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September 28, 2017

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

**RE: 2017 Groundwater Monitoring Report  
Sheboygan River and Harbor Site  
Sheboygan, Wisconsin  
SME Project No. 069638.00.029.001**

Dear Pablo:

Pursuant to the Post Remediation Monitoring Plan, SME is providing the groundwater analytical results for the 2017 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>.

Foth conducted the sampling on August 30, 2017. They 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 2017 results compared to the historical data is provided in Table 1. Per your request, 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 three of the six wells sampled. At the well that was redeveloped in 2016, MW13, the concentration of PCBs decreased from 1.2 mg/L in 2015 to 0.66 mg/L in 2016 and 0.65 mg/L in 2017. The concentrations of PCBs at monitoring wells MW10 and MW12 have remained stable for the last several years. The wells are down-gradient of the GMIT which has never been operated since it was installed in 2004. The data does not indicate the need to operate the GMIT.

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

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

The PCB impact in the three wells is approaching the Maximum Contaminant Level (MCL) exceeding it by 18 to 30%. The stability of the concentration of PCBs at these three wells and the lack of impact in the other wells support the conclusion of our March 2012 evaluation that the PCBs in groundwater pose no threat to the river.

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 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 implies the foundation slab, which limits infiltration, indicates leaching to groundwater is not a significant preferential pathway.

The 2018 monitoring event is scheduled for the summer of 2018. If you have questions regarding the sampling event, feel free to contact me at (513) 319-8919 or [egan@sme-usa.com](mailto:egan@sme-usa.com).

Respectfully,

**SME**

Keith Egan, CP  
Senior Consultant

Distribution: Tom Wentland, WDNR  
Debbie McMillan, PRS  
Peter Johnson, Johnson-Wright  
Jason Smith, Tecumseh

## **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
Well									
MW9	0.03	0.5	ND	ND	0.47	0.47	0.49	0.49	0.48
MW10			0.6	1.1	0.47	0.48	0.5	NC	1.1
MW12			0.5	1.5	1.5	0.47	0.5	0.47	0.57
MW13			1.2	2.1	1.5	0.48	0.48	2.1	1.1
MW16			ND	0.4	0.49	0.48	0.5	0.47	0.49
MW17			ND	0.27	0.48	0.48	0.48	0.46	0.48

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)

\* 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	5/31/2007	10/23/2007	5/14/2008	10/15/2008	5/14/2009	10/22/2009	5/14/2010	10/29/2010
Well									
MW9	0.03	0.49	0.47	0.49	0.24	0.24	0.23	0.29	0.29
MW10		0.49	0.98	0.72	0.5	0.44	0.47	0.39	0.85
MW12		0.46	0.44	0.83	0.23	0.49	0.23	0.33	0.88
MW13		0.82	1.5	1.6	1.9	1.6	1.0	2.0	1.1
MW16		0.4	0.47	0.49	0.24	0.23	0.23	0.29	0.29
MW17		0.51	0.47	0.5	0.24	0.23	0.23	0.3	0.29

Results in µg/L

Not detected at listed Limit of Detection

NC - Not Collected

ND - Not Determined, insufficient detection

J - Concentration is less than Limit of Detection

\* PCBs were not detected in the duplicate

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

Date	NR 140 Criteria	6/29/2011	11/29/2011	6/28/2012	11/7/2012	6/4/2013	6/19/2014	6/11/2015	7/13/2016	8/30/2017
Well										
MW9	0.03	0.29	0.31	0.29	0.31	0.25	0.25	0.24	0.25	0.26
MW10		0.44	0.67	0.38	0.57	0.55	0.57	0.44	0.61	0.65
MW12		0.34	0.31	0.8	0.31	0.25	0.33J	0.30J	0.52	0.59
MW13		1.7	1.5	0.82	0.54	0.44	0.91	1.2	0.66	0.65
MW16		0.29	0.31	0.29	0.31	0.27	0.25	0.24	0.25	0.26
MW17		0.29	0.31	0.29	0.31	0.26	0.27J*	0.24	0.26	0.26

Results in µg/L

Not detected at listed Limit of Detection

NC - Not Collected

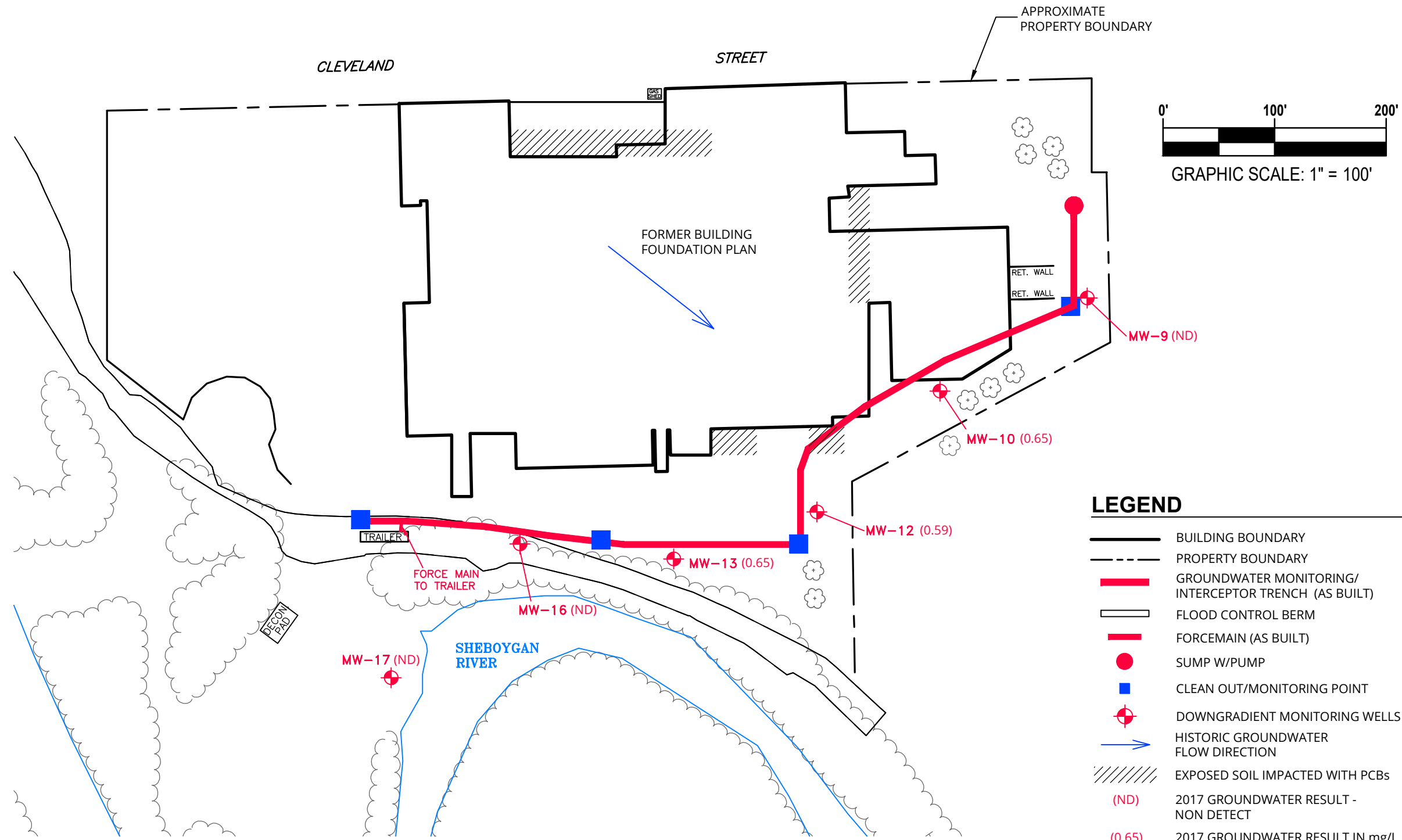
ND - Not Determined, insufficient detection

J - Concentration is less than Limit of Detection

\* PCBs were not detected in the duplicate

## **ATTACHMENT 1**

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



**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:**

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



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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  
 NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR CONSENT OF SME  
 © 2017



## ATTACHMENT 2

September 05, 2017

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

RE: Project: 17S010\_2017Q3 SHEBOYGAN RIVER  
Pace Project No.: 40155915

Dear Keith Egan:

Enclosed are the analytical results for sample(s) received by the laboratory on August 30, 2017. 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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

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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: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40155915001	PHI-MW9_1708	Water	08/30/17 14:55	08/30/17 17:29
40155915002	PHI-MW10_1708	Water	08/30/17 13:05	08/30/17 17:29
40155915003	PHI-MW12_1708	Water	08/30/17 09:55	08/30/17 17:29
40155915004	PHI-MW13_1708	Water	08/29/17 11:00	08/30/17 17:29
40155915005	PHI-MW16_1708	Water	08/30/17 11:35	08/30/17 17:29
40155915006	PHI-MW9 DUP_1708	Water	08/30/17 14:55	08/30/17 17:29
40155915007	PHI-MW9 RB_1708	Water	08/30/17 15:20	08/30/17 17:29
40155915008	PHI-MW17_1708	Water	08/29/17 12:40	08/30/17 17:29

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### SAMPLE ANALYTE COUNT

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40155915001	PHI-MW9_1708	EPA 8082	BLM	10
40155915002	PHI-MW10_1708	EPA 8082	BLM	10
40155915003	PHI-MW12_1708	EPA 8082	BLM	10
40155915004	PHI-MW13_1708	EPA 8082	BLM	10
40155915005	PHI-MW16_1708	EPA 8082	BLM	10
40155915006	PHI-MW9 DUP_1708	EPA 8082	BLM	10
40155915007	PHI-MW9 RB_1708	EPA 8082	BLM	10
40155915008	PHI-MW17_1708	EPA 8082	BLM	10

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## PROJECT NARRATIVE

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

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**Method:** EPA 8082

**Description:** 8082 GCS PCB

**Client:** POLLUTION RISK SERVICES

**Date:** September 05, 2017

### General Information:

8 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.

QC Batch: 266327

S0: Surrogate recovery outside laboratory control limits.

- PHI-MW12\_1708 (Lab ID: 40155915003)
- Tetrachloro-m-xylene (S)

### 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: 266327

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: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW9\_1708**      **Lab ID: 40155915001**      Collected: 08/30/17 14:55      Received: 08/30/17 17:29      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)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	11096-82-5	
PCB, Total	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 22:58	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	87	%	48-123		1	08/31/17 10:15	09/01/17 22:58	877-09-8	
Decachlorobiphenyl (S)	66	%	35-125		1	08/31/17 10:15	09/01/17 22:58	2051-24-3	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW10\_1708**      **Lab ID: 40155915002**      Collected: 08/30/17 13:05      Received: 08/30/17 17:29      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)	<0.26	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.26	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.26	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	11141-16-5	
PCB-1242 (Aroclor 1242)	0.65	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.26	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.26	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.26	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	11096-82-5	
PCB, Total	0.65	ug/L	0.53	0.26	1	08/31/17 10:15	09/01/17 23:16	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	89	%	48-123		1	08/31/17 10:15	09/01/17 23:16	877-09-8	
Decachlorobiphenyl (S)	82	%	35-125		1	08/31/17 10:15	09/01/17 23:16	2051-24-3	

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### ANALYTICAL RESULTS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW12\_1708**      **Lab ID: 40155915003**      Collected: 08/30/17 09:55      Received: 08/30/17 17:29      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)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	11141-16-5	
PCB-1242 (Aroclor 1242)	0.59	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	11096-82-5	
PCB, Total	0.59	ug/L	0.51	0.26	1	08/31/17 10:15	09/01/17 23:33	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	140	%	48-123		1	08/31/17 10:15	09/01/17 23:33	877-09-8	S0
Decachlorobiphenyl (S)	85	%	35-125		1	08/31/17 10:15	09/01/17 23:33	2051-24-3	

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### ANALYTICAL RESULTS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW13\_1708**      **Lab ID: 40155915004**      Collected: 08/29/17 11:00      Received: 08/30/17 17:29      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)	<0.27	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.27	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.27	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	11141-16-5	
PCB-1242 (Aroclor 1242)	0.65	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.27	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.27	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.27	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	11096-82-5	
PCB, Total	0.65	ug/L	0.53	0.27	1	08/31/17 10:15	09/01/17 23:51	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	87	%	48-123		1	08/31/17 10:15	09/01/17 23:51	877-09-8	
Decachlorobiphenyl (S)	64	%	35-125		1	08/31/17 10:15	09/01/17 23:51	2051-24-3	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW16\_1708**      **Lab ID: 40155915005**      Collected: 08/30/17 11:35      Received: 08/30/17 17:29      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)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	11096-82-5	
PCB, Total	<0.26	ug/L	0.51	0.26	1	08/31/17 10:15	09/02/17 00:08	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	94	%	48-123		1	08/31/17 10:15	09/02/17 00:08	877-09-8	
Decachlorobiphenyl (S)	91	%	35-125		1	08/31/17 10:15	09/02/17 00:08	2051-24-3	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW9 DUP\_1708**      **Lab ID: 40155915006**      Collected: 08/30/17 14:55      Received: 08/30/17 17:29      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)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	11096-82-5	
PCB, Total	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:25	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	94	%	48-123		1	08/31/17 10:15	09/02/17 00:25	877-09-8	
Decachlorobiphenyl (S)	95	%	35-125		1	08/31/17 10:15	09/02/17 00:25	2051-24-3	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW9 RB\_1708**      **Lab ID: 40155915007**      Collected: 08/30/17 15:20      Received: 08/30/17 17:29      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)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	11096-82-5	
PCB, Total	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 00:43	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	86	%	48-123		1	08/31/17 10:15	09/02/17 00:43	877-09-8	
Decachlorobiphenyl (S)	45	%	35-125		1	08/31/17 10:15	09/02/17 00:43	2051-24-3	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

**Sample: PHI-MW17\_1708**      **Lab ID: 40155915008**      Collected: 08/29/17 12:40      Received: 08/30/17 17:29      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)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	11096-82-5	
PCB, Total	<0.26	ug/L	0.52	0.26	1	08/31/17 10:15	09/02/17 01:00	1336-36-3	
<b>Surrogates</b>									
Tetrachloro-m-xylene (S)	84	%	48-123		1	08/31/17 10:15	09/02/17 01:00	877-09-8	
Decachlorobiphenyl (S)	38	%	35-125		1	08/31/17 10:15	09/02/17 01:00	2051-24-3	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

QC Batch: 266327

Analysis Method: EPA 8082

QC Batch Method: EPA 3510

Analysis Description: 8082 GCS PCB

Associated Lab Samples: 40155915001, 40155915002, 40155915003, 40155915004, 40155915005, 40155915006, 40155915007, 40155915008

METHOD BLANK: 1565355

Matrix: Water

Associated Lab Samples: 40155915001, 40155915002, 40155915003, 40155915004, 40155915005, 40155915006, 40155915007, 40155915008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	<0.25	0.50	09/01/17 22:06	
PCB-1221 (Aroclor 1221)	ug/L	<0.25	0.50	09/01/17 22:06	
PCB-1232 (Aroclor 1232)	ug/L	<0.25	0.50	09/01/17 22:06	
PCB-1242 (Aroclor 1242)	ug/L	<0.25	0.50	09/01/17 22:06	
PCB-1248 (Aroclor 1248)	ug/L	<0.25	0.50	09/01/17 22:06	
PCB-1254 (Aroclor 1254)	ug/L	<0.25	0.50	09/01/17 22:06	
PCB-1260 (Aroclor 1260)	ug/L	<0.25	0.50	09/01/17 22:06	
Decachlorobiphenyl (S)	%	85	35-125	09/01/17 22:06	
Tetrachloro-m-xylene (S)	%	84	48-123	09/01/17 22:06	

LABORATORY CONTROL SAMPLE & LCSD: 1565356

1565357

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L		<0.25	<0.25					20	
PCB-1221 (Aroclor 1221)	ug/L		<0.25	<0.25					20	
PCB-1232 (Aroclor 1232)	ug/L		<0.25	<0.25					20	
PCB-1242 (Aroclor 1242)	ug/L		<0.25	<0.25					20	
PCB-1248 (Aroclor 1248)	ug/L		<0.25	<0.25					20	
PCB-1254 (Aroclor 1254)	ug/L	5	5.3	4.8	106	96	67-112	10	20	
PCB-1260 (Aroclor 1260)	ug/L		<0.25	<0.25					20	
Decachlorobiphenyl (S)	%				81	62	35-125			
Tetrachloro-m-xylene (S)	%				88	87	48-123			

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: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

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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 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.

### BATCH QUALIFIERS

Batch: 266403

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

### ANALYTE QUALIFIERS

S0 Surrogate recovery outside laboratory control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 17S010\_2017Q3 SHEBOYGAN RIVER

Pace Project No.: 40155915

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40155915001	PHI-MW9_1708	EPA 3510	266327	EPA 8082	266403
40155915002	PHI-MW10_1708	EPA 3510	266327	EPA 8082	266403
40155915003	PHI-MW12_1708	EPA 3510	266327	EPA 8082	266403
40155915004	PHI-MW13_1708	EPA 3510	266327	EPA 8082	266403
40155915005	PHI-MW16_1708	EPA 3510	266327	EPA 8082	266403
40155915006	PHI-MW9 DUP_1708	EPA 3510	266327	EPA 8082	266403
40155915007	PHI-MW9 RB_1708	EPA 3510	266327	EPA 8082	266403
40155915008	PHI-MW17_1708	EPA 3510	266327	EPA 8082	266403

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Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: Foth

Project # WO#: 40155915



Courier: Fed Ex UPS Client Pace Other:
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 SR74 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 4.0 /Corr: 5.0 Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 8-31-17
Initials: SW

Comments:

Table with 15 rows of inspection items and checkboxes. Includes items like Chain of Custody Present, Sufficient Volume, Containers Intact, etc. Includes handwritten notes like 'No MS/MSD Volume' and 'W'.

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: Date/Time:

Comments/Resolution: Client crossed out and re-wrote collect dates and times 8-31-17 SW

Project Manager Review: AL for TN

Date: 8-31-17