	ND	ug/L	1	0.36	1.3		
Methyl methacrylate	ND	ug/L	1	0.48	1.7		
Ethyl methacrylate	ND	ug/L	1	0.20	0.72		
Acrylonitrile	ND	ug/L	1	0.62	2.2		
4-Bromofluorobenzene (SURR)	79%						S
1,2-Dichlorobenzene - d4 (SURR)	89%						S

NOTES APPLICABLE TO THIS ANALYSIS:

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

July 02, 2018

DAVID LARSEN
REI
4080 NORTH 20TH AVENUE
Wausau, WI 54401

RE: Project: 5586 AXUC MACK LAKE TAVERN
Pace Project No.: 40171383

Dear DAVID LARSEN:

Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia DEP Certification #: 382

Wisconsin Certification #: 999407970

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 5586 AXUC MACK LAKE TAVERN
Pace Project No.: 40171383

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40171383001	MW-500	Water	06/21/18 12:30	06/23/18 08:15
40171383002	MW-600	Water	06/21/18 13:15	06/23/18 08:15
40171383003	MW-700	Water	06/21/18 13:30	06/23/18 08:15
40171383004	MW-800	Water	06/21/18 17:00	06/23/18 08:15
40171383005	MW-900	Water	06/21/18 14:25	06/23/18 08:15
40171383006	MW-1000	Water	06/21/18 15:55	06/23/18 08:15
40171383007	MW-1200	Water	06/21/18 16:40	06/23/18 08:15
40171383008	MW-1400	Water	06/21/18 15:15	06/23/18 08:15
40171383009	PZ-2	Water	06/21/18 14:15	06/23/18 08:15
40171383010	PZ-3	Water	06/21/18 16:25	06/23/18 08:15
40171383011	PZ-4	Water	06/21/18 15:40	06/23/18 08:15
40171383012	PZ-100	Water	06/21/18 12:50	06/23/18 08:15
40171383013	N1089	Water	06/21/18 16:07	06/23/18 08:15
40171383014	TAVERN POTABLE	Water	06/21/18 17:10	06/23/18 08:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40171383001	MW-500	WI MOD GRO	ALD	10	PASI-G
40171383002	MW-600	WI MOD GRO	ALD	10	PASI-G
40171383003	MW-700	WI MOD GRO	ALD	10	PASI-G
40171383004	MW-800	WI MOD GRO	ALD	10	PASI-G
40171383005	MW-900	WI MOD GRO	ALD	10	PASI-G
40171383006	MW-1000	WI MOD GRO	ALD	10	PASI-G
40171383007	MW-1200	WI MOD GRO	ALD	10	PASI-G
40171383008	MW-1400	WI MOD GRO	ALD	10	PASI-G
40171383009	PZ-2	WI MOD GRO	ALD	10	PASI-G
40171383010	PZ-3	WI MOD GRO	ALD	10	PASI-G
40171383011	PZ-4	WI MOD GRO	ALD	10	PASI-G
40171383012	PZ-100	WI MOD GRO	ALD	10	PASI-G
40171383013	N1089	EPA 524.2	AEZ	62	PASI-M
40171383014	TAVERN POTABLE	EPA 524.2	AEZ	62	PASI-M

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Project No.: 40171383

Sample: MW-500 Lab ID: 40171383001 Collected: 06/21/18 12:30 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 11:43	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 11:43	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 11:43	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 11:43	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 11:43	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 11:43	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 11:43	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 11:43	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 11:43	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1		06/27/18 11:43	98-08-8	

Sample: MW-600 Lab ID: 40171383002 Collected: 06/21/18 13:15 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 12:50	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 12:50	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 12:50	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 12:50	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 12:50	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 12:50	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 12:50	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 12:50	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 12:50	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1		06/27/18 12:50	98-08-8	

Sample: MW-700 Lab ID: 40171383003 Collected: 06/21/18 13:30 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 13:16	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 13:16	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 13:16	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 13:16	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 13:16	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 13:16	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 13:16	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 13:16	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 13:16	95-47-6	

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Sample: MW-700 **Lab ID: 40171383003** Collected: 06/21/18 13:30 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Surrogates

a,a,a-Trifluorotoluene (S)	102	%	80-120		1		06/27/18 13:16	98-08-8	
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Sample: MW-800 **Lab ID: 40171383004** Collected: 06/21/18 17:00 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 13:42	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 13:42	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 13:42	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 13:42	91-20-3	
Toluene	2.0	ug/L	1.6	0.49	1		06/27/18 13:42	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 13:42	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 13:42	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 13:42	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 13:42	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1		06/27/18 13:42	98-08-8	

Sample: MW-900 **Lab ID: 40171383005** Collected: 06/21/18 14:25 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Benzene	34.5	ug/L	10.2	3.1	10		06/27/18 17:06	71-43-2	
Ethylbenzene	567	ug/L	11.0	3.3	10		06/27/18 17:06	100-41-4	
Methyl-tert-butyl ether	<3.2	ug/L	10.7	3.2	10		06/27/18 17:06	1634-04-4	
Naphthalene	129	ug/L	16.8	5.1	10		06/27/18 17:06	91-20-3	
Toluene	186	ug/L	16.3	4.9	10		06/27/18 17:06	108-88-3	
1,2,4-Trimethylbenzene	1020	ug/L	11.4	3.4	10		06/27/18 17:06	95-63-6	
1,3,5-Trimethylbenzene	363	ug/L	10.9	3.3	10		06/27/18 17:06	108-67-8	
m&p-Xylene	1090	ug/L	21.8	6.6	10		06/27/18 17:06	179601-23-1	
o-Xylene	178	ug/L	10.5	3.2	10		06/27/18 17:06	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		10		06/27/18 17:06	98-08-8	

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Sample: MW-1000 **Lab ID: 40171383006** Collected: 06/21/18 15:55 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	1.2	ug/L	1.0	0.31	1		06/27/18 18:48	71-43-2	
Ethylbenzene	9.9	ug/L	1.1	0.33	1		06/27/18 18:48	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 18:48	1634-04-4	
Naphthalene	4.2	ug/L	1.7	0.51	1		06/27/18 18:48	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 18:48	108-88-3	
1,2,4-Trimethylbenzene	12.4	ug/L	1.1	0.34	1		06/27/18 18:48	95-63-6	
1,3,5-Trimethylbenzene	9.5	ug/L	1.1	0.33	1		06/27/18 18:48	108-67-8	
m&p-Xylene	13.5	ug/L	2.2	0.66	1		06/27/18 18:48	179601-23-1	
o-Xylene	0.38J	ug/L	1.0	0.32	1		06/27/18 18:48	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		1		06/27/18 18:48	98-08-8	

Sample: MW-1200 **Lab ID: 40171383007** Collected: 06/21/18 16:40 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 14:07	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 14:07	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 14:07	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 14:07	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 14:07	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 14:07	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 14:07	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 14:07	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 14:07	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	103	%	80-120		1		06/27/18 14:07	98-08-8	

Sample: MW-1400 **Lab ID: 40171383008** Collected: 06/21/18 15:15 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 14:33	71-43-2	
Ethylbenzene	0.98J	ug/L	1.1	0.33	1		06/27/18 14:33	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 14:33	1634-04-4	
Naphthalene	1.1J	ug/L	1.7	0.51	1		06/27/18 14:33	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 14:33	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 14:33	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 14:33	108-67-8	
m&p-Xylene	1.8J	ug/L	2.2	0.66	1		06/27/18 14:33	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 14:33	95-47-6	

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Sample: MW-1400 **Lab ID: 40171383008** Collected: 06/21/18 15:15 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Surrogates

a,a,a-Trifluorotoluene (S)	103	%	80-120		1		06/27/18 14:33	98-08-8	
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Sample: PZ-2 **Lab ID: 40171383009** Collected: 06/21/18 14:15 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 10:44	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 10:44	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 10:44	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 10:44	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 10:44	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 10:44	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 10:44	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 10:44	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 10:44	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-120		1		06/27/18 10:44	98-08-8	

Sample: PZ-3 **Lab ID: 40171383010** Collected: 06/21/18 16:25 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 11:10	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 11:10	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 11:10	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 11:10	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 11:10	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 11:10	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 11:10	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 11:10	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 11:10	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-120		1		06/27/18 11:10	98-08-8	

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Sample: PZ-4 **Lab ID: 40171383011** Collected: 06/21/18 15:40 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		06/27/18 11:36	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 11:36	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/27/18 11:36	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		06/27/18 11:36	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/27/18 11:36	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		06/27/18 11:36	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		06/27/18 11:36	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		06/27/18 11:36	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/27/18 11:36	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-120		1		06/27/18 11:36	98-08-8	

Sample: PZ-100 **Lab ID: 40171383012** Collected: 06/21/18 12:50 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		06/28/18 10:54	71-43-2	
Ethylbenzene	1.7	ug/L	1.1	0.33	1		06/28/18 10:54	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		06/28/18 10:54	1634-04-4	
Naphthalene	1.9	ug/L	1.7	0.51	1		06/28/18 10:54	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		06/28/18 10:54	108-88-3	
1,2,4-Trimethylbenzene	32.4	ug/L	1.1	0.34	1		06/28/18 10:54	95-63-6	
1,3,5-Trimethylbenzene	16.8	ug/L	1.1	0.33	1		06/28/18 10:54	108-67-8	
m&p-Xylene	4.7	ug/L	2.2	0.66	1		06/28/18 10:54	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		06/28/18 10:54	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	106	%	80-120		1		06/28/18 10:54	98-08-8	

