

Supplemental Site Investigation Report - ADDENDUM Ashview Terrace Apartments Site Ashwaubenon, Brown County, Wisconsin

Submitted To:

Georgia Pacific Corporation 133 Peachtree Street NE, 9<sup>th</sup> Floor Atlanta, GA 30303

Submitted By:

Amec Foster Wheeler Environment & Infrastructure, Inc. 800 Marquette Avenue, Suite 1200 Minneapolis, Minnesota 55402

January 2018

Amec Foster Wheeler Project No. 7311150004



January 10, 2018

Mr. Paul Montney Georgia Pacific Corporation 133 Peachtree Street NE, 9th Floor Atlanta, GA 30303

# Re: Supplemental Site Investigation Report - ADDENDUM Ashview Terrace Apartments Site, Ashwaubenon, Brown County, Wisconsin WDNR Site # 02-05-564043 Amec Foster Wheeler Project No. 7311150004

Dear Mr. Montney;

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) is pleased to submit this Supplemental Site Investigation (SSI) Report - ADDENDUM for activities conducted at the Ashview Terrace Apartments Site in Ashwaubenon, Wisconsin. The Ashview Terrace Apartments Site is being investigated under the Wisconsin Department of Natural Resources (WDNR) Site # 02-05-564043.

We appreciate the opportunity to assist you on this project. If you have any questions or concerns, please do not hesitate to contact us as identified below.

Sincerely,

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Joseph M. Renier, PG Project Manager 320-963-5742 Joe.renier@amecfw.com





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# 1.0 INTRODUCTION

This document presents the results of a shallow hand auger soil boring investigation conducted in December 2017 on the north property boundary of the Ashview Terrace Apartments (ATA) site (the Site) in Ashwaubenon Wisconsin for Georgia Pacific, LLC (GP). The investigation involved the installation and soil sampling of two hand auger borings. Soil samples collected were tested for polychlorinated biphenyls (PCBs).

This report is an addendum to the Supplemental Site Investigation (SSI) Report (AMEC Foster Wheeler, January 2018) which documented an SSI conducted by AMEC Foster Wheeler Environment and Infrastructure (AMEC Foster Wheeler) at the Site during August 2017.

The Site is located at 988-1020 Willard Drive, in the city of Ashwaubenon, Brown County, Wisconsin. A site location map is provided as Figure 1. The Site encompasses approximately 3.4 acres, located north of Willard Drive and the Ashwaubenon High School (Figure 2). The Site is being investigated under the Wisconsin Department of Natural Resources (WDNR) Site # 02-05-564043.

The SSI included a shallow soil and groundwater investigation to further delineate polychlorinated biphenyls (PCBs) and Resource Conservation and Recovery Act (RCRA) Metals in shallow soils and groundwater beneath the Site. Additional testing for volatile organic compounds (VOCs) and poly-nuclear aromatic hydrocarbons (PAHs) were also conducted. The SSI included installing and sampling four soil borings and one temporary monitoring well. Three of the borings were completed along the northern border of the Site, one boring was installed on the west side of the garage in the west-central portion of the Site and the temporary well was installed and sampled on the southeast corner of the Site (Figure 3).

The SSI showed that fill deposited in the former borrow pit that previously occupied the Site area thins to 0 ft to 5 ft below ground surface (bgs) along the northern Site border and that PCBs at levels of concern are present at one boring location (SB17-02) at the north-central Site border in the top two feet (ft) of soil. RCRA Metals were not detected above soil criteria other than the Soil to Groundwater Residual Contaminant Levels (RCLs). This also occurred at SB17-02, however, these concentrations are low and are not considered a concern. Analytical results from the soil boring completed at the west end of the garage showed no detections of PCBs, RCRA Metals, VOCs or PAHs at levels of concern below the fill at this location, and groundwater analytical results from the temporary well at the southeast corner of the Site was not impacted by PCBs, RCRA Metals, VOCs or PAHs at levels of concern.

Following completion of the SSI, representatives from GP, Amec Foster Wheeler, and the WDNR met to discuss the SSI investigation results. During this meeting, which occurred on December 13, 2017, the WDNR requested additional hand auger soil sampling be performed between the



northern Site property line and the one location (SB17-02) that had PCB impacts at levels of concern in the top two ft of soil near the north-central Site border. The purpose of this sampling was to determine if the PCB impacts of concern terminate south of the Site property line. These samples were collected (via hand augering) during the following week on December 20, 2017. Analytical results of the hand auger sampling effort are presented in this addendum to the SSI Report.



# 2.0 INVESTIGATION ACTIVITIES

In response to the WDNR request for additional soil borings at the north Site Border, AMEC Foster Wheeler conducted two hand auger borings immediately north of soil boring SB17-02 on December 20, 2017. These two borings were designated SB17-06 and SB17-07 and were completed to depths of 2.9 and 3.7 ft below ground surface (bgs), respectively. SB17-07 was located on the surveyed north property line approximately 6.6 ft north of SB17-02, and SB17-06 was completed half the distance between SB17-02 and SB17-07 (Figure 4).

A soil sample was collected from each boring at depths of 1.9 to 2.9 ft bgs in SB17-06 and 2.7 to 3.7 ft bgs at SB17-07. Based on ground surface elevation differences between borings, these samples were collected at the equivalent elevation to the soil sample collected from SB17-02 that contained PCBs at levels above soil criteria. The sample collected from SB17-06 and a duplicate sample were analyzed for PCBs (EPA method 8082 w/ 3541 preparation) by the Pace Analytical Services Laboratory in Green Bay Wisconsin and the sample collected from SB17-07 was submitted but held for analysis pending receipt of analytical results from SB17-06.

IDW generated during this investigation included soil boring cuttings, equipment decontamination water and used PPE. Soil cuttings were re-introduced into the hand auger bore holes and decontamination water was discharged to the ground surface adjacent the referenced borings (which was approved by the WDNR).

Used PPE (i.e., sampling gloves, trash etc.) were decontaminated to the extent possible and placed in a plastic garbage bag and disposed of as municipal waste in a dumpster at the Site.



# 3.0 PRESENTATION OF RESULTS

# **Subsurface Materials**

Subsurface materials encountered at the hand auger borings included silty sand at SB17-06 and silty sand and gravely sand/sandy gravel at SB17-07. At 9 to 12 inches bgs in SB17-06 some grey clay (possibly paper sludge) was observed in silty sand, however this layer was not encountered at SB17-07.

# **Analytical Results**

The analytical results obtained from SB17-06 are provided on Figure 4. PCBs were not detected in the SB17-06 sample and therefore it is concluded that PCB impacts noted from 1 to 2 ft bgs in SB17-02 terminate on-Site between SB17-02 and SB17-06. Since there was no detection of PCBs in SB17-06 it was not necessary to analyze the soil sample collected from SB17-07. The laboratory analytical report is included in Appendix A.



# 4.0 CONCLUSIONS

Based on the results of the SSI and previous investigations, Amec Foster Wheeler had concluded that the fill extent and soil and groundwater quality at the Site have been adequately defined with the exception of PCBs north of one location along the north-central Site border (SB17-02) in the top 2 ft of soil. As noted in Section 1.0, following completion of the SSI, representatives from GP, Amec Foster Wheeler, and the WDNR met to discuss the SSI investigation results. During this meeting, the WDNR requested additional hand auger soil sampling be performed between the northern Site property line and Boring SB17-02 to determine if the PCB impacts at levels of concern terminate south of the Site property line. These samples were collected on December 20, 2017. Analytical results of the hand auger sampling effort show that PCB impacts terminate between the SB17-02 location and the north Site property line. Therefore, the fill extent and soil and groundwater quality at the Site have been adequately defined



# 5.0 **REFERENCES**

Amec Foster Wheeler, January 2018. Supplemental Site Investigation Report, Ashview Terrace Apartments Site, Ashwaubenon, Brown County, WI.

Amec Foster Wheeler, June 2017. Site Investigation Report, Ashview Terrace Apartments Site, Ashwaubenon, Brown County, WI.

Supplemental Site Investigation Report - ADDENDUM Ashview Terrace Apartments Site Ashwaubenon, Brown County, Wisconsin January 2018



FIGURES







SB17-06 (2	12/20/2017)
Sample Depth	1.9-2.9 ft bgs
Arochlor 1016	ND (ND)
Arochlor 1221	ND (ND)
Arochlor 1232	ND (ND)
Arochlor 1242	ND (ND)
Arochlor 1248	ND (ND)
Arochlor 1254	ND (ND)
Arochlor 1260	ND (ND)
Total PCBs	ND (ND)

SB17-07

			and the second second
	SB17-02 (	8/14/2017)	
Sample Depth	1-2 ft bgs	2-4 ft bgs	5-7 ft bgs
Arochlor 1016	ND	ND	ND
Arochlor 1221	ND	ND	ND
Arochlor 1232	ND	ND	ND
Arochlor 1242	ND	ND	ND
Arochlor 1248	1.19	ND	ND
Arochlor 1254	0.939	ND	ND
Arochlor 1260	0.706	ND	ND
Total PCBs	2.84	ND	ND

SB16-05 (6/21/2016)											
Sample Depth         1-1.5 ft bgs         2-4 ft bgs         6-8 ft bgs         11-12 ft bgs											
Arochlor 1016	ND	ND	ND	ND							
Arochlor 1221	ND	ND	ND	ND							
Arochlor 1232	ND	ND	ND	ND							
Arochlor 1242	ND	ND	0.401	4.46							
Arochlor 1248	0.513	1.12	ND	ND							
Arochlor 1254	0.184	0.903	0.478	1.46							
Arochlor 1260	0.124	0.482	0.151	0.418 J							
Total PCBs	0.821	2.50	1.03	6.34							

Soil results in milligrams per kilogram Groundwater results in micrograms per liter Duplicate sample results in parenthesis J = Estimated Concentration ND = Paramter Not Detected BLUE highlighted results are new for December 2017

#### Legend

1:240

- December 2017 Hand Auger Exceedance of Non-Industrial Borings 2017 Soil Boring Location  $(\bullet)$ 2016 Soil Boring Location • Approximate Site Boundary
  - Exceedance of Industrial RCL Exceedance of Soil to Groundwater RCL

RCL

20

Sampling Interval Containing Paper Sludge

1 inch equals 20 fee Approximate Scale in Feet 40

# **ANALYTICAL RESULTS - PCBs** Supplemental Site Investigation Report Addendum Ashview Terrace Apartments Site Ashwaubenon, Brown County, Wisconsin



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APPENDICES

Supplemental Site Investigation Report - ADDENDUM Ashview Terrace Apartments Site Ashwaubenon, Brown County, Wisconsin January 2018



APPENDIX A Laboratory Analytical Report



Pace Analytical Services, LLC 1241 Bellevue Street - Suite 9 Green Bay, WI 54302 (920)469-2436

January 03, 2018

Joe Renier AMEC FW 800 Marquette Ave Minneapolis, MN 55402

RE: Project: 7311150004 ASHWAUBENON-GP Pace Project No.: 40162714

Dear Joe Renier:

Enclosed are the analytical results for sample(s) received by the laboratory on December 20, 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,

Laurie Woelfel

Laurie Woelfel laurie.woelfel@pacelabs.com (920)469-2436 Project Manager

Enclosures





Pace Analytical Services, LLC 1241 Bellevue Street - Suite 9 Green Bay, WI 54302 (920)469-2436

### CERTIFICATIONS

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

#### **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



# SAMPLE SUMMARY

#### Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40162714001	SB17-06-1217-400	Water	12/19/17 16:50	12/20/17 12:20
40162714002	SB17-06-(1.9-2.9)-1217-100	Solid	12/20/17 10:50	12/20/17 12:20
40162714003	SB17-06-(1.9-2.9)-1217-300	Solid	12/20/17 10:50	12/20/17 12:20
40162714004	SB17-07-(2.7-3.7)-1217-100	Solid	12/20/17 11:30	12/20/17 12:20



# SAMPLE ANALYTE COUNT

 Project:
 7311150004 ASHWAUBENON-GP

 Pace Project No.:
 40162714

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40162714001	SB17-06-1217-400	EPA 8082	BLM	10	PASI-G
40162714002	SB17-06-(1.9-2.9)-1217-100	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40162714003	SB17-06-(1.9-2.9)-1217-300	EPA 8082	BLM	10	PASI-G
		ASTM D2974-87	SKW	1	PASI-G



## SUMMARY OF DETECTION

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

Lab Sample ID	Client Sample ID			<b>D</b>		0
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40162714002	SB17-06-(1.9-2.9)-1217-100					
ASTM D2974-87	Percent Moisture	13.1	%	0.10	12/28/17 14:10	
40162714003	SB17-06-(1.9-2.9)-1217-300					
ASTM D2974-87	Percent Moisture	12.6	%	0.10	12/28/17 14:10	



### **PROJECT NARRATIVE**

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

### Method: EPA 8082

Description:8082 GCS PCBClient:AMEC Foster Wheeler - MNDate:January 03, 2018

#### General Information:

3 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. The samples were prepared in accordance with EPA 3541 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: 277939

S0: Surrogate recovery outside laboratory control limits.

- SB17-06-1217-400 (Lab ID: 40162714001)
  - Decachlorobiphenyl (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: 277939

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.



# ANALYTICAL RESULTS

#### Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

Sample: SB17-06-1217-400	Lab ID:	40162714001	Collected	d: 12/19/17	7 16:50	Received: 12/	20/17 12:20 Ma	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytica	I Method: EPA 8	082 Prepa	ration Metho	od: EPA	A 3510			
PCB-1016 (Aroclor 1016)	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	11096-82-5	
PCB, Total	<0.24	ug/L	0.48	0.24	1	12/26/17 08:57	12/27/17 07:20	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	87	%	48-123		1	12/26/17 08:57	12/27/17 07:20	877-09-8	
Decachlorobiphenyl (S)	20	%	35-125		1	12/26/17 08:57	12/27/17 07:20	2051-24-3	S0



### ANALYTICAL RESULTS

#### Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

Sample: SB17-06-(1.9-2.9)-1217-100 Lab ID: 40162714002 Collected: 12/20/17 10:50 Received: 12/20/17 12:20 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units		LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical	Method: EP/	A 8082 Prepar	ation Metho	od: EP	A 3541			
PCB-1016 (Aroclor 1016)	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	53469-21-9	
PCB-1248 (Aroclor 1248)	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	12672-29-6	
PCB-1254 (Aroclor 1254)	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	11097-69-1	
PCB-1260 (Aroclor 1260)	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	11096-82-5	
PCB, Total	<28.8	ug/kg	57.5	28.8	1	12/28/17 10:45	12/29/17 12:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	72	%	50-102		1	12/28/17 10:45	12/29/17 12:28	877-09-8	
Decachlorobiphenyl (S)	70	%	53-105		1	12/28/17 10:45	12/29/17 12:28	2051-24-3	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	13.1	%	0.10	0.10	1		12/28/17 14:10		



### ANALYTICAL RESULTS

#### Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

Sample: SB17-06-(1.9-2.9)-1217-300 Lab ID: 40162714003 Collected: 12/20/17 10:50 Received: 12/20/17 12:20 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical	Method: EP/	A 8082 Prepar	ation Metho	od: EP	A 3541			
PCB-1016 (Aroclor 1016)	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	12674-11-2	
PCB-1221 (Aroclor 1221)	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	11104-28-2	
PCB-1232 (Aroclor 1232)	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	11141-16-5	
PCB-1242 (Aroclor 1242)	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	53469-21-9	
PCB-1248 (Aroclor 1248)	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	12672-29-6	
PCB-1254 (Aroclor 1254)	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	11097-69-1	
PCB-1260 (Aroclor 1260)	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	11096-82-5	
PCB, Total	<28.6	ug/kg	57.2	28.6	1	12/28/17 10:45	12/29/17 12:11	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	70	%	50-102		1	12/28/17 10:45	12/29/17 12:11	877-09-8	
Decachlorobiphenyl (S)	68	%	53-105		1	12/28/17 10:45	12/29/17 12:11	2051-24-3	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	12.6	%	0.10	0.10	1		12/28/17 14:10		



# **QUALITY CONTROL DATA**

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

QC Batch: 27814	47	Analysis Meth	hod: EF	PA 8082	
QC Batch Method: EPA 3	3541	Analysis Des	cription: 80	82 GCS PCB	
Associated Lab Samples:	40162714002, 40162714003				
METHOD BLANK: 163456	37	Matrix:	Solid		
Associated Lab Samples:	40162714002, 40162714003				
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<25.0	50.0	12/29/17 08:43	
PCB-1221 (Aroclor 1221)	ug/kg	<25.0	50.0	12/29/17 08:43	
PCB-1232 (Aroclor 1232)	ug/kg	<25.0	50.0	12/29/17 08:43	
PCB-1242 (Aroclor 1242)	ug/kg	<25.0	50.0	12/29/17 08:43	
PCB-1248 (Aroclor 1248)	ug/kg	<25.0	50.0	12/29/17 08:43	
PCB-1254 (Aroclor 1254)	ug/kg	<25.0	50.0	12/29/17 08:43	
PCB-1260 (Aroclor 1260)	ug/kg	<25.0	50.0	12/29/17 08:43	
Decachlorobiphenyl (S)	%	82	53-105	12/29/17 08:43	
Tatua ablana na undana (C)	%	76	50-102	12/29/17 08:43	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<25.0			
PCB-1221 (Aroclor 1221)	ug/kg		<25.0			
PCB-1232 (Aroclor 1232)	ug/kg		<25.0			
PCB-1242 (Aroclor 1242)	ug/kg		<25.0			
PCB-1248 (Aroclor 1248)	ug/kg		<25.0			
PCB-1254 (Aroclor 1254)	ug/kg		<25.0			
PCB-1260 (Aroclor 1260)	ug/kg	500	400	80	59-106	
Decachlorobiphenyl (S)	%			86	53-105	
Tetrachloro-m-xylene (S)	%			79	50-102	

MATRIX SPIKE & MATRIX SP	IKE DUPLIC	ATE: 163450	69		1634570							
Parameter	Units	40162674002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<25.9	·		<25.9	<25.9					20	
PCB-1221 (Aroclor 1221)	ug/kg	<25.9			<25.9	<25.9					20	
PCB-1232 (Aroclor 1232)	ug/kg	<25.9			<25.9	<25.9					20	
PCB-1242 (Aroclor 1242)	ug/kg	<25.9			<25.9	<25.9					20	
PCB-1248 (Aroclor 1248)	ug/kg	<25.9			<25.9	<25.9					20	
PCB-1254 (Aroclor 1254)	ug/kg	242			289	264				9	20	
PCB-1260 (Aroclor 1260)	ug/kg	<25.9	519	519	328	302	63	58	51-109	8	20	
Decachlorobiphenyl (S)	%						62	58	53-105			
Tetrachloro-m-xylene (S)	%						67	62	50-102			

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**

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



# **QUALITY CONTROL DATA**

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

QC Batch:	277939		Analysis Meth	nod: EF	PA 8082					
QC Batch Method:	EPA 3510		Analysis Desc	cription: 80	8082 GCS PCB					
Associated Lab Sam	ples: 40162714001									
METHOD BLANK: 1633794			Matrix:	Matrix: Water						
Associated Lab Sam	ples: 40162714001									
			Blank	Reporting						
Param	neter	Units	Result	Limit	Analyzed	Qualifiers				
PCB-1016 (Aroclor 1	016)	ug/L	<0.25	0.50	12/27/17 05:47					
PCB-1221 (Aroclor 1	221)	ug/L	<0.25	0.50	12/27/17 05:47					
PCB-1232 (Aroclor 1	232)	ug/L	<0.25	0.50	12/27/17 05:47					
PCB-1242 (Aroclor 1	242)	ug/L	<0.25	0.50	12/27/17 05:47					
PCB-1248 (Aroclor 1	248)	ug/L	<0.25	0.50	12/27/17 05:47					
PCB-1254 (Aroclor 1	254)	ug/L	<0.25	0.50	12/27/17 05:47					
PCB-1260 (Aroclor 1	260)	ug/L	<0.25	0.50	12/27/17 05:47					
Decachlorobiphenyl	(S)	%	68	35-125	12/27/17 05:47					
Tetrachloro-m-xylene	e (S)	%	82	48-123	12/27/17 05:47					

LABORATORY CONTROL SAMPLE & I	LCSD: 1633795		16	33796						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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		<0.25	<0.25					20	
PCB-1260 (Aroclor 1260)	ug/L	5	3.7	3.7	74	74	67-112	0	20	
Decachlorobiphenyl (S)	%				71	64	35-125			
Tetrachloro-m-xylene (S)	%				82	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.

# **REPORT OF LABORATORY ANALYSIS**

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# **QUALITY CONTROL DATA**

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

QC Batch:	278178	Analysis Method:		ASTM D2974-87	
QC Batch Method:	ASTM D2974-87	Analysis Descriptio	n:	Dry Weight/Percent Moisture	
Associated Lab Sam	bles: 40162714002, 40162714003				
SAMPLE DUPLICAT	E: 1634723				
	4	40162974002 E	Dup	Max	

Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	8.1	8.1	0	10	

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.



### QUALIFIERS

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

#### 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

#### BATCH QUALIFIERS

Batch: 277972

[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.



# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 7311150004 ASHWAUBENON-GP

Pace Project No.: 40162714

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40162714002 40162714003	SB17-06-(1.9-2.9)-1217-100 SB17-06-(1.9-2.9)-1217-300	EPA 3541 EPA 3541	278147 278147	EPA 8082 EPA 8082	278148 278148
40162714001	SB17-06-1217-400	EPA 3510	277939	EPA 8082	277972
40162714002 40162714003	SB17-06-(1.9-2.9)-1217-100 SB17-06-(1.9-2.9)-1217-300	ASTM D2974-87 ASTM D2974-87	278178 278178		

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Company Name:	Amec Foston	Wheelor					* **	. Ø		MN:	612-607-	1700	WI: 920-469-2436	,	of 1
Branch/Location:	Minneadolis		1 /		ace	Ana	<i>lytica</i>	3/			J/				10162714:
Project Contact:	Joe Rower					er 1999. pa	20010293-00				1		Quote #:		Paç
Phone:	320-963-57	142	1 1	C	;HA	MN	OF	CU	JST(	OD	1		Mail To Contact:	Joe	Renter
Project Number:	7311150004		A=No	one B=I		12504	*Preservat	ion Codes E=DI Wa	ater F=Me	thanol G	=NaOH		Mail To Company:	Ame	ec Foster Wheeler
Project Name:	COP Ashiway bo	<u>м</u> .сл.к.	H=Sc	odium Bisul	fate Solutio	on	I=Sodium	Thiosulfate	e J≃Oth	er			Mail To Address:	Joe,	Renjer C
Project State:	425		FILTE (YES	RED? /NO)	Y/N	N	Γ					(agana ana ang ang ang ang ang ang ang an		Ame	cfu, com
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Data Package Or	tions <u>MS/MSD</u>	Mat	rix Codes	3	nbə	L'									
(biliable)	III (billable)	u = Air l = Biota c = Charcoal c = Oil	W = Water DW = Drinki GW = Groun SW = Surfec	ng Water Id Water Ve Water	/865 R	5							Invoice To Phone:		
EPA Leve	V NOT needed on your sample	i = Soil il = Sludge COLL	WW = Waste WP = Wipe ECTION	e Water	Analy	CB.							CLIENT	LAB C	OMMENTS Profile #
PACE LAB #	CLIENT FIELD ID	DATE	TIME	MATRIX			┠───┼						COMMENTS	(Lab	Use Only)
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Transmit Prelim Rus	h Results by (complete what you w	ant):	·							1 1000			Upper Dates times		Pacaint Tamà Trans
Email #1:		Relin	quished By:				Date	/Time:		Recei	ved By:		Date/Time:		Sample Sample Sample
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Fax:							Dulo			1008	ou by.		Latorisity.		Cooler Custody Seal
Samples	on HOLD are subject to	Relin	quished By:		*****		Date	/Time:	anta di colortto cianta di colorda di setta da pago	Recei	ved By:		Date/Time:		Present Not Present
special pric	ing and release of llability	l.				*****		antination and a second of a	ultitic international states	lana				dubtojistanbk <del>a minimaanaanagga</del>	Intact / Not Intact

ORIGINAL

	Sample Condition Upon Receipt Pace Analytical Services, LLC Green Bay 1241 Bellevue Street, Suit	WI e 9
Pace Analytical		302
Client Name: <u>AMEC</u>	Foster Project #: WO#: 40162/14	
Courier: Fed Ex UPS Client Pa	ace Other:	
Custody Seal on Cooler/Box Present:	40162/14 s Kno Seals intact: □ yes □ no	- <b>r</b>
Custody Seal on Samples Present: Tyes	Kno Seals intact:	الس
Packing Material: KBubble Wrap KBu	ibble Bags 🔽 None 🖵 Other	
Thermometer Used <u>N/A</u>	Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun	
Cooler Temperature Uncorr: KO/Corr:	Biological Tissue is Frozen: 🗍 yes	<b>-</b> /
Temp Blank Present: 🔽 yes 📈 no	NO Person examining contents:	
Temp should be above freezing to $6^{\circ}$ C. Biota Samples may be received at $\leq 0^{\circ}$ C.	Comments:	1
Chain of Custody Present:	ØYes □No □N/A 1.	4
Chain of Custody Filled Out:	ØYes □No □N/A 2.	4
Chain of Custody Relinquished:	Zyes DN0 DN/A 3.	4
Sampler Name & Signature on COC:	ZYes □No □N/A 4.	_
Samples Arrived within Hold Time:	$\mathbb{Z}$ Yes $\square$ No $\square$ N/A 5.	
- VOA Samples frozen upon receipt	□Yes □No Date/Time:	
Short Hold Time Analysis (<72hr):	□Yes 2No □N/A 6.	
Rush Turn Around Time Requested:		
Sufficient Volume:	TYes The IN/A 8. NO MS/MSD Wolune 12-20	か>
Correct Containers Used:		礼
-Pace Containers Used:		
-Pace IR Containers Used:		
Containers Intact:	AYes DNo DN/A 10.	1
Filtered volume received for Dissolved tests	□Yes □No 2N/A 11.	1
Sample Labels match COC:	$P_{\text{Yes}} \square \text{No} \square \text{N/A}$ 12.	]
-includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked		┥
(Non-Compliance noted in 13.)	$\square Yes \square N_0 \square N/A \square 13.$	
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)		
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	Initial when Lab Std #ID of Date/	]
Headspace in VOA Vials ( >6mm):		1
Trip Blank Present:	□Yes □No 🗖N/A 15.	1
Trip Blank Custody Seals Present		
Pace Trip Blank Lot # (if purchased):	/	
Client Notification/ Resolution:	If checked, see attached form for additional comments	]
Person Contacted: Comments/ Resolution:	Date/Time:	-
		-
Project Manager Review:	Uw Date: 19 20/12	-

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Branch/Location:	MinApapolis		/		ace	Ana	lytica	l.			J/			4	0162714
Project Contact:	Joe Rower					www.pa	088803.00	01			٦.		Quote #:		
Phone:	326-963-57	12	I	C	;HA	IN	OF	CL	JST	ODY	7		Mail To Contact:	Joe	Renter
Project Number:	7311150004		A=No	ne B=H	ICL C=H	12504	Preservation D=HNO3	on Code E=DI W	s ater F=Me	thanol G≍	NaOH	]	Mail To Company:	Ame	c Foster Wheeler
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PACE LAB #			CTION	MATRIX	A	P C							COMMENTS	(Lab	Use Only)
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	Sample Condition	Upon Receipt	Pace Analytical Services, LLC Green Bay W 1241 Bellevue Street, Suite
Pace Analytical"			
Client Name: <u>AMEC</u>	Foster		#:40162/14
Courier: Fed Ex TUPS Client Pa	ce Other:		
Custody Seal on Cooler/Box Present:	K no Seals intact:	ves no	2714
Custody Seal on Samples Present:	Kno Seals intact:	yes no	
Packing Material: HBubble Wrap	bble Bags 🔽 None	Other	
Thermometer Used <u>N/A</u>	Type of Ice: Net Blu	ue Dry None	amples on ice, cooling process has begun
Cooler Temperature Uncorr: KO/Corr:	Biologic	al Tissue is Frozen:	yes
Temp Blank Present: 🔽 yes 🖍 no			no Person examining contents:
Temp should be above freezing to $6^{\circ}$ C. Biota Samples may be received at $\leq 0^{\circ}$ C.	Co	omments:	
Chain of Custody Present:	ØYes □No □N/A 1.		
Chain of Custody Filled Out:	ØYes □No □N/A 2.		
Chain of Custody Relinquished:	Yes No N/A 3.		
Sampler Name & Signature on COC:	ZYes □No □N/A 4.		
Samples Arrived within Hold Time:	ZYes DNO DN/A 5.	-	
- VOA Samples frozen upon receipt	□Yes □No Dat	te/Time:	
Short Hold Time Analysis (<72hr):	□Yes INO □N/A 6.		
Rush Turn Around Time Requested:	□Yes □No □N/A 7.		1. ;
Sufficient Volume:	□Yes \$\$\$No □N/A 8.	NO MEMS	O Volume 12-20
Correct Containers Used:	ØYes □No □N/A 9.	1	
-Pace Containers Used:			
-Pace IR Containers Used:			
Containers Intact:	Yes DN0 DN/A 10.		
Filtered volume received for Dissolved tests	□Yes □No 2N/A 11.		
Sample Labels match COC:			
-Includes date/time/ID/Analysis Matrix:	NV4-)		
(Non-Compliance noted in 13.)	a. □Yes □No ♀N/A 13.		2SO4 T NaOH T NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation.	□Yes □No <b>□</b> \$\/A		
(HNO3, H2SO4 $\leq$ 2; NaOH+ZhAct $\geq$ 9, NaOH $\geq$ 12) exceptions: VOA, coliform, TOC, TOX, TOH,		ial when Lab Std #	D of Date/
O&G, WIDROW, Phenolics, OTHER:		npleted preservati	ve Time:
Headspace in VOA Vials ( >6mm):	□Yes □No □/N/A 14.		
Trip Blank Present:	□Yes □No <b>□</b> N/A 15.		
Trip Blank Custody Seals Present			
Pace Trip Blank Lot # (if purchased):	/	ا- مارچ الح	
Person Contacted:	Date/Tim	IT Checked, : e:	see allached form for additional comments
Comments/ Resolution:			
Project Manager Review:	اللا		Date: 19 2010