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July 11, 2019

Pablo Valentin  
United States Environmental Protection Agency  
Region 5  
Ralph Metcalfe Federal Building  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Via Email: [valentin.pablo@epa.gov](mailto:valentin.pablo@epa.gov)

RE: 2019 Groundwater Monitoring Report  
Sheboygan River and Harbor Site  
Sheboygan, Wisconsin  
SME Project No. 069638.00.046.001

Dear Pablo:

Pursuant to the Post Remediation Monitoring Plan, SME is providing the groundwater analytical results for the 2019 monitoring event. Six (6) groundwater monitoring wells are located down-gradient of the groundwater monitoring/interceptor trench (GMIT). The wells are sampled for polychlorinated biphenyls (PCBs) following completion of the source removal activities<sup>1</sup>. The objective of the monitoring of these wells is to assess the need to operate the GMIT<sup>2</sup>.

SME conducted the sampling on June 4, 2019. We sampled the down gradient monitoring wells with a low-flow sampler in accordance with the Field Sampling Plan submitted and approved as part of the Phase I Design. A map of the well locations is provided in Attachment 1. The samples were analyzed for total PCBs.

A summary of the 2019 results compared to the historical data is provided in Table 1. We also compared the groundwater results to the NR140 groundwater criteria. A copy of the laboratory report is provided in Attachment 2.

There were no detections of PCBs in excess of the Limit of Quantitation (0.48 µg/L). PCBs were estimated to be present in three of the six wells sampled when compared to the lower Limit of Detection (0.11 µg/L)<sup>3</sup>. The concentrations of PCBs in all wells were the lowest at any time since monitoring began and have not exceeded the Maximum Contaminant Level for over two years. The data does not indicate the need to operate the GMIT.

In the past we have concluded that based on the historical data and modeling, as long as the building foundation slab remains acting as an engineering control to prevent infiltration, the river should not be impacted by the groundwater. However, the Phase II investigation of the Tecumseh facility in 2016

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<sup>1</sup> *Long-Term Monitoring and Operations Plan, Upper River – Phase 1*, PRS and URS, May 2004.

<sup>2</sup> *Remedial Design Work Plan, Upper River – Phase I and II*, PRS and URS, June 2004.

<sup>3</sup> The data was qualified as estimated with a J flag.

demonstrated there were high levels of exposed PCBs outside of the footprint of foundation slab. The concentrations ranged from 0.03 to 15,200 mg/kg with an average of 965 mg/kg. The presence of this exposed impact and the lack of groundwater impact implies the leaching to groundwater is an incomplete preferential pathway.

The 2020 monitoring event is scheduled for the spring/summer of 2020. If you have questions regarding the sampling event, feel free to contact me at (513) 319-8919 or [keith.egan@sme-usa.com](mailto:keith.egan@sme-usa.com).

Respectfully,

**SME**

Megan Schaner  
Staff Geologist

Keith Egan, CP  
Chief Consultant

Distribution: Mr. Tom Wentland, Wisconsin Department of Natural Resources via email (Thomas.wentland@wisconsin.gov)  
Ms. Debbie McMillan, PRS via email (dmcmillan@grhdevelopment.com)  
Mr. Peter Johnson, Johnson-Wright via email (pjohnson@johnsonwright.net)  
Mr. Jason Smith, Tecumseh via email (Jason.smith@tecumseh.com)

## **TABLES**



**TABLE 1**  
**Summary of PCBs in Groundwater**  
**Sheboygan River and Harbor Superfund Site**

DATE	NR 140 Criteria	MCL	MEAN	MAXIMUM	11/17/2004	5/27/2005	12/13/2005	7/10/2006	11/20/2006	5/31/2007	10/23/2007
Well											
MW9	0.03	0.5	ND	ND	0.47	0.47	0.49	0.49	0.48	0.49	0.47
MW10			0.6	1.1	0.47	0.48	0.5	NC	1.1	0.49	0.98
MW12			0.5	1.5	1.5	0.47	0.5	0.47	0.57	0.46	0.44
MW13			1.2	2.1	1.5	0.48	0.48	2.1	1.1	0.82	1.5
MW16			ND	0.5	0.49	0.48	0.5	0.47	0.49	0.4	0.47
MW17			ND	0.51	0.48	0.48	0.48	0.46	0.48	0.51	0.47

Results in µg/L

Not detected at listed Limit of Detection (LOD)

NC - Not Collected

ND - Not Determined, insufficient detections

J - Concentration is less than Limit of Quantitation (LOQ) and is estimated

\* PCBs were not detected in the duplicate sample



**TABLE 1**  
**Summary of PCBs in Groundwater**  
**Sheboygan River and Harbor Superfund Site**

DATE	NR 140 Criteria	MCL	MEAN	MAXIMUM	5/14/2008	10/15/2008	5/14/2009	10/22/2009	5/14/2010	10/29/2010	6/29/2011	11/29/2011
Well												
MW9	0.03	0.5	ND	ND	0.49	0.24	0.24	0.23	0.29	0.29	0.29	0.31
MW10			0.6	1.1	0.72	0.5	0.44	0.47	0.39	0.85	0.44	0.67
MW12			0.5	1.5	0.83	0.23	0.49	0.23	0.33	0.88	0.34	0.31
MW13			1.2	2.1	1.6	1.9	1.6	1.0	2.0	1.1	1.7	1.5
MW16			ND	0.5	0.49	0.24	0.23	0.23	0.29	0.29	0.29	0.31
MW17			ND	0.51	0.5	0.24	0.23	0.23	0.3	0.29	0.29	0.31

Results in µg/L

Not detected at listed Limit of Detection (LOD)

NC - Not Collected

ND - Not Determined, insufficient detections

J - Concentration is less than Limit of Quantitation (LOQ) and is estimated

\* PCBs were not detected in the duplicate sample



**TABLE 1**  
**Summary of PCBs in Groundwater**  
**Sheboygan River and Harbor Superfund Site**

DATE	NR 140 Criteria	MCL	MEAN	MAXIMUM	6/28/2012	11/7/2012	6/4/2013	6/19/2014	6/11/2015	7/13/2016	8/30/2017	5/10/2018	6/4/2019
Well													
MW9	0.03	0.5	ND	ND	0.29	0.31	0.25	0.25	0.24	0.25	0.26	0.26	0.11
MW10			0.6	1.1	0.38	0.57	0.55	0.57	0.44J	0.61	0.65	0.26	0.11
MW12			0.5	1.5	0.8	0.31	0.25	0.33J	0.30J	0.52	0.59	0.25	0.11
MW13			1.2	2.1	0.82	0.54	0.44J	0.91	1.2	0.66	0.65	0.35J	0.26J
MW16			ND	0.5	0.29	0.31	0.27	0.25	0.24	0.25	0.26	0.27	0.16J
MW17			ND	0.51	0.29	0.31	0.26	0.27J*	0.24	0.26	0.26	0.26	0.26

Results in µg/L

Not detected at listed Limit of Detection (LOD)

NC - Not Collected

ND - Not Determined, insufficient detections

J - Concentration is less than Limit of Quantitation (LOQ) and is estimated

\* PCBs were not detected in the duplicate sample

**ATTACHMENT 1**



PLOT DATE: Sep 27, 2017 - 2:04pm - jblake  
 FILE LOCATION: \\sme-inc\pzw\069638.00\CAD\069638.00.029.001\rev\069638.00.029.001-01.dwg



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Project

**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITES**

Project Location

**SHEBOYGAN FALLS, WISCONSIN**

Sheet Name

**TECUMSEH FALLS PROPERTY GROUNDWATER FEATURES**

No.	Revision Date

Date **9-27-17**

CADD **JAB**

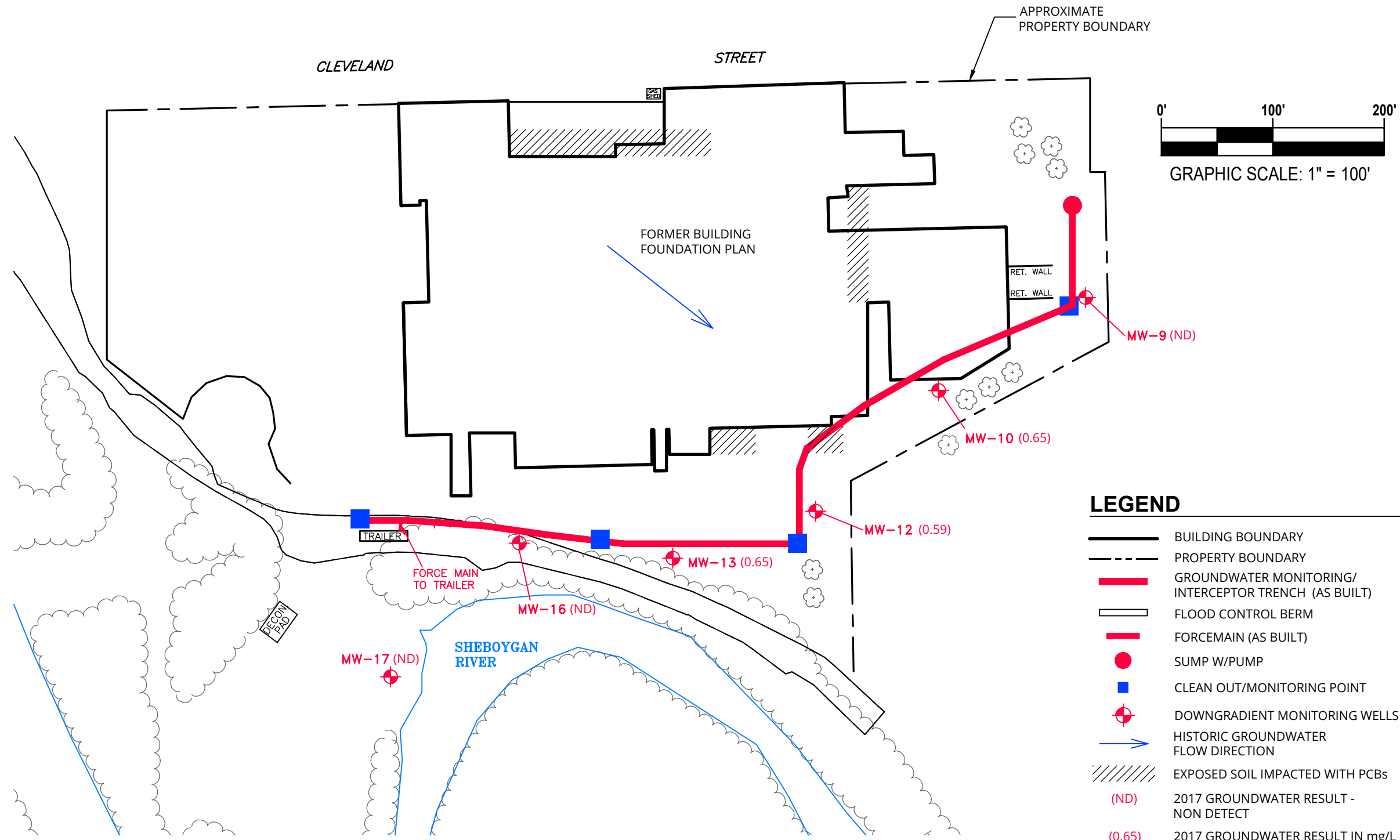
Designer **KE**

Scale **1" 100'**

Project **069638.00.029.001**

Figure No. **1**

DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 11" X 17" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA.  
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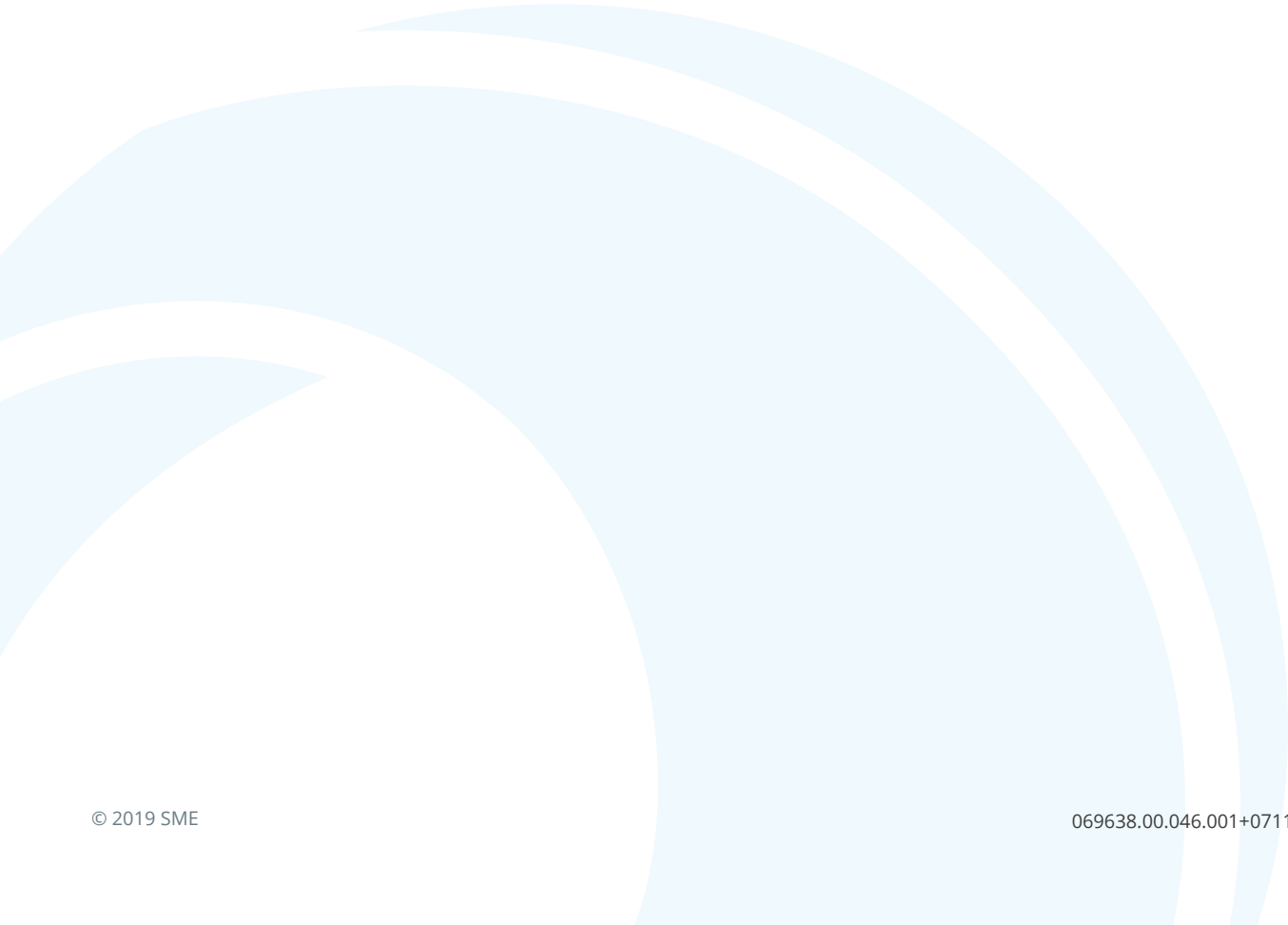
**LEGEND**

- BUILDING BOUNDARY
- PROPERTY BOUNDARY
- GROUNDWATER MONITORING/ INTERCEPTOR TRENCH (AS BUILT)
- FLOOD CONTROL BERM
- FORCEMAIN (AS BUILT)
- SUMP W/PUMP
- CLEAN OUT/MONITORING POINT
- DOWNGRADIENT MONITORING WELLS
- HISTORIC GROUNDWATER FLOW DIRECTION
- EXPOSED SOIL IMPACTED WITH PCBs
- (ND)** 2017 GROUNDWATER RESULT - NON DETECT
- (0.65)** 2017 GROUNDWATER RESULT IN mg/L

- NOTES:
- DRAWING INFORMATION PROVIDED BY POLLUTION RISK SERVICES.
  - MW-9, MW-10, MW-12, MW-13, MW-16, AND MW-17 DOWN GRADIENT WELLS INCLUDED IN THE SEMI ANNUAL GROUNDWATER MONITORING.



**ATTACHMENT 2**



June 11, 2019

Keith Egan  
Pollution Risk Services LLC  
One North Commerce Park  
Suite 318  
Cincinnati, OH 452153174

RE: Project: 069638.00.046 SHEBOYGAN RIVER  
Pace Project No.: 40188881

Dear Keith Egan:

Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 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.

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

Sincerely,



Tod Noltemeyer  
tod.noltemeyer@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Aaron Lammers, SME



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

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### 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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40188881001	MW-9	Water	06/04/19 15:36	06/05/19 15:35
40188881002	MW-10	Water	06/04/19 12:15	06/05/19 15:35
40188881003	MW-12	Water	06/04/19 16:18	06/05/19 15:35
40188881004	MW-13	Water	06/04/19 13:20	06/05/19 15:35
40188881005	MW-16	Water	06/04/19 14:50	06/05/19 15:35
40188881006	MW-17	Water	06/04/19 16:50	06/05/19 15:35
40188881007	DUP GW	Water	06/04/19 12:15	06/05/19 15:35

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### SAMPLE ANALYTE COUNT

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40188881001	MW-9	EPA 8082	BLM	10
40188881002	MW-10	EPA 8082	BLM	10
40188881003	MW-12	EPA 8082	BLM	10
40188881004	MW-13	EPA 8082	BLM	10
40188881005	MW-16	EPA 8082	BLM	10
40188881006	MW-17	EPA 8082	BLM	10
40188881007	DUP GW	EPA 8082	BLM	10

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## PROJECT NARRATIVE

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

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**Method:** EPA 8082

**Description:** 8082 GCS PCB

**Client:** SME

**Date:** June 11, 2019

**General Information:**

7 samples were analyzed for EPA 8082. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 323696

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

**Sample: MW-9**      **Lab ID: 40188881001**      Collected: 06/04/19 15:36      Received: 06/05/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>		Analytical Method: EPA 8082    Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	11096-82-5	
PCB, Total	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 15:54	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	91	%	43-112		1	06/07/19 08:20	06/10/19 15:54	877-09-8	
Decachlorobiphenyl (S)	41	%	10-103		1	06/07/19 08:20	06/10/19 15:54	2051-24-3	

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## ANALYTICAL RESULTS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

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**Sample: MW-10**      **Lab ID: 40188881002**      Collected: 06/04/19 12:15      Received: 06/05/19 15:35      Matrix: Water

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>		Analytical Method: EPA 8082    Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	11096-82-5	
PCB, Total	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:29	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	72	%	43-112		1	06/07/19 08:20	06/10/19 16:29	877-09-8	
Decachlorobiphenyl (S)	56	%	10-103		1	06/07/19 08:20	06/10/19 16:29	2051-24-3	

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## ANALYTICAL RESULTS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

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**Sample: MW-12**      **Lab ID: 40188881003**      Collected: 06/04/19 16:18      Received: 06/05/19 15:35      Matrix: Water

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>		Analytical Method: EPA 8082    Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	11096-82-5	
PCB, Total	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 16:47	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	48	%	43-112		1	06/07/19 08:20	06/10/19 16:47	877-09-8	
Decachlorobiphenyl (S)	53	%	10-103		1	06/07/19 08:20	06/10/19 16:47	2051-24-3	

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## ANALYTICAL RESULTS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

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**Sample: MW-13**      **Lab ID: 40188881004**      Collected: 06/04/19 13:20      Received: 06/05/19 15:35      Matrix: Water

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>		Analytical Method: EPA 8082    Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	11141-16-5	
PCB-1242 (Aroclor 1242)	<b>0.26J</b>	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	11096-82-5	
PCB, Total	<b>0.26J</b>	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:05	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	55	%	43-112		1	06/07/19 08:20	06/10/19 17:05	877-09-8	
Decachlorobiphenyl (S)	60	%	10-103		1	06/07/19 08:20	06/10/19 17:05	2051-24-3	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

**Sample: MW-16**      **Lab ID: 40188881005**      Collected: 06/04/19 14:50      Received: 06/05/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>		Analytical Method: EPA 8082    Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<b>0.16J</b>	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	11096-82-5	
PCB, Total	<b>0.16J</b>	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:22	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	56	%	43-112		1	06/07/19 08:20	06/10/19 17:22	877-09-8	
Decachlorobiphenyl (S)	54	%	10-103		1	06/07/19 08:20	06/10/19 17:22	2051-24-3	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

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**Sample: MW-17**      **Lab ID: 40188881006**      Collected: 06/04/19 16:50      Received: 06/05/19 15:35      Matrix: Water

---

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>		Analytical Method: EPA 8082    Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	<0.11	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.11	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.11	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	11141-16-5	
PCB-1242 (Aroclor 1242)	0.13J	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.11	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.11	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.11	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	11096-82-5	
PCB, Total	0.13J	ug/L	0.49	0.11	1	06/07/19 08:20	06/10/19 17:40	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	84	%	43-112		1	06/07/19 08:20	06/10/19 17:40	877-09-8	
Decachlorobiphenyl (S)	71	%	10-103		1	06/07/19 08:20	06/10/19 17:40	2051-24-3	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

**Sample: DUP GW**      **Lab ID: 40188881007**      Collected: 06/04/19 12:15      Received: 06/05/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8082 GCS PCB</b>		Analytical Method: EPA 8082    Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	11096-82-5	
PCB, Total	<0.11	ug/L	0.48	0.11	1	06/07/19 08:20	06/10/19 17:58	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	94	%	43-112		1	06/07/19 08:20	06/10/19 17:58	877-09-8	
Decachlorobiphenyl (S)	79	%	10-103		1	06/07/19 08:20	06/10/19 17:58	2051-24-3	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

QC Batch: 323696 Analysis Method: EPA 8082  
 QC Batch Method: EPA 3510 Analysis Description: 8082 GCS PCB  
 Associated Lab Samples: 40188881001, 40188881002, 40188881003, 40188881004, 40188881005, 40188881006, 40188881007

METHOD BLANK: 1879437 Matrix: Water  
 Associated Lab Samples: 40188881001, 40188881002, 40188881003, 40188881004, 40188881005, 40188881006, 40188881007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	<0.056	0.25	06/10/19 13:50	
PCB-1221 (Aroclor 1221)	ug/L	<0.056	0.25	06/10/19 13:50	
PCB-1232 (Aroclor 1232)	ug/L	<0.056	0.25	06/10/19 13:50	
PCB-1242 (Aroclor 1242)	ug/L	<0.056	0.25	06/10/19 13:50	
PCB-1248 (Aroclor 1248)	ug/L	<0.056	0.25	06/10/19 13:50	
PCB-1254 (Aroclor 1254)	ug/L	<0.056	0.25	06/10/19 13:50	
PCB-1260 (Aroclor 1260)	ug/L	<0.056	0.25	06/10/19 13:50	
Decachlorobiphenyl (S)	%	58	10-103	06/10/19 13:50	
Tetrachloro-m-xylene (S)	%	72	43-112	06/10/19 13:50	

LABORATORY CONTROL SAMPLE & LCSD: 1879438 1879439

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L		<0.056	<0.056					20	
PCB-1221 (Aroclor 1221)	ug/L		<0.056	<0.056					20	
PCB-1232 (Aroclor 1232)	ug/L		<0.056	<0.056					20	
PCB-1242 (Aroclor 1242)	ug/L		<0.056	<0.056					20	
PCB-1248 (Aroclor 1248)	ug/L		<0.056	<0.056					20	
PCB-1254 (Aroclor 1254)	ug/L		<0.056	<0.056					20	
PCB-1260 (Aroclor 1260)	ug/L	2.5	2.0	1.9	79	76	62-101	4	20	
Decachlorobiphenyl (S)	%				63	70	10-103			
Tetrachloro-m-xylene (S)	%				82	82	43-112			

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: 069638.00.046 SHEBOYGAN RIVER  
Pace Project No.: 40188881

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### 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.

### BATCH QUALIFIERS

Batch: 323780

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 069638.00.046 SHEBOYGAN RIVER

Pace Project No.: 40188881

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40188881001	MW-9	EPA 3510	323696	EPA 8082	323780
40188881002	MW-10	EPA 3510	323696	EPA 8082	323780
40188881003	MW-12	EPA 3510	323696	EPA 8082	323780
40188881004	MW-13	EPA 3510	323696	EPA 8082	323780
40188881005	MW-16	EPA 3510	323696	EPA 8082	323780
40188881006	MW-17	EPA 3510	323696	EPA 8082	323780
40188881007	DUP GW	EPA 3510	323696	EPA 8082	323780

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

**Company Name:** SNE  
**Branch/Location:** 4705 Clyde Ave SW  
 Superior, MN  
**Project Contact:** Aaron Lemmers  
**Phone:** (612) 581-8605  
**Project Number:** 069638.00.046  
**Project Name:** Sibleygan River 4 Harbor  
 Superfund Site  
**Project State:** MN  
**Sampled By (Print):** Megan Schauer  
**Sampled By (Sign):** *Megan Schauer*  
**PO #:**  
**Regulatory Program:**



# CHAIN OF CUSTODY

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

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

**Filtered?**  
 (YES/NO)  
**Preservation**  
 (CODE)\*

### Analyses Requested

V/I/N	Pick Letter	DATE	TIME	MATRIX	Request
N	A				PCB
		6/4/19	1536	GW	
		6/4/19	1215	GW	
		6/4/19	1618	GW	
		6/4/19	1320	GW	
		6/4/19	1450	GW	
		6/4/19	1650	GW	
		6/4/19	1215	GW	

**Data Package Options**  
 EPA Level III  
 EPA Level IV  
 On your sample (billable)  
 NOT needed on your sample

**Page Lab #** CLIENT FIELD ID

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

**Transmit Prelim Results By** (complete what you want):  
 Email #1: *aces@pace.com*  
 Email #2:  
 Telephone:  
 Fax:

**Relinquished By:** *Megan Schauer (SNE)* Date/Time: *6/5/19 1345*  
**Relinquished By:** *Aaron Lemmers* Date/Time: *6/5/19 1535*  
**Relinquished By:** Date/Time:

**Received By:** *Aaron Lemmers* Date/Time: *6/5/19 1345*  
**Received By:** *Aaron Lemmers* Date/Time: *6/5/19 1535*  
**Received By:** Date/Time:

**Quote #:**  
**Mail To Contact:**  
**Mail To Company:**  
**Mail To Address:**  
**Invoice To Contact:**  
**Invoice To Company:**  
**Invoice To Address:**  
**Invoice To Phone:**  
**CLIENT COMMENTS**  
**LAB COMMENTS (Lab Use Only)**  
**Profile #**

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

40188881

# Pace Container Order #500397

60188887

Order By :	Ship To :	Return To:
Company <u>SME</u>	Company <u>SME</u>	Company <u>Pace Analytical Green Bay</u>
Contact <u>Aaron Lammers</u>	Contact <u>Aaron Lammers</u>	Contact <u>Noltemeyer, Tod</u>
Email <u>lammers@sme-usa.com</u>	Email <u>lammers@sme-usa.com</u>	Email <u>tod.noltemeyer@pacelabs.com</u>
Address <u>4705 Clyde Park Avenue SW</u>	Address <u>4705 Clyde Park Avenue SW</u>	Address <u>1241 Bellevue Street</u>
Address 2 _____	Address 2 _____	Address 2 <u>Suite 9</u>
City <u>Grand Rapids</u>	City <u>Grand Rapids</u>	City <u>Green Bay</u>
State <u>MI</u> Zip <u>49509</u>	State <u>MI</u> Zip <u>49509</u>	State <u>WI</u> Zip <u>54302</u>
Phone <u>(616) 581-8605</u>	Phone <u>(616) 581-8605</u>	Phone <u>(920)469-2436</u>

Info			
Project Name <u>Sheboygan River Waters</u>	Due Date <u>05/24/2019</u>	Profile _____	Quote _____
Project <u>Noltemeyer, Tod</u>	Return _____	Carrier <u>Most Economical</u>	Locatio _____

**Trip Blanks**

Include Trip Blanks

**Bottle Labels**

Blank

Pre-Printed No Sample IDs

Pre-Printed With Sample IDs

**Bottles**

Boxed Cases

Individually Wrapped

Grouped By Sample

**Return Shipping Labels**

No Shipper

With Shipper

**Misc**

Sampling Instructions

Custody Seal

Temp. Blanks

Coolers \_\_\_\_\_

Syringes \_\_\_\_\_

Extra Bubble Wrap

Short Hold/Rush

DI

USDA Regulated Soils

**COC Options**

Number of Blanks

Pre-Printed

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
8	WT	PCB	2-1L amber glass, unpres	16	0	H905201DB	Two bottles per sample

**Hazard Shipping Placard In Place : NO**

- \*Sample receiving hours are Monday through Friday 8:00 am to 6:00 pm and Saturday from 9:00 am to 12:00 pm unless special arrangements are made with your project manager.
- \*Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.
- \*Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample
- \*Payment term are net 30 days.
- \*Please include the proposal number on the chain of custody to insure proper billing.

**LAB USE:**

Ship Date :	<u>05/22/2019</u>
Prepared By:	<u>Tammy Dawe</u>
Verified By:	_____

**Sample**

**CLIENT USE (Optional):**

Date Rec'd:	_____
Received By:	_____
Verified By:	_____

Client Name: SME

### Sample Preservation Receipt Form

Project # 2618881

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

Lab Lot# of pH paper:

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

Initial when completed:

Date/Time:

Pace Analytical Services, LLC  
1241 Bellevue Street, Suite 55  
Green Bay, WI 54302  
Page 2

Pace Lab #	Glass	Plastic	Vials	Jars	General	VOA Vials (>6mm) *	H2SO4 pH ≤	NaOH+Zn Act pH ≥	NaOH pH ≥12	HNO3 pH ≤	pH after adjusted	Volume (mL)													
													AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3B	BP3N
001												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												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, W/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	SP5T 120 mL plastic Na Thiosulfate ZPLC ziploc bag GN:	
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH		
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI		
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4				



Document Name: <b>Sample Condition Upon Receipt (SCUR)</b>	Document Revised: 25Apr2018
Document No.: <b>F-GB-C-031-Rev.07</b>	Issuing Authority: Pace Green Bay Quality Office

**Sample Condition Upon Receipt Form (SCUR)**

**Client Name:** SME

**Courier:**  CS Logistics  Fed Ex  Speedee  UPS  Waltco  
 Client  Pace Other: \_\_\_\_\_

Project #: **WO# : 40188881**

40188881

**Tracking #:** \_\_\_\_\_

**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:** W Blue Dry None     Samples on ice, cooling process has begun

**Cooler Temperature**    Uncorr: KOJ Corr: \_\_\_\_\_

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

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

**Person examining contents:**  
 Date: 05-19-19  
 Initials: [Signature]

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	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
<b>Short Hold Time Analysis (&lt;72hr):</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
<b>Rush Turn Around Time Requested:</b>	<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 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:** 06/05/19