Sample: N1089 **Lab ID: 40171383013** Collected: 06/21/18 16:07 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV Analytical Method: EPA 524.2									
Benzene	<0.11	ug/L	0.37	0.11	1		06/27/18 20:35	71-43-2	
Bromobenzene	<0.12	ug/L	0.40	0.12	1		06/27/18 20:35	108-86-1	
Bromochloromethane	<0.38	ug/L	1.3	0.38	1		06/27/18 20:35	74-97-5	
Bromodichloromethane	<0.14	ug/L	0.48	0.14	1		06/27/18 20:35	75-27-4	
Bromoform	<1.0	ug/L	3.5	1.0	1		06/27/18 20:35	75-25-2	
Bromomethane	<1.1	ug/L	3.8	1.1	1		06/27/18 20:35	74-83-9	
n-Butylbenzene	<0.12	ug/L	0.40	0.12	1		06/27/18 20:35	104-51-8	
sec-Butylbenzene	<0.12	ug/L	0.41	0.12	1		06/27/18 20:35	135-98-8	
tert-Butylbenzene	<0.15	ug/L	0.49	0.15	1		06/27/18 20:35	98-06-6	

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Sample: N1089 **Lab ID: 40171383013** Collected: 06/21/18 16:07 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Carbon tetrachloride	<0.17	ug/L	0.57	0.17	1		06/27/18 20:35	56-23-5	
Chlorobenzene	<0.11	ug/L	0.38	0.11	1		06/27/18 20:35	108-90-7	
Chloroethane	<0.32	ug/L	1.1	0.32	1		06/27/18 20:35	75-00-3	
Chloroform	<0.46	ug/L	1.5	0.46	1		06/27/18 20:35	67-66-3	
Chloromethane	<1.1	ug/L	3.6	1.1	1		06/27/18 20:35	74-87-3	
2-Chlorotoluene	<0.078	ug/L	0.26	0.078	1		06/27/18 20:35	95-49-8	
4-Chlorotoluene	<0.089	ug/L	0.30	0.089	1		06/27/18 20:35	106-43-4	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	3.4	1.0	1		06/27/18 20:35	96-12-8	
Dibromochloromethane	<0.13	ug/L	0.45	0.13	1		06/27/18 20:35	124-48-1	
1,2-Dibromoethane (EDB)	<0.14	ug/L	0.46	0.14	1		06/27/18 20:35	106-93-4	
Dibromomethane	<0.50	ug/L	1.7	0.50	1		06/27/18 20:35	74-95-3	
1,2-Dichlorobenzene	<0.077	ug/L	0.26	0.077	1		06/27/18 20:35	95-50-1	
1,3-Dichlorobenzene	<0.074	ug/L	0.25	0.074	1		06/27/18 20:35	541-73-1	
1,4-Dichlorobenzene	<0.073	ug/L	0.24	0.073	1		06/27/18 20:35	106-46-7	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		06/27/18 20:35	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.48	0.14	1		06/27/18 20:35	75-34-3	
1,2-Dichloroethane	<0.11	ug/L	0.37	0.11	1		06/27/18 20:35	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.60	0.18	1		06/27/18 20:35	75-35-4	
cis-1,2-Dichloroethene	<0.073	ug/L	0.24	0.073	1		06/27/18 20:35	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.70	0.21	1		06/27/18 20:35	156-60-5	
1,2-Dichloropropane	<0.20	ug/L	0.68	0.20	1		06/27/18 20:35	78-87-5	
1,3-Dichloropropane	<0.093	ug/L	0.31	0.093	1		06/27/18 20:35	142-28-9	
2,2-Dichloropropane	<0.32	ug/L	1.1	0.32	1		06/27/18 20:35	594-20-7	
1,1-Dichloropropene	<0.16	ug/L	0.55	0.16	1		06/27/18 20:35	563-58-6	
cis-1,3-Dichloropropene	<0.12	ug/L	0.39	0.12	1		06/27/18 20:35	10061-01-5	
trans-1,3-Dichloropropene	<0.11	ug/L	0.36	0.11	1		06/27/18 20:35	10061-02-6	
Ethylbenzene	<0.14	ug/L	0.45	0.14	1		06/27/18 20:35	100-41-4	
Hexachloro-1,3-butadiene	<0.31	ug/L	1.0	0.31	1		06/27/18 20:35	87-68-3	
Isopropylbenzene (Cumene)	<0.095	ug/L	0.32	0.095	1		06/27/18 20:35	98-82-8	
p-Isopropyltoluene	<0.088	ug/L	0.29	0.088	1		06/27/18 20:35	99-87-6	
Methylene Chloride	<1.2	ug/L	3.9	1.2	1		06/27/18 20:35	75-09-2	
Methyl-tert-butyl ether	<0.097	ug/L	0.32	0.097	1		06/27/18 20:35	1634-04-4	
Naphthalene	<0.42	ug/L	1.4	0.42	1		06/27/18 20:35	91-20-3	
n-Propylbenzene	<0.11	ug/L	0.36	0.11	1		06/27/18 20:35	103-65-1	
Styrene	<0.10	ug/L	0.35	0.10	1		06/27/18 20:35	100-42-5	
1,1,1,2-Tetrachloroethane	<0.13	ug/L	0.44	0.13	1		06/27/18 20:35	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.63	0.19	1		06/27/18 20:35	79-34-5	
Tetrachloroethene	<0.12	ug/L	0.38	0.12	1		06/27/18 20:35	127-18-4	
Toluene	<0.17	ug/L	0.57	0.17	1		06/27/18 20:35	108-88-3	
1,2,3-Trichlorobenzene	<0.078	ug/L	0.26	0.078	1		06/27/18 20:35	87-61-6	
1,2,4-Trichlorobenzene	<0.11	ug/L	0.38	0.11	1		06/27/18 20:35	120-82-1	
1,1,1-Trichloroethane	<0.13	ug/L	0.44	0.13	1		06/27/18 20:35	71-55-6	
1,1,2-Trichloroethane	<0.12	ug/L	0.41	0.12	1		06/27/18 20:35	79-00-5	
Trichloroethene	<0.11	ug/L	0.36	0.11	1		06/27/18 20:35	79-01-6	
Trichlorofluoromethane	<0.080	ug/L	0.27	0.080	1		06/27/18 20:35	75-69-4	
1,2,3-Trichloropropane	<0.31	ug/L	1.0	0.31	1		06/27/18 20:35	96-18-4	

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Sample: N1089 **Lab ID: 40171383013** Collected: 06/21/18 16:07 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV Analytical Method: EPA 524.2									
1,2,4-Trimethylbenzene	<0.085	ug/L	0.28	0.085	1		06/27/18 20:35	95-63-6	
1,3,5-Trimethylbenzene	<0.093	ug/L	0.31	0.093	1		06/27/18 20:35	108-67-8	
Vinyl chloride	<0.074	ug/L	0.25	0.074	1		06/27/18 20:35	75-01-4	
Xylene (Total)	<0.24	ug/L	0.81	0.24	1		06/27/18 20:35	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	75-125		1		06/27/18 20:35	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		06/27/18 20:35	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		06/27/18 20:35	17060-07-0	

Sample: TAVERN POTABLE **Lab ID: 40171383014** Collected: 06/21/18 17:10 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV Analytical Method: EPA 524.2									
Benzene	<0.11	ug/L	0.37	0.11	1		06/27/18 20:59	71-43-2	
Bromobenzene	<0.12	ug/L	0.40	0.12	1		06/27/18 20:59	108-86-1	
Bromochloromethane	<0.38	ug/L	1.3	0.38	1		06/27/18 20:59	74-97-5	
Bromodichloromethane	<0.14	ug/L	0.48	0.14	1		06/27/18 20:59	75-27-4	
Bromoform	<1.0	ug/L	3.5	1.0	1		06/27/18 20:59	75-25-2	
Bromomethane	<1.1	ug/L	3.8	1.1	1		06/27/18 20:59	74-83-9	
n-Butylbenzene	<0.12	ug/L	0.40	0.12	1		06/27/18 20:59	104-51-8	
sec-Butylbenzene	<0.12	ug/L	0.41	0.12	1		06/27/18 20:59	135-98-8	
tert-Butylbenzene	<0.15	ug/L	0.49	0.15	1		06/27/18 20:59	98-06-6	
Carbon tetrachloride	<0.17	ug/L	0.57	0.17	1		06/27/18 20:59	56-23-5	
Chlorobenzene	<0.11	ug/L	0.38	0.11	1		06/27/18 20:59	108-90-7	
Chloroethane	<0.32	ug/L	1.1	0.32	1		06/27/18 20:59	75-00-3	
Chloroform	<0.46	ug/L	1.5	0.46	1		06/27/18 20:59	67-66-3	
Chloromethane	<1.1	ug/L	3.6	1.1	1		06/27/18 20:59	74-87-3	
2-Chlorotoluene	<0.078	ug/L	0.26	0.078	1		06/27/18 20:59	95-49-8	
4-Chlorotoluene	<0.089	ug/L	0.30	0.089	1		06/27/18 20:59	106-43-4	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	3.4	1.0	1		06/27/18 20:59	96-12-8	
Dibromochloromethane	<0.13	ug/L	0.45	0.13	1		06/27/18 20:59	124-48-1	
1,2-Dibromoethane (EDB)	<0.14	ug/L	0.46	0.14	1		06/27/18 20:59	106-93-4	
Dibromomethane	<0.50	ug/L	1.7	0.50	1		06/27/18 20:59	74-95-3	
1,2-Dichlorobenzene	<0.077	ug/L	0.26	0.077	1		06/27/18 20:59	95-50-1	
1,3-Dichlorobenzene	<0.074	ug/L	0.25	0.074	1		06/27/18 20:59	541-73-1	
1,4-Dichlorobenzene	<0.073	ug/L	0.24	0.073	1		06/27/18 20:59	106-46-7	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		06/27/18 20:59	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.48	0.14	1		06/27/18 20:59	75-34-3	
1,2-Dichloroethane	<0.11	ug/L	0.37	0.11	1		06/27/18 20:59	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.60	0.18	1		06/27/18 20:59	75-35-4	
cis-1,2-Dichloroethene	<0.073	ug/L	0.24	0.073	1		06/27/18 20:59	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.70	0.21	1		06/27/18 20:59	156-60-5	
1,2-Dichloropropane	<0.20	ug/L	0.68	0.20	1		06/27/18 20:59	78-87-5	

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ANALYTICAL RESULTS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Sample: TAVERN POTABLE **Lab ID: 40171383014** Collected: 06/21/18 17:10 Received: 06/23/18 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV Analytical Method: EPA 524.2									
1,3-Dichloropropane	<0.093	ug/L	0.31	0.093	1		06/27/18 20:59	142-28-9	
2,2-Dichloropropane	<0.32	ug/L	1.1	0.32	1		06/27/18 20:59	594-20-7	
1,1-Dichloropropene	<0.16	ug/L	0.55	0.16	1		06/27/18 20:59	563-58-6	
cis-1,3-Dichloropropene	<0.12	ug/L	0.39	0.12	1		06/27/18 20:59	10061-01-5	
trans-1,3-Dichloropropene	<0.11	ug/L	0.36	0.11	1		06/27/18 20:59	10061-02-6	
Ethylbenzene	<0.14	ug/L	0.45	0.14	1		06/27/18 20:59	100-41-4	
Hexachloro-1,3-butadiene	<0.31	ug/L	1.0	0.31	1		06/27/18 20:59	87-68-3	
Isopropylbenzene (Cumene)	<0.095	ug/L	0.32	0.095	1		06/27/18 20:59	98-82-8	
p-Isopropyltoluene	<0.088	ug/L	0.29	0.088	1		06/27/18 20:59	99-87-6	
Methylene Chloride	<1.2	ug/L	3.9	1.2	1		06/27/18 20:59	75-09-2	
Methyl-tert-butyl ether	<0.097	ug/L	0.32	0.097	1		06/27/18 20:59	1634-04-4	
Naphthalene	<0.42	ug/L	1.4	0.42	1		06/27/18 20:59	91-20-3	
n-Propylbenzene	<0.11	ug/L	0.36	0.11	1		06/27/18 20:59	103-65-1	
Styrene	<0.10	ug/L	0.35	0.10	1		06/27/18 20:59	100-42-5	
1,1,1,2-Tetrachloroethane	<0.13	ug/L	0.44	0.13	1		06/27/18 20:59	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.63	0.19	1		06/27/18 20:59	79-34-5	
Tetrachloroethene	<0.12	ug/L	0.38	0.12	1		06/27/18 20:59	127-18-4	
Toluene	<0.17	ug/L	0.57	0.17	1		06/27/18 20:59	108-88-3	
1,2,3-Trichlorobenzene	<0.078	ug/L	0.26	0.078	1		06/27/18 20:59	87-61-6	
1,2,4-Trichlorobenzene	<0.11	ug/L	0.38	0.11	1		06/27/18 20:59	120-82-1	
1,1,1-Trichloroethane	<0.13	ug/L	0.44	0.13	1		06/27/18 20:59	71-55-6	
1,1,2-Trichloroethane	<0.12	ug/L	0.41	0.12	1		06/27/18 20:59	79-00-5	
Trichloroethene	<0.11	ug/L	0.36	0.11	1		06/27/18 20:59	79-01-6	
Trichlorofluoromethane	<0.080	ug/L	0.27	0.080	1		06/27/18 20:59	75-69-4	
1,2,3-Trichloropropane	<0.31	ug/L	1.0	0.31	1		06/27/18 20:59	96-18-4	
1,2,4-Trimethylbenzene	<0.085	ug/L	0.28	0.085	1		06/27/18 20:59	95-63-6	
1,3,5-Trimethylbenzene	<0.093	ug/L	0.31	0.093	1		06/27/18 20:59	108-67-8	
Vinyl chloride	<0.074	ug/L	0.25	0.074	1		06/27/18 20:59	75-01-4	
Xylene (Total)	<0.24	ug/L	0.81	0.24	1		06/27/18 20:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	75-125		1		06/27/18 20:59	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		06/27/18 20:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/27/18 20:59	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

QC Batch:	292964	Analysis Method:	WI MOD GRO
QC Batch Method:	WI MOD GRO	Analysis Description:	WIGRO GCV Water
Associated Lab Samples:	40171383001, 40171383002, 40171383003, 40171383004, 40171383005, 40171383006, 40171383007, 40171383008		

METHOD BLANK:	1713026	Matrix:	Water
Associated Lab Samples:	40171383001, 40171383002, 40171383003, 40171383004, 40171383005, 40171383006, 40171383007, 40171383008		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.34	1.1	06/27/18 08:58	
1,3,5-Trimethylbenzene	ug/L	<0.33	1.1	06/27/18 08:58	
Benzene	ug/L	<0.31	1.0	06/27/18 08:58	
Ethylbenzene	ug/L	<0.33	1.1	06/27/18 08:58	
m&p-Xylene	ug/L	<0.66	2.2	06/27/18 08:58	
Methyl-tert-butyl ether	ug/L	<0.32	1.1	06/27/18 08:58	
Naphthalene	ug/L	<0.51	1.7	06/27/18 08:58	
o-Xylene	ug/L	<0.32	1.0	06/27/18 08:58	
Toluene	ug/L	<0.49	1.6	06/27/18 08:58	
a,a,a-Trifluorotoluene (S)	%	101	80-120	06/27/18 08:58	

Parameter	Units	1713027		1713028		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec				
1,2,4-Trimethylbenzene	ug/L	20	20.7	20.9	104	105	80-120	1	20
1,3,5-Trimethylbenzene	ug/L	20	20.5	20.5	102	103	80-120	0	20
Benzene	ug/L	20	20.3	20.4	101	102	80-120	1	20
Ethylbenzene	ug/L	20	20.8	20.8	104	104	80-120	0	20
m&p-Xylene	ug/L	40	41.3	41.4	103	104	80-120	0	20
Methyl-tert-butyl ether	ug/L	20	20.2	20.1	101	100	80-120	1	20
Naphthalene	ug/L	20	19.8	19.8	99	99	80-120	0	20
o-Xylene	ug/L	20	20.5	20.6	103	103	80-120	0	20
Toluene	ug/L	20	20.6	20.7	103	103	80-120	0	20
a,a,a-Trifluorotoluene (S)	%				102	102	80-120		

Parameter	Units	1713270		1713271		% Rec Limits	RPD	Max RPD	Qual		
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
1,2,4-Trimethylbenzene	ug/L	<0.34	20	20	21.9	20.8	109	104	51-160	5	20
1,3,5-Trimethylbenzene	ug/L	<0.33	20	20	21.4	20.5	107	103	56-146	4	20
Benzene	ug/L	<0.31	20	20	22.5	21.6	112	108	71-137	4	20
Ethylbenzene	ug/L	<0.33	20	20	22.6	21.8	113	109	71-141	4	20
m&p-Xylene	ug/L	<0.66	40	40	44.4	42.8	111	107	66-141	4	20
Methyl-tert-butyl ether	ug/L	<0.32	20	20	20.6	20.2	103	101	80-120	2	20
Naphthalene	ug/L	<0.51	20	20	19.0	19.2	95	96	67-138	1	20
o-Xylene	ug/L	<0.32	20	20	22.2	21.2	111	106	75-133	4	20

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1713270		1713271		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40171305017 Result	MS Spike Conc.	MSD Spike Conc.									
Toluene	ug/L	<0.49	20	20	22.7	21.9	114	109	76-134	4	20		
a,a,a-Trifluorotoluene (S)	%						102	103	80-120				

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

QC Batch: 292965 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 40171383009, 40171383010, 40171383011, 40171383012

METHOD BLANK: 1713029 Matrix: Water
Associated Lab Samples: 40171383009, 40171383010, 40171383011, 40171383012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.34	1.1	06/27/18 09:00	
1,3,5-Trimethylbenzene	ug/L	<0.33	1.1	06/27/18 09:00	
Benzene	ug/L	<0.31	1.0	06/27/18 09:00	
Ethylbenzene	ug/L	<0.33	1.1	06/27/18 09:00	
m&p-Xylene	ug/L	<0.66	2.2	06/27/18 09:00	
Methyl-tert-butyl ether	ug/L	<0.32	1.1	06/27/18 09:00	
Naphthalene	ug/L	<0.51	1.7	06/27/18 09:00	
o-Xylene	ug/L	<0.32	1.0	06/27/18 09:00	
Toluene	ug/L	<0.49	1.6	06/27/18 09:00	
a,a,a-Trifluorotoluene (S)	%	99	80-120	06/27/18 09:00	

LABORATORY CONTROL SAMPLE & LCSD: 1713030 1713031

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.5	20.1	103	100	80-120	2	20	
1,3,5-Trimethylbenzene	ug/L	20	19.9	19.8	99	99	80-120	1	20	
Benzene	ug/L	20	19.7	19.6	98	98	80-120	1	20	
Ethylbenzene	ug/L	20	20.2	20.1	101	100	80-120	1	20	
m&p-Xylene	ug/L	40	39.8	39.4	99	98	80-120	1	20	
Methyl-tert-butyl ether	ug/L	20	20.4	19.9	102	100	80-120	2	20	
Naphthalene	ug/L	20	20.5	20.6	102	103	80-120	1	20	
o-Xylene	ug/L	20	20.0	19.7	100	99	80-120	1	20	
Toluene	ug/L	20	20.0	19.7	100	99	80-120	2	20	
a,a,a-Trifluorotoluene (S)	%				100	99	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1713272 1713273

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40171383009 Result	Spike Conc.	Spike Conc.	MS Result						
1,2,4-Trimethylbenzene	ug/L	<0.34	20	20	21.5	21.4	108	107	51-160	0	20
1,3,5-Trimethylbenzene	ug/L	<0.33	20	20	20.9	20.8	105	104	56-146	0	20
Benzene	ug/L	<0.31	20	20	20.5	20.6	103	103	71-137	0	20
Ethylbenzene	ug/L	<0.33	20	20	21.5	21.6	107	108	71-141	1	20
m&p-Xylene	ug/L	<0.66	40	40	42.2	42.1	106	105	66-141	0	20
Methyl-tert-butyl ether	ug/L	<0.32	20	20	19.8	20.4	99	102	80-120	3	20
Naphthalene	ug/L	<0.51	20	20	20.6	22.0	103	110	67-138	6	20
o-Xylene	ug/L	<0.32	20	20	21.0	21.1	105	105	75-133	0	20
Toluene	ug/L	<0.49	20	20	20.9	21.1	105	106	76-134	1	20

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1713272		1713273									
Parameter	Units	40171383009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
a,a,a-Trifluorotoluene (S)	%						99	99	80-120				

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

QC Batch: 547329 Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV

Associated Lab Samples: 40171383013, 40171383014

METHOD BLANK: 2975501 Matrix: Water

Associated Lab Samples: 40171383013, 40171383014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.13	0.44	06/27/18 17:02	
1,1,1-Trichloroethane	ug/L	<0.13	0.44	06/27/18 17:02	
1,1,2,2-Tetrachloroethane	ug/L	<0.19	0.63	06/27/18 17:02	
1,1,2-Trichloroethane	ug/L	<0.12	0.41	06/27/18 17:02	
1,1-Dichloroethane	ug/L	<0.14	0.48	06/27/18 17:02	
1,1-Dichloroethene	ug/L	<0.18	0.60	06/27/18 17:02	
1,1-Dichloropropene	ug/L	<0.16	0.55	06/27/18 17:02	
1,2,3-Trichlorobenzene	ug/L	<0.078	0.26	06/27/18 17:02	MN
1,2,3-Trichloropropane	ug/L	<0.31	1.0	06/27/18 17:02	
1,2,4-Trichlorobenzene	ug/L	<0.11	0.38	06/27/18 17:02	
1,2,4-Trimethylbenzene	ug/L	<0.085	0.28	06/27/18 17:02	MN
1,2-Dibromo-3-chloropropane	ug/L	<1.0	3.4	06/27/18 17:02	MN
1,2-Dibromoethane (EDB)	ug/L	<0.14	0.46	06/27/18 17:02	MN
1,2-Dichlorobenzene	ug/L	<0.077	0.26	06/27/18 17:02	
1,2-Dichloroethane	ug/L	<0.11	0.37	06/27/18 17:02	
1,2-Dichloropropane	ug/L	<0.20	0.68	06/27/18 17:02	
1,3,5-Trimethylbenzene	ug/L	<0.093	0.31	06/27/18 17:02	
1,3-Dichlorobenzene	ug/L	<0.074	0.25	06/27/18 17:02	
1,3-Dichloropropane	ug/L	<0.093	0.31	06/27/18 17:02	
1,4-Dichlorobenzene	ug/L	<0.073	0.24	06/27/18 17:02	
2,2-Dichloropropane	ug/L	<0.32	1.1	06/27/18 17:02	
2-Chlorotoluene	ug/L	<0.078	0.26	06/27/18 17:02	
4-Chlorotoluene	ug/L	<0.089	0.30	06/27/18 17:02	
Benzene	ug/L	<0.11	0.37	06/27/18 17:02	
Bromobenzene	ug/L	<0.12	0.40	06/27/18 17:02	
Bromochloromethane	ug/L	<0.38	1.3	06/27/18 17:02	
Bromodichloromethane	ug/L	<0.14	0.48	06/27/18 17:02	
Bromoform	ug/L	<1.0	3.5	06/27/18 17:02	
Bromomethane	ug/L	<1.1	3.8	06/27/18 17:02	
Carbon tetrachloride	ug/L	<0.17	0.57	06/27/18 17:02	
Chlorobenzene	ug/L	<0.11	0.38	06/27/18 17:02	
Chloroethane	ug/L	<0.32	1.1	06/27/18 17:02	
Chloroform	ug/L	<0.46	1.5	06/27/18 17:02	
Chloromethane	ug/L	<1.1	3.6	06/27/18 17:02	
cis-1,2-Dichloroethene	ug/L	<0.073	0.24	06/27/18 17:02	
cis-1,3-Dichloropropene	ug/L	<0.12	0.39	06/27/18 17:02	
Dibromochloromethane	ug/L	<0.13	0.45	06/27/18 17:02	
Dibromomethane	ug/L	<0.50	1.7	06/27/18 17:02	
Dichlorodifluoromethane	ug/L	<0.31	1.0	06/27/18 17:02	
Ethylbenzene	ug/L	<0.14	0.45	06/27/18 17:02	
Hexachloro-1,3-butadiene	ug/L	<0.31	1.0	06/27/18 17:02	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

METHOD BLANK: 2975501

Matrix: Water

Associated Lab Samples: 40171383013, 40171383014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.095	0.32	06/27/18 17:02	
Methyl-tert-butyl ether	ug/L	<0.097	0.32	06/27/18 17:02	
Methylene Chloride	ug/L	1.4J	3.9	06/27/18 17:02	
n-Butylbenzene	ug/L	<0.12	0.40	06/27/18 17:02	MN
n-Propylbenzene	ug/L	<0.11	0.36	06/27/18 17:02	
Naphthalene	ug/L	<0.42	1.4	06/27/18 17:02	
p-Isopropyltoluene	ug/L	<0.088	0.29	06/27/18 17:02	
sec-Butylbenzene	ug/L	<0.12	0.41	06/27/18 17:02	
Styrene	ug/L	<0.10	0.35	06/27/18 17:02	
tert-Butylbenzene	ug/L	<0.15	0.49	06/27/18 17:02	
Tetrachloroethene	ug/L	<0.12	0.38	06/27/18 17:02	
Toluene	ug/L	<0.17	0.57	06/27/18 17:02	
trans-1,2-Dichloroethene	ug/L	<0.21	0.70	06/27/18 17:02	
trans-1,3-Dichloropropene	ug/L	<0.11	0.36	06/27/18 17:02	MN
Trichloroethene	ug/L	<0.11	0.36	06/27/18 17:02	
Trichlorofluoromethane	ug/L	<0.080	0.27	06/27/18 17:02	
Vinyl chloride	ug/L	<0.074	0.25	06/27/18 17:02	
Xylene (Total)	ug/L	<0.24	0.81	06/27/18 17:02	
1,2-Dichloroethane-d4 (S)	%	92	75-125	06/27/18 17:02	
4-Bromofluorobenzene (S)	%	96	75-125	06/27/18 17:02	
Toluene-d8 (S)	%	101	75-125	06/27/18 17:02	

LABORATORY CONTROL SAMPLE: 2975502

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	22.1	110	70-130	
1,1,1-Trichloroethane	ug/L	20	21.4	107	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	22.7	113	70-130	
1,1,2-Trichloroethane	ug/L	20	21.6	108	70-130	
1,1-Dichloroethane	ug/L	20	19.2	96	70-130	
1,1-Dichloroethene	ug/L	20	17.2	86	70-130	
1,1-Dichloropropene	ug/L	20	19.8	99	70-130	
1,2,3-Trichlorobenzene	ug/L	20	23.2	116	70-130	
1,2,3-Trichloropropane	ug/L	20	22.4	112	70-130	
1,2,4-Trichlorobenzene	ug/L	20	21.5	108	70-130	
1,2,4-Trimethylbenzene	ug/L	20	21.8	109	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	54.4	109	70-130	
1,2-Dibromoethane (EDB)	ug/L	20	22.7	113	70-130	
1,2-Dichlorobenzene	ug/L	20	22.4	112	70-130	
1,2-Dichloroethane	ug/L	20	20.3	102	70-130	
1,2-Dichloropropane	ug/L	20	21.3	106	70-130	
1,3,5-Trimethylbenzene	ug/L	20	23.1	116	70-130	
1,3-Dichlorobenzene	ug/L	20	22.5	113	70-130	
1,3-Dichloropropane	ug/L	20	23.6	118	70-130	

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

LABORATORY CONTROL SAMPLE: 2975502

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	20	21.9	109	70-130	
2,2-Dichloropropane	ug/L	20	21.6	108	70-130	
2-Chlorotoluene	ug/L	20	22.3	111	70-130	
4-Chlorotoluene	ug/L	20	23.1	116	70-130	
Benzene	ug/L	20	21.5	107	70-130	
Bromobenzene	ug/L	20	21.8	109	70-130	
Bromochloromethane	ug/L	20	22.4	112	70-130	
Bromodichloromethane	ug/L	20	22.1	110	70-130	
Bromoform	ug/L	20	22.5	112	70-130	
Bromomethane	ug/L	20	14.5	72	70-130	
Carbon tetrachloride	ug/L	20	21.2	106	70-130	
Chlorobenzene	ug/L	20	22.1	111	70-130	
Chloroethane	ug/L	20	18.1	90	70-130	
Chloroform	ug/L	20	20.3	102	70-130	
Chloromethane	ug/L	20	17.2	86	70-130	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	70-130	
cis-1,3-Dichloropropene	ug/L	20	22.4	112	70-130	
Dibromochloromethane	ug/L	20	22.5	112	70-130	
Dibromomethane	ug/L	20	22.8	114	70-130	
Dichlorodifluoromethane	ug/L	20	18.4	92	70-130	
Ethylbenzene	ug/L	20	22.9	114	70-130	
Hexachloro-1,3-butadiene	ug/L	20	22.9	114	70-130	
Isopropylbenzene (Cumene)	ug/L	20	20.5	103	70-130	
Methyl-tert-butyl ether	ug/L	20	20.6	103	70-130	
Methylene Chloride	ug/L	20	18.9	95	70-130	
n-Butylbenzene	ug/L	20	21.5	107	70-130	
n-Propylbenzene	ug/L	20	22.2	111	70-130	
Naphthalene	ug/L	20	22.8	114	70-130	
p-Isopropyltoluene	ug/L	20	20.2	101	70-130	
sec-Butylbenzene	ug/L	20	20.4	102	70-130	
Styrene	ug/L	20	21.0	105	70-130	
tert-Butylbenzene	ug/L	20	22.5	112	70-130	
Tetrachloroethene	ug/L	20	23.3	117	70-130	
Toluene	ug/L	20	20.7	104	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	70-130	
trans-1,3-Dichloropropene	ug/L	20	21.5	107	70-130	
Trichloroethene	ug/L	20	21.8	109	70-130	
Trichlorofluoromethane	ug/L	20	18.9	95	70-130	
Vinyl chloride	ug/L	20	17.6	88	70-130	
Xylene (Total)	ug/L	60	66.3	111	70-130	
1,2-Dichloroethane-d4 (S)	%			94	75-125	
4-Bromofluorobenzene (S)	%			97	75-125	
Toluene-d8 (S)	%			100	75-125	

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977127												2977128											
Parameter	Units	10437519001		MS	MSD	MS		MSD		% Rec		Max		Qual									
		Result	Spike Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD											
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20	21.0	20.2	105	101	70-130	4	20											
1,1,1-Trichloroethane	ug/L	ND	20	20	20	20.5	20.0	103	100	70-130	3	20											
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20	22.2	21.1	111	106	70-130	5	20											
1,1,2-Trichloroethane	ug/L	ND	20	20	20	19.7	19.5	98	97	70-130	1	20											
1,1-Dichloroethane	ug/L	ND	20	20	20	20.3	17.9	101	89	70-130	13	20											
1,1-Dichloroethene	ug/L	ND	20	20	20	17.2	16.8	86	84	70-130	2	20											
1,1-Dichloropropene	ug/L	ND	20	20	20	19.8	19.1	99	95	70-130	4	20											
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20	22.8	21.4	114	107	70-130	6	20											
1,2,3-Trichloropropane	ug/L	ND	20	20	20	20.8	19.9	104	99	70-130	4	20											
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20	20.8	20.0	104	100	70-130	4	20											
1,2,4-Trimethylbenzene	ug/L	ND	20	20	20	20.5	19.7	102	99	70-130	4	20											
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	50	52.6	49.3	105	99	70-130	6	20											
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20	20.8	20.0	104	100	70-130	4	20											
1,2-Dichlorobenzene	ug/L	ND	20	20	20	21.4	20.4	107	102	70-130	4	20											
1,2-Dichloroethane	ug/L	ND	20	20	20	18.2	17.6	91	88	70-130	4	20											
1,2-Dichloropropane	ug/L	ND	20	20	20	20.6	19.9	103	100	70-130	3	20											
1,3,5-Trimethylbenzene	ug/L	ND	20	20	20	22.2	20.7	111	104	70-130	7	20											
1,3-Dichlorobenzene	ug/L	ND	20	20	20	21.7	20.3	109	102	70-130	7	20											
1,3-Dichloropropane	ug/L	ND	20	20	20	21.5	21.3	108	106	70-130	1	20											
1,4-Dichlorobenzene	ug/L	ND	20	20	20	21.0	20.2	105	101	70-130	4	20											
2,2-Dichloropropane	ug/L	ND	20	20	20	21.7	20.8	108	104	70-130	4	20											
2-Chlorotoluene	ug/L	ND	20	20	20	21.0	20.2	105	101	70-130	4	20											
4-Chlorotoluene	ug/L	ND	20	20	20	22.0	20.6	110	103	70-130	6	20											
Benzene	ug/L	ND	20	20	20	20.3	19.2	102	96	70-130	6	20											
Bromobenzene	ug/L	ND	20	20	20	20.7	19.8	104	99	70-130	5	20											
Bromochloromethane	ug/L	ND	20	20	20	19.8	19.6	99	98	70-130	1	20											
Bromodichloromethane	ug/L	ND	20	20	20	21.3	20.0	107	100	70-130	6	20											
Bromoform	ug/L	ND	20	20	20	21.2	20.8	106	104	70-130	2	20											
Bromomethane	ug/L	ND	20	20	20	14.0	14.4	70	72	70-130	3	20											
Carbon tetrachloride	ug/L	ND	20	20	20	20.7	20.2	104	101	70-130	2	20											
Chlorobenzene	ug/L	ND	20	20	20	20.5	20.4	103	102	70-130	1	20											
Chloroethane	ug/L	ND	20	20	20	15.7	15.9	79	80	70-130	1	20											
Chloroform	ug/L	ND	20	20	20	18.7	18.0	90	87	70-130	4	20											
Chloromethane	ug/L	ND	20	20	20	14.8	15.1	74	75	70-130	2	20											
cis-1,2-Dichloroethene	ug/L	1.1	20	20	20	19.2	18.4	90	86	70-130	4	20											
cis-1,3-Dichloropropene	ug/L	ND	20	20	20	20.6	19.6	103	98	70-130	5	20											
Dibromochloromethane	ug/L	ND	20	20	20	21.4	20.7	107	103	70-130	3	20											
Dibromomethane	ug/L	ND	20	20	20	21.1	20.0	105	100	70-130	5	20											
Dichlorodifluoromethane	ug/L	ND	20	20	20	16.5	16.7	82	83	70-130	1	20											
Ethylbenzene	ug/L	ND	20	20	20	21.5	21.1	108	106	70-130	2	20											
Hexachloro-1,3-butadiene	ug/L	ND	20	20	20	27.4	24.1	137	120	70-130	13	20	M1										
Isopropylbenzene (Cumene)	ug/L	ND	20	20	20	19.2	19.2	96	96	70-130	0	20											
Methyl-tert-butyl ether	ug/L	ND	20	20	20	18.5	17.6	93	88	70-130	5	20											
Methylene Chloride	ug/L	ND	20	20	20	16.5	15.8	82	79	70-130	4	20											
n-Butylbenzene	ug/L	ND	20	20	20	22.4	20.7	112	103	70-130	8	20											

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Parameter	Units	2977127		2977128		MS % Rec	MSD % Rec	% Rec	Limits	RPD	Max RPD	Qual
		10437519001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
n-Propylbenzene	ug/L	ND	20	20	21.6	20.4	108	102	70-130	5	20	
Naphthalene	ug/L	ND	20	20	21.7	20.5	108	102	70-130	6	20	
p-Isopropyltoluene	ug/L	ND	20	20	20.1	18.5	100	92	70-130	8	20	
sec-Butylbenzene	ug/L	ND	20	20	20.4	19.2	102	96	70-130	6	20	
Styrene	ug/L	ND	20	20	19.5	19.4	97	97	70-130	1	20	
tert-Butylbenzene	ug/L	ND	20	20	21.8	21.0	109	105	70-130	4	20	
Tetrachloroethene	ug/L	ND	20	20	23.1	23.3	113	114	70-130	1	20	
Toluene	ug/L	ND	20	20	20.6	20.1	103	101	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	ND	20	20	17.8	17.6	89	88	70-130	2	20	
trans-1,3-Dichloropropene	ug/L	ND	20	20	19.9	19.7	100	98	70-130	1	20	
Trichloroethene	ug/L	16.9	20	20	38.2	38.6	107	108	70-130	1	20	
Trichlorofluoromethane	ug/L	ND	20	20	16.9	17.2	84	86	70-130	2	20	
Vinyl chloride	ug/L	ND	20	20	15.9	15.9	79	80	70-130	0	20	
Xylene (Total)	ug/L	ND	60	60	61.2	62.0	102	103	70-130	1	20	
1,2-Dichloroethane-d4 (S)	%						90	90	75-125			
4-Bromofluorobenzene (S)	%						99	98	75-125			
Toluene-d8 (S)	%						100	102	75-125			

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QUALIFIERS

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 5586 AXUC MACK LAKE TAVERN

Pace Project No.: 40171383

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40171383001	MW-500	WI MOD GRO	292964		
40171383002	MW-600	WI MOD GRO	292964		
40171383003	MW-700	WI MOD GRO	292964		
40171383004	MW-800	WI MOD GRO	292964		
40171383005	MW-900	WI MOD GRO	292964		
40171383006	MW-1000	WI MOD GRO	292964		
40171383007	MW-1200	WI MOD GRO	292964		
40171383008	MW-1400	WI MOD GRO	292964		
40171383009	PZ-2	WI MOD GRO	292965		
40171383010	PZ-3	WI MOD GRO	292965		
40171383011	PZ-4	WI MOD GRO	292965		
40171383012	PZ-100	WI MOD GRO	292965		
40171383013	N1089	EPA 524.2	547329		
40171383014	TAVERN POTABLE	EPA 524.2	547329		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **REI**
 Branch/Location: **Wausau**
 Project Contact: **Dave Lamm**
 Phone: **(715) 675-9784**
 Project Number: **5586 AXUC**
 Project Name: **Maule Lake Tavern**
 Project State: **WI**
 Sampled By (Print): **Jed Kosch**
 Sampled By (Sign): *[Signature]*
 PO #:



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

40171383

CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y/N	Pick Letter	Matrix Codes	Analyses Requested
N	B	W = Water	PUC-VU VOC's (5049)
N	J	DW = Drinking Water	
		GW = Ground Water	
		SW = Surface Water	
		WW = Waste Water	
		WP = Wipe	
		A = Air	
		B = Biota	
		C = Charcoal	
		O = Oil	
		S = Soil	
		Sl = Sludge	

Quote #: **40171383**

Mail To Contact: **Dave Lamm**

Mail To Company: **REI**

Mail To Address: **Dlamm@reiengineering.com**

Invoice To Contact: **SKH**

Invoice To Company:

Invoice To Address:

Invoice To Phone:

CLIENT COMMENTS

LAB COMMENTS (Lab Use Only)

Profile #

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 W = Water
 DW = Drinking Water
 GW = Ground Water
 SW = Surface Water
 WW = Waste Water
 WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MW-500	6/21/18	12:30	GW
002	MW-600		1:15	
003	MW-700		1:30	
004	MW-800		5:00	
005	MW-900		2:25	
006	MW-1000		3:55	
007	MW-1200		4:40	
008	MW-1400		3:15	
009	P2-2		2:15	
010	P2-3		4:25	
011	P2-4		3:40	
012	P2-700		12:50	
013	N10189	6/21/18	4:07	DW
014	Tavern Potable	6/21/18	5:10	DW

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:

Relinquished By: *[Signature]* Date/Time: **6/22/18 1:15**

Received By: Date/Time:

Transmit Prelim Rush Results by (complete what you want):

Relinquished By: **Wolter** Date/Time: **6/23/18 0815**

Received By: *[Signature]* Date/Time: **6/23/18**

Relinquished By: Date/Time:

Received By: Date/Time:

Relinquished By: Date/Time:

Received By: Date/Time:

Relinquished By: Date/Time:

Received By: Date/Time:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: Date/Time:

Received By: Date/Time:

PACE Project No. **40171383**

Receipt Temp = **25.5** °C

Sample Receipt pH **OK / Adjusted**

Cooler Custody Seal Present / Not Present Intact / Not Intact

Sample Preservation Receipt Form

Client Name: REZ

Project # 40171383

All containers needing preservation have been checked and noted below: Yes No N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/Time:

Pace Lab #	Glass							Plastic							Vials				Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)			
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T								ZPLC	GN	
001																	3																	2.5 / 5 / 10
002																	3																	2.5 / 5 / 10
003																	3																	2.5 / 5 / 10
004																	3																	2.5 / 5 / 10
005																	3																	2.5 / 5 / 10
006																	3																	2.5 / 5 / 10
007																	3																	2.5 / 5 / 10
008																	3																	2.5 / 5 / 10
009																	3																	2.5 / 5 / 10
010																	3																	2.5 / 5 / 10
011																	3																	2.5 / 5 / 10
012																	3																	2.5 / 5 / 10
013																	3																	2.5 / 5 / 10
014																	3																	2.5 / 5 / 10
015																																		2.5 / 5 / 10
016																																		2.5 / 5 / 10
017																																		2.5 / 5 / 10
018																																		2.5 / 5 / 10
019																																		2.5 / 5 / 10
020																																		2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column

AG1U 1 liter amber glass	BP1U 1 liter plastic unpres	DG9A 40 mL amber ascorbic	JGFU 4 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP2N 500 mL plastic HNO3	DG9T 40 mL amber Na Thio	WGFU 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP2Z 500 mL plastic NaOH, Znact	VG9U 40 mL clear vial unpres	WPFU 4 oz plastic jar unpres
AG4U 120 mL amber glass unpres	BP3U 250 mL plastic unpres	VG9H 40 mL clear vial HCL	
AG5U 100 mL amber glass unpres	BP3C 250 mL plastic NaOH	VG9M 40 mL clear vial MeOH	SP5T 120 mL plastic Na Thiosulfate
AG2S 500 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9D 40 mL clear vial DI	ZPLC ziploc bag
BG3U 250 mL clear glass unpres	BP3S 250 mL plastic H2SO4		GN:

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40171383

Client Name: RET

Courier: CS Logistics Fed Ex Speedee UPS Waltco
 Client Pace Other: _____



Tracking #: 1755801-1

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used SR - N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20.7 / Corr: _____

Temp Blank Present: yes no

Biological Tissue is Frozen: yes no

Person examining contents:
Date: 6/23/18
Initials: [Signature]

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 6-25-18

February 06, 2019

DAVID LARSEN
REI
4080 NORTH 20TH AVENUE
Wausau, WI 54401

RE: Project: 5586 MACK LAKE
Pace Project No.: 40182531

Dear DAVID LARSEN:

Enclosed are the analytical results for sample(s) received by the laboratory on January 26, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40182531001	MW900	Water	01/23/19 08:30	01/26/19 08:25
40182531002	MW1000	Water	01/23/19 08:45	01/26/19 08:25
40182531003	MW1200	Water	01/23/19 09:00	01/26/19 08:25
40182531004	MW1300	Water	01/23/19 09:30	01/26/19 08:25
40182531005	MW1400	Water	01/23/19 09:45	01/26/19 08:25
40182531006	PZ2	Water	01/23/19 10:00	01/26/19 08:25
40182531007	PZ3	Water	01/23/19 10:15	01/26/19 08:25
40182531008	PZ4	Water	01/23/19 10:30	01/26/19 08:25
40182531009	POTABLE WELL (PW1)	Water	01/23/19 09:15	01/26/19 08:25

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SAMPLE ANALYTE COUNT

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40182531001	MW900	WI MOD GRO	ALD	10
40182531002	MW1000	WI MOD GRO	ALD	10
40182531003	MW1200	WI MOD GRO	ALD	10
40182531004	MW1300	WI MOD GRO	ALD	10
40182531005	MW1400	WI MOD GRO	ALD	10
40182531006	PZ2	WI MOD GRO	ALD	10
40182531007	PZ3	WI MOD GRO	ALD	10
40182531008	PZ4	WI MOD GRO	ALD	10

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Sample: **MW900** Lab ID: **40182531001** Collected: 01/23/19 08:30 Received: 01/26/19 08:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	28.6	ug/L	10.2	3.1	10		01/28/19 17:35	71-43-2	
Ethylbenzene	568	ug/L	11.0	3.3	10		01/28/19 17:35	100-41-4	
Methyl-tert-butyl ether	4.5J	ug/L	10.7	3.2	10		01/28/19 17:35	1634-04-4	
Naphthalene	94.4	ug/L	16.8	5.1	10		01/28/19 17:35	91-20-3	
Toluene	191	ug/L	16.3	4.9	10		01/28/19 17:35	108-88-3	
1,2,4-Trimethylbenzene	538	ug/L	11.4	3.4	10		01/28/19 17:35	95-63-6	
1,3,5-Trimethylbenzene	153	ug/L	10.9	3.3	10		01/28/19 17:35	108-67-8	
m&p-Xylene	1180	ug/L	21.8	6.6	10		01/28/19 17:35	179601-23-1	
o-Xylene	208	ug/L	10.5	3.2	10		01/28/19 17:35	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		10		01/28/19 17:35	98-08-8	

Sample: **MW1000** Lab ID: **40182531002** Collected: 01/23/19 08:45 Received: 01/26/19 08:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	4.9	ug/L	1.0	0.31	1		01/28/19 17:10	71-43-2	
Ethylbenzene	15.1	ug/L	1.1	0.33	1		01/28/19 17:10	100-41-4	
Methyl-tert-butyl ether	0.72J	ug/L	1.1	0.32	1		01/28/19 17:10	1634-04-4	
Naphthalene	8.3	ug/L	1.7	0.51	1		01/28/19 17:10	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		01/28/19 17:10	108-88-3	
1,2,4-Trimethylbenzene	13.8	ug/L	1.1	0.34	1		01/28/19 17:10	95-63-6	
1,3,5-Trimethylbenzene	9.3	ug/L	1.1	0.33	1		01/28/19 17:10	108-67-8	
m&p-Xylene	16.2	ug/L	2.2	0.66	1		01/28/19 17:10	179601-23-1	
o-Xylene	1.2	ug/L	1.0	0.32	1		01/28/19 17:10	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		1		01/28/19 17:10	98-08-8	

Sample: **MW1200** Lab ID: **40182531003** Collected: 01/23/19 09:00 Received: 01/26/19 08:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		01/28/19 12:55	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 12:55	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		01/28/19 12:55	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		01/28/19 12:55	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		01/28/19 12:55	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		01/28/19 12:55	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 12:55	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		01/28/19 12:55	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		01/28/19 12:55	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Sample: MW1200 **Lab ID: 40182531003** Collected: 01/23/19 09:00 Received: 01/26/19 08:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Surrogates

a,a,a-Trifluorotoluene (S)	101	%	80-120		1		01/28/19 12:55	98-08-8	
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Sample: MW1300 **Lab ID: 40182531004** Collected: 01/23/19 09:30 Received: 01/26/19 08:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Benzene	<0.31	ug/L	1.0	0.31	1		01/28/19 13:20	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 13:20	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		01/28/19 13:20	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		01/28/19 13:20	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		01/28/19 13:20	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		01/28/19 13:20	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 13:20	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		01/28/19 13:20	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		01/28/19 13:20	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%	80-120		1		01/28/19 13:20	98-08-8	

Sample: MW1400 **Lab ID: 40182531005** Collected: 01/23/19 09:45 Received: 01/26/19 08:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV Analytical Method: WI MOD GRO

Benzene	<0.31	ug/L	1.0	0.31	1		01/28/19 13:46	71-43-2	
Ethylbenzene	1.5	ug/L	1.1	0.33	1		01/28/19 13:46	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		01/28/19 13:46	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		01/28/19 13:46	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		01/28/19 13:46	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		01/28/19 13:46	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 13:46	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		01/28/19 13:46	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		01/28/19 13:46	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		1		01/28/19 13:46	98-08-8	

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Sample: PZ2 Lab ID: 40182531006 Collected: 01/23/19 10:00 Received: 01/26/19 08:25 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		01/28/19 18:26	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 18:26	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		01/28/19 18:26	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		01/28/19 18:26	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		01/28/19 18:26	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		01/28/19 18:26	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 18:26	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		01/28/19 18:26	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		01/28/19 18:26	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	99	%	80-120		1		01/28/19 18:26	98-08-8	

Sample: PZ3 Lab ID: 40182531007 Collected: 01/23/19 10:15 Received: 01/26/19 08:25 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		01/28/19 18:52	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 18:52	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		01/28/19 18:52	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		01/28/19 18:52	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		01/28/19 18:52	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		01/28/19 18:52	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 18:52	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		01/28/19 18:52	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		01/28/19 18:52	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%	80-120		1		01/28/19 18:52	98-08-8	

Sample: PZ4 Lab ID: 40182531008 Collected: 01/23/19 10:30 Received: 01/26/19 08:25 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	<0.31	ug/L	1.0	0.31	1		01/28/19 19:17	71-43-2	
Ethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 19:17	100-41-4	
Methyl-tert-butyl ether	<0.32	ug/L	1.1	0.32	1		01/28/19 19:17	1634-04-4	
Naphthalene	<0.51	ug/L	1.7	0.51	1		01/28/19 19:17	91-20-3	
Toluene	<0.49	ug/L	1.6	0.49	1		01/28/19 19:17	108-88-3	
1,2,4-Trimethylbenzene	<0.34	ug/L	1.1	0.34	1		01/28/19 19:17	95-63-6	
1,3,5-Trimethylbenzene	<0.33	ug/L	1.1	0.33	1		01/28/19 19:17	108-67-8	
m&p-Xylene	<0.66	ug/L	2.2	0.66	1		01/28/19 19:17	179601-23-1	
o-Xylene	<0.32	ug/L	1.0	0.32	1		01/28/19 19:17	95-47-6	

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ANALYTICAL RESULTS

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Sample: PZ4 **Lab ID: 40182531008** Collected: 01/23/19 10:30 Received: 01/26/19 08:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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WIGRO GCV

Analytical Method: WI MOD GRO

Surrogates

a,a,a-Trifluorotoluene (S)	99	%	80-120		1		01/28/19 19:17	98-08-8	
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QUALITY CONTROL DATA

Project: 5586 MACK LAKE
Pace Project No.: 40182531

QC Batch: 312302 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 40182531001, 40182531002, 40182531003, 40182531004, 40182531005, 40182531006, 40182531007, 40182531008

METHOD BLANK: 1821044 Matrix: Water
Associated Lab Samples: 40182531001, 40182531002, 40182531003, 40182531004, 40182531005, 40182531006, 40182531007, 40182531008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.34	1.1	01/28/19 09:15	
1,3,5-Trimethylbenzene	ug/L	<0.33	1.1	01/28/19 09:15	
Benzene	ug/L	<0.31	1.0	01/28/19 09:15	
Ethylbenzene	ug/L	<0.33	1.1	01/28/19 09:15	
m&p-Xylene	ug/L	<0.66	2.2	01/28/19 09:15	
Methyl-tert-butyl ether	ug/L	<0.32	1.1	01/28/19 09:15	
Naphthalene	ug/L	<0.51	1.7	01/28/19 09:15	
o-Xylene	ug/L	<0.32	1.0	01/28/19 09:15	
Toluene	ug/L	<0.49	1.6	01/28/19 09:15	
a,a,a-Trifluorotoluene (S)	%	99	80-120	01/28/19 09:15	

LABORATORY CONTROL SAMPLE & LCSD: 1821045 1821046

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.8	20.3	104	102	80-120	2	20	
1,3,5-Trimethylbenzene	ug/L	20	20.2	19.7	101	99	80-120	2	20	
Benzene	ug/L	20	20.2	19.9	101	99	80-120	1	20	
Ethylbenzene	ug/L	20	20.7	20.3	104	102	80-120	2	20	
m&p-Xylene	ug/L	40	40.7	39.8	102	99	80-120	2	20	
Methyl-tert-butyl ether	ug/L	20	20.5	20.3	102	102	80-120	1	20	
Naphthalene	ug/L	20	21.5	21.2	107	106	80-120	1	20	
o-Xylene	ug/L	20	20.4	19.9	102	100	80-120	3	20	
Toluene	ug/L	20	20.3	20.0	102	100	80-120	2	20	
a,a,a-Trifluorotoluene (S)	%				98	97	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1821047 1821048

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40182453006 Result	Spike Conc.	Spike Conc.	MS Result						
1,2,4-Trimethylbenzene	ug/L	<1.1	20	20	22.1	22.4	111	112	51-160	1	20
1,3,5-Trimethylbenzene	ug/L	<1.1	20	20	21.5	21.8	107	109	56-146	1	20
Benzene	ug/L	<1.0	20	20	21.0	21.2	105	106	71-137	1	20
Ethylbenzene	ug/L	<1.1	20	20	22.3	22.6	112	113	71-141	1	20
m&p-Xylene	ug/L	<2.2	40	40	43.5	44.2	109	110	66-141	2	20
Methyl-tert-butyl ether	ug/L	<1.1	20	20	20.5	20.1	102	101	80-120	2	20
Naphthalene	ug/L	<1.7	20	20	22.2	21.3	111	107	67-138	4	20
o-Xylene	ug/L	<1.0	20	20	21.6	21.8	108	109	75-133	1	20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1821047		1821048		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40182453006 Result	MS Spike Conc.	MSD Spike Conc.									
Toluene	ug/L	<1.6	20	20	21.5	21.7	108	109	76-134	1	20		
a,a,a-Trifluorotoluene (S)	%						99	100	80-120				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 5586 MACK LAKE

Pace Project No.: 40182531

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 5586 MACK LAKE

Pace Project No.: 40182531

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40182531001	MW900	WI MOD GRO	312302		
40182531002	MW1000	WI MOD GRO	312302		
40182531003	MW1200	WI MOD GRO	312302		
40182531004	MW1300	WI MOD GRO	312302		
40182531005	MW1400	WI MOD GRO	312302		
40182531006	PZ2	WI MOD GRO	312302		
40182531007	PZ3	WI MOD GRO	312302		
40182531008	PZ4	WI MOD GRO	312302		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **REI**
 Branch/Location: **Waucon**
 Project Contact: **Dave Larson**
 Phone: **715-679-2411**
 Project Number: **5586**
 Project Name: **Mack Lake**
 Project State: **WI**
 Sampled By (Print): **Paul Dushor**
 Sampled By (Sign): *Paul Dushor*



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

40182531

CHAIN OF CUSTODY

*Preservation Codes					
A=None	B=HCL	C=H2SO4	D=HNO3	E=DI Water	F=Methanol
G=NaOH	H=Sodium Bisulfate Solution	I=Sodium Thiosulfate	J=Other		

FILTERED? (YES/NO)
 PRESERVATION (CODE)*

Y/N	Pick Letter	Analyses Requested	COLLECTION																				
			DATE	TIME	MATRIX																		
N	B	ROCL/MSD																					
N	J	MSD 524.2																					

Regulatory Program: **DECCA**

Data Package Options (billable)	MS/MSD	Matrix Codes
<input type="checkbox"/> EPA Level III	<input type="checkbox"/> On your sample (billable)	A = Air B = Biota C = Charcoal O = Oil S = Soil SI = Sludge
<input type="checkbox"/> EPA Level IV	<input type="checkbox"/> NOT needed on your sample	W = Water DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water WP = Wipe

Quote #: **40182531**

Mail To Contact: **Dave Larson**

Mail To Company: **REI**

Mail To Address: **D.Larson@REIEngineering.com**

Invoice To Contact: **SAA**

Invoice To Company:

Invoice To Address:

Invoice To Phone:

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MW900	1-23-19	8:30	GW
002	MW1000		8:45	
003	MW1200		9:00	
	PWT		9:15	
004	MW1300		9:30	
005	MW1400		9:45	
006	P22		10:00	
007	P23		10:15	
008	P24		10:30	
009	Potable Well (PWI)	1-23-19	9:15	DW

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: <i>[Signature]</i> Date/Time: 1/25/19 3:00pm	Received By: _____ Date/Time: _____	PACE Project No. 40182531		
	Relinquished By: <i>WLF/CO</i> Date/Time: 1/26/19 0825	Received By: <i>[Signature]</i> Date/Time: 1/26/19 0825		Receipt Temp = RO1 °C	
	Transmit Prelim Rush Results by (complete what you want):	Relinquished By: _____ Date/Time: _____		Received By: _____ Date/Time: _____	Sample Receipt pH OK / Adjusted
	Email #1: _____	Relinquished By: _____ Date/Time: _____		Received By: _____ Date/Time: _____	Cooler Custody Seal Present / Not Present
	Telephone: _____	Relinquished By: _____ Date/Time: _____		Received By: _____ Date/Time: _____	Intact / Not Intact

Samples on HOLD are subject to special pricing and release of liability

Sample Preservation Receipt Form

Client Name: REI Mack

Project # 40182531

All containers needing preservation have been checked and noted below: Yes No N/A

Initial when completed:

Date/Time:

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Page 14 of 15

Pace Lab #	Glass						Plastic						Vials					Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)					
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU								SP5T	ZPLC	GN		
001																	3																		2.5 / 5 / 10
002																																			2.5 / 5 / 10
003																																			2.5 / 5 / 10
004																																			2.5 / 5 / 10
005																																			2.5 / 5 / 10
006																																			2.5 / 5 / 10
007																																			2.5 / 5 / 10
008																																			2.5 / 5 / 10
009																	3																		2.5 / 5 / 10
010																																			2.5 / 5 / 10
011																																			2.5 / 5 / 10
012																																			2.5 / 5 / 10
013																																			2.5 / 5 / 10
014																																			2.5 / 5 / 10
015																																			2.5 / 5 / 10
016																																			2.5 / 5 / 10
017																																			2.5 / 5 / 10
018																																			2.5 / 5 / 10
019																																			2.5 / 5 / 10
020																																			2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	



1241 Bellevue Street, Green Bay, WI 54302

Document Name:
Sample Condition Upon Receipt (SCUR)

Document Revised: 25Apr2018

Document No.:
F-GB-C-031-Rev.07

Issuing Authority:
Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: _____

Client Name: REJ

WO#: **40182531**

Courier: CS Logistics Fed Ex Speedee UPS Waltco
 Client Pace Other: _____



40182531

Tracking #: 1960 936-1

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used SR - N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 201 /Corr: _____

Temp Blank Present: yes no

Biological Tissue is Frozen: yes no

Person examining contents:

Date: 1/26/19

Initials: PG

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>No pg # 1/26/19 PG</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8. <u>Samples Frozen: 001-(1), 002-(1), 003-(1), 004-(3), 005-(1), 006-(1) 1/26/19 PG</u>
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 1-28-19

ANALYTICAL REPORT

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

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034
Printed: 02/05/19 Page 1 of 1
NLS Project: 315311
NLS Customer: 94575
Fax: 920 469 8827 Phone: 800 736 2436

Client: Pace Analytical Services Inc (GB)
Attn: Brian D Basten
1241 Bellevue Street
Green Bay, WI 54302 2156

Project: 40182531 5586 Mack Lake

40182531009 NLS ID: 1103054

Matrix: DW

Collected: 01/23/19 09:15 Received: 01/29/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
SDWA Volatile Organics (VOCs) by EPA 524.2	see attached					01/29/19	EPA 524.2, Rev 4.1	721026460

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

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable

DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L

MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: VOC's by EPA 524.2, Rev 4.1 - Water - Extended (VarSat3)

Page 1 of 2

Customer: Pace Analytical Services Inc (GB) NLS Project: 315311

Project Description: 40182531

Project Title: 5586 Mack Lake

Template: SAT3PACE Printed: 02/05/2019 17:34

Sample: 1103054 40182531009 Collected: 01/23/19 Analyzed: 01/29/19 - Analytes: 66

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.68		
Bromobenzene	ND	ug/L	1	0.20	0.71		
Bromochloromethane	ND	ug/L	1	0.21	0.73		
Bromodichloromethane	ND	ug/L	1	0.18	0.65		
Bromoform	ND	ug/L	1	0.13	0.47		
Bromomethane	ND	ug/L	1	0.12	0.41		
n-Butylbenzene	ND	ug/L	1	0.19	0.66		
sec-Butylbenzene	ND	ug/L	1	0.19	0.66		
tert-Butylbenzene	ND	ug/L	1	0.18	0.63		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66		
Chlorobenzene	ND	ug/L	1	0.20	0.72		
Chloroethane	ND	ug/L	1	1.4	4.8		
Chloroform	ND	ug/L	1	0.19	0.67		
Chloromethane	ND	ug/L	1	0.15	0.54		
2-Chlorotoluene	ND	ug/L	1	0.19	0.67		
4-Chlorotoluene	ND	ug/L	1	0.18	0.62		
Dibromochloromethane	ND	ug/L	1	0.20	0.72		
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.12	0.42		
1,2-Dibromoethane	ND	ug/L	1	0.18	0.63		
Dibromomethane	ND	ug/L	1	0.16	0.57		
1,2-Dichlorobenzene	ND	ug/L	1	0.18	0.64		
1,3-Dichlorobenzene	ND	ug/L	1	0.18	0.65		
1,4-Dichlorobenzene	ND	ug/L	1	0.16	0.58		
Dichlorodifluoromethane	ND	ug/L	1	0.16	0.55		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.62		
1,2-Dichloroethane	ND	ug/L	1	0.17	0.60		
1,1-Dichloroethene	ND	ug/L	1	0.21	0.76		
cis-1,2-Dichloroethene	ND	ug/L	1	0.20	0.71		
trans-1,2-Dichloroethene	ND	ug/L	1	0.16	0.55		
1,2-Dichloropropane	ND	ug/L	1	0.18	0.65		
1,3-Dichloropropane	ND	ug/L	1	0.17	0.61		
2,2-Dichloropropane	ND	ug/L	1	0.11	0.40		
1,1-Dichloropropene	ND	ug/L	1	0.19	0.66		
cis-1,3-Dichloropropene	ND	ug/L	1	0.21	0.74		
trans-1,3-Dichloropropene	ND	ug/L	1	0.18	0.62		
Ethylbenzene	ND	ug/L	1	0.18	0.62		
Hexachlorobutadiene	ND	ug/L	1	0.24	0.84		
Isopropylbenzene	ND	ug/L	1	0.19	0.68		
p-Isopropyltoluene	ND	ug/L	1	0.16	0.58		
Methylene chloride	ND	ug/L	1	0.12	0.41		
Naphthalene	ND	ug/L	1	0.19	0.67		
n-Propylbenzene	ND	ug/L	1	0.18	0.64		
ortho-Xylene	ND	ug/L	1	0.18	0.62		
Styrene	ND	ug/L	1	0.17	0.60		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.17	0.58		
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.11	0.40		
Tetrachloroethene	ND	ug/L	1	0.19	0.69		
Toluene	ND	ug/L	1	0.21	0.73		
1,2,3-Trichlorobenzene	ND	ug/L	1	0.21	0.74		
1,2,4-Trichlorobenzene	ND	ug/L	1	0.16	0.58		
1,1,1-Trichloroethane	ND	ug/L	1	0.18	0.63		
1,1,2-Trichloroethane	ND	ug/L	1	0.15	0.54		
Trichloroethene	ND	ug/L	1	0.18	0.63		

ANALYTICAL RESULTS: VOC's by EPA 524.2, Rev 4.1 - Water - Extended (VarSat3)

Customer: Pace Analytical Services Inc (GB) NLS Project: 315311

Project Description: 40182531

Project Title: 5586 Mack Lake

Template: SAT3PACE Printed: 02/05/2019 17:34

Sample: 1103054 40182531009 Collected: 01/23/19 Analyzed: 01/29/19 - Analytes: 66

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Trichlorofluoromethane	ND	ug/L	1	0.20	0.71		
1,2,3-Trichloropropane	ND	ug/L	1	0.18	0.63		
1,2,4-Trimethylbenzene	ND	ug/L	1	0.19	0.67		
1,3,5-Trimethylbenzene	ND	ug/L	1	0.18	0.63		
Vinyl chloride	ND	ug/L	1	0.17	0.62		
meta,para-Xylene	ND	ug/L	1	0.30	1.1		
MTBE	ND	ug/L	1	0.19	0.67		
Acetone	[5.6]	ug/L	1	4.2	12		J
Carbon disulfide	ND	ug/L	1	0.17	0.59		
Vinyl Acetate	ND	ug/L	1	0.49	1.7		
Methyl ethyl ketone	ND	ug/L	1	0.39	1.4		
4-Methyl-2-Pentanone	ND	ug/L	1	0.25	0.88		
2-Hexanone	ND	ug/L	1	0.29	1.0		
4-Bromofluorobenzene (SURR)	98%		1				S
1,2-Dichlorobenzene - d4 (SURR)	102%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.

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