

Mike Schmoller Project Manager Wisconsin Department of Natural Resources South Central Region 3911 Fish Hatchery Rd Fitchburg WI 53711

Subject:

Building Interior Polychlorinated Biphenyl (PCB) Supplemental Investigation Summary, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin. Facility ID No. 113125320, BRRTS No. 02-13-001569

Dear Mr. Schmoller:

On behalf of Madison-Kipp Corporation (MKC), this letter provides a summary of the supplemental sampling and floor coating activities, analytical results, and recommendations for PCBs within the manufacturing portion of the MKC facility located at 201 Waubesa Street, Madison, Wisconsin (Site).

A Natural Resources 712.09 submittal certification is included in Attachment A.

BACKGROUND

A Supplemental Building Interior Polychlorinated Biphenyl Work Plan Subsurface Investigation Summary was submitted to the Wisconsin Department of Natural Resources (WDNR) and United States Environmental Protection Agency (U.S. EPA) on April 22, 2014, to provide details of the investigation activities completed within the MKC building from December 2013 through February 2014. On August 27, 2014, ARCADIS met with the WDNR and U.S. EPA to discuss the next steps for addressing the soils containing PCBs beneath the building. At this meeting, U.S. EPA requested the completion of indoor air and surface wipe sampling activities, a technical justification submittal for management of PCB contaminated soils beneath the building, and additional soil investigation activities for beneath the building.

On October 22, 2014, a *Technical Justification – Polychlorinated Biphenyl (PCB)-Impacted Soils Beneath the Main Manufacturing Building* (Technical Justification)

Arcadis U.S., Inc.

126 North Jefferson Street

Suite 400

Milwaukee

Wisconsin 53202

Tel 414 276 7742

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ENVIRONMENT

Date

February 15, 2016

Contact

Jennine Trask

Phone:

414.277.6203

Email:

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Our ref:

WI001368.0029

was submitted to the WDNR. The Technical Justification included the *Supplemental Work Plan for Polychlorinated Biphenyl Building Subsurface Investigation* (Subsurface Work Plan) as an attachment. On November 4, 2014, a *Work Plan for Polychlorinated Biphenyl Building Wipe Sampling* (Wipe Sampling Work Plan) was submitted to the WDNR and U.S. EPA for approval. The WDNR approved the Wipe Sampling Work Plan in electronic correspondence dated December 8, 2014.

On December 17, 2014, MKC met with the WDNR and U.S. EPA (via telephone) to discuss the Technical Justification, Subsurface Work Plan, and Wipe Sampling Work Plan submittals. During this meeting, U.S. EPA requested continuous soil sampling during the additional soil investigation, PCB homolog analysis for select soil sample locations, and installation and sampling of one monitoring well within the building as part of the Subsurface Work Plan. In addition, U.S. EPA requested preparation and submittal of a Quality Assurance Project Plan (QAPP) for the Wipe Sampling Work Plan. On December 18, 2014, ARCADIS, WDNR, and U.S. EPA participated in a conference call to discuss the proposed QAPP requirements.

Based on the December 17 and 18, 2014, communications, the Subsurface Work Plan was revised and submitted to the WDNR and U.S. EPA on January 22, 2015, and the *Quality Assurance Project Plan Building Interior Polychlorinated Biphenyl Wipe Sampling* (Wipe Sampling QAPP) was submitted to the WDNR and U.S. EPA on February 19, 2015. The Subsurface Work Plan was approved by WDNR in electronic correspondence dated January 23, 2015. The Wipe Sampling QAPP was approved by U.S. EPA in electronic correspondence dated February 25, 2015.

On April 21, 2015, a *Building Interior Polychlorinated Biphenyl Investigation Summary* (April 2015 Summary Report) was submitted to the WDNR to provide details of the investigations completed in March and April 2015. On April 23, 2015, MKC and ARCADIS met with the WDNR at the MKC facility and U.S. EPA (via telephone) to discuss the April 2015 Summary Report. During this meeting, U.S. EPA recommended additional wipe and indoor air sampling activities.

On June 10, 2015, MKC and ARCADIS met with the WDNR and U.S. EPA (via telephone) to discuss additional wipe and indoor air sampling activities recommended during the April 23, 2015, meeting. On June 16, 2015, a Work Plan-Building Interior Polychlorinated Biphenyl Supplemental Sampling (Supplemental Work Plan) was submitted to the WDNR and U.S. EPA for approval. The Supplemental Work Plan was approved by U.S. EPA via telephone on July 15, 2015.

On October 12, 2015, a *Building Interior Polychlorinated Biphenyl Investigation Summary* (October 2015 Summary Report) was submitted to the WDNR to provide details of the floor cleaning and coating activities, PCB awareness program, wipe sampling activities completed in July 2015, and summer indoor air sampling activities completed in August 2015.

This letter documents the subsequent activities completed through January 2016 in accordance with the Supplemental Work Plan.

INDOOR AIR SAMPLING

Per the request of U.S. EPA and in accordance with the approved Supplemental Work Plan, an additional indoor air sampling event was conducted by MKC within the manufacturing building. Three indoor air samples were collected from the same three locations identified during the April and August 2015 sampling activities. The winter sampling event was conducted on January 12, 2016, when outdoor temperatures were less than 10 degrees Fahrenheit. It should be noted that the outdoor temperatures were between 1 and 7 degrees Fahrenheit. The indoor air sample locations are presented on Figure 1.

The three indoor air samples were collected for analysis of PCB Aroclors by EPA Method TO-10A. The indoor air samples were collected over an eight hour timeframe with low-volume air samplers and polyurethane foam sorbent cartridges.

After collection, the indoor air samples were packaged, placed in a cooler with ice, and submitted to Pace Analytical Services, Inc. in Schenectady, New York for PCB Aroclor analysis by Method TO-10A. The cooler submittal also included laboratory-provided trip blank and field spike samples. The field spike sample was prepared by the laboratory with 1 microgram of Aroclor 1242 and included in a separate, sealed cooler with the original shipment of sampling media. The field spike sample remained packaged and in the separate cooler during the sampling event. The field spike was analyzed by the laboratory to determine if the specific Aroclor that was used for spiking was adequately recovered.

FLOOR COATING ACTIVITIES

The final floor coating activity was completed in select areas of the Grid 4 (Figure 1) area during the week of November 23, 2015. The activity was conducted in accordance with the U.S. EPA-approved method of using a urethane fortified cementitious coating. The select floor area was power-washed and scarified as necessary prior to applying the coating. One coat was applied via hand-trowels and is ¼-inch in thickness. MKC personnel will inspect the floor coating on a monthly basis to verify coating is intact and in good condition.

EVALUATION OF RESULTS AND RECOMMENDATIONS

The following sections present a summary of the regulatory criteria, analytical results, and recommendations.

Regulatory Criteria

The analytical results of the indoor air samples were compared to the U.S. EPA Site-specific calculated standard of 0.21 microgram per cubic meter for an industrial/commercial setting. The Site-specific calculated standard is based on the potential cancer risk for an adult worker. This criteria is summarized in Table 1.

Indoor Air Analytical Results

The results of the indoor air samples collected on January 12, 2016, were below the criteria in all three samples. A summary of the indoor air analytical results is presented in Table 1 and the laboratory report is provided in Attachment B.

Recommendations

All activities associated with the Supplemental Work Plan have been completed and satisfy the WDNR and U.S. EPA requirements. We request concurrence that no further actions are required related to the Supplemental Work Plan and PCBs in the interior of the MKC facility.

CLOSING

If you have any questions regarding this letter, please contact us at (414) 276-7742.

Sincerely, Arcadis U.S., Inc.

Trenna Seilheimer Senior Scientist

Trena Sullaine

mt ADKell

Christopher D. Kubacki, PE Senior Engineer

Jennine L. Trask, PE Project Manager

- Drash

Electronic Copies:

David Crass – Michael Best Tony Koblinski – Madison-Kipp Alina Satkoski – Madison-Kipp Kenneth Zolnierczyk – U.S. EPA

Enclosures:

Table

1 Summary of Interior Building Indoor Air Analytical Results

Figure

1 Indoor Air Sampling Locations and Approximate Floor Coating Footprint

Attachments

A Submittal Certification

B Laboratory Report

Table



Table 1
Summary of Interior Building Indoor Air Analytical Results
Building Interior Polychlorinated Biphenyl Supplemental Investigation Summary
201 Waubesa Street

Madison-Kipp Corporation

Madison, Wisconsin

Grid I.D. Sample I.D.	U.S. EPA Site-Specific	Grid 3 MKC-AIR01	Grid 1 MKC-AIR02	Grid 7 MKC-AIR03
Sample Date	Value	1/12/2016	1/12/2016	1/12/2016
PCBs				
Aroclor 1016		<0.0417	<0.0417	<0.0417
Aroclor 1221		<0.0417	<0.0417	<0.0417
Aroclor 1232		<0.0417	<0.0417	<0.0417
Aroclor 1242		0.139	<0.0417	<0.0417
Aroclor 1248		<0.0417	<0.0417	<0.0417
Aroclor 1254		<0.0417	<0.0417	<0.0417
Aroclor 1260		<0.0417	<0.0417	<0.0417
Total Aroclor PCBs	0.21	0.139	ND	ND

General Note:

Constituent concentrations are reported as microgram per cubic meter (µg/m³).

Acronyms and Abbreviations:

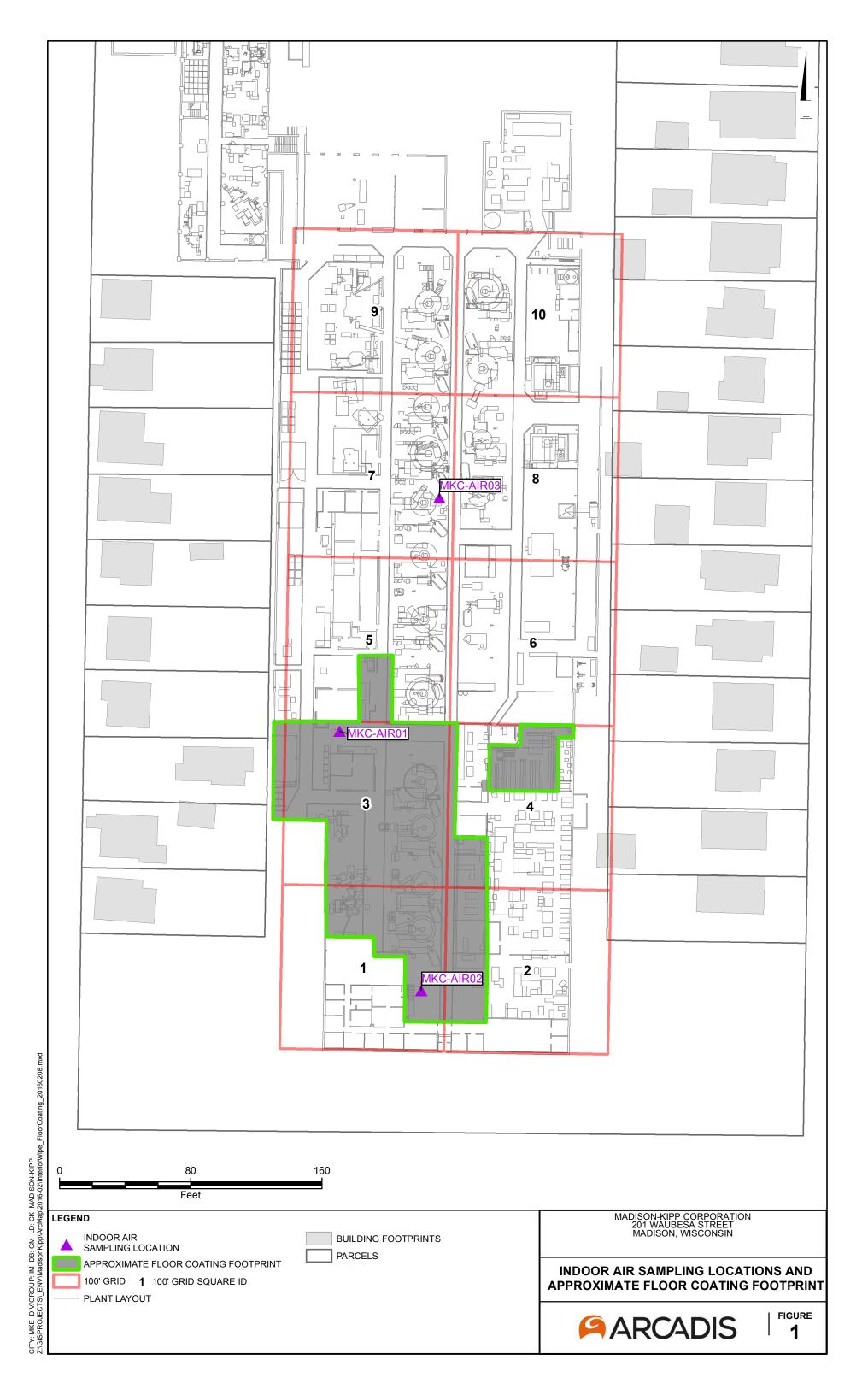
- < = Constituent not detected above noted laboratory detection limit
- "--" = Criteria not established

ND = Constituent not detected above noted laboratory detection limit of individual analytes

PCB = Polychlorinated biphenyl

U.S. EPA United States Environmental Protection Agency

Figure



ATTACHMENT A

Submittal Certification



Submittal Certification

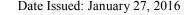
This attachment was prepared to satisfy the requirements of Wisconsin Administrative Code Chapter NR 712.09 and is applicable to the following document.

Building Interior Polychlorinated Biphenyl (PCB) Supplemental Investigation Summary
Madison-Kipp Corporation
201 Waubesa Street
Madison, Wisconsin

I,Jennine Trask	, hereby certify that I am a re-	gistered professional engineer in the
State of Wisconsin, registered in	n accordance with the requirements	of ch. A-E 4, Wis. Adm. Code; that
document has been prepared in	accordance with the Rules of Profe	essional Conduct in ch. A-E 8, Wis.
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0'		
Signature and title		Date

ATTACHMENT B

Laboratory Reports





Pace Analytical e-Report

Report prepared for:

ARCADIS 126 N. JEFFERSON ST #400 MILWAUKEE, WI 53202 CONTACT: JENNINE TRASK

Project ID: WI001368.0028.00001 MADISON KIPP

Sampling Date(s): January 12, 2016

Lab Report ID: 16010182

Client Service Contact: Chelsea Farmer (518) 346-4592 ext. 3843

Analysis Included: PCB Analysis (TO-10A)

Test results meet all National Environmental Laboratory Accreditation Conference (NELAC) requirements unless noted in the case narrative. The results contained within this document relate only to the samples included in this report. Pace Analytical is responsible only for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

Roy Smith Technical Director



Certifications: New York (EPA: NY00906, ELAP: 11078), New Jersey (NY026), Connecticut (PH-0337), Massachusetts (M-NY906), Virginia (1884)

Pace Analytical Services, Inc. | 2190 Technology Drive | Schenectady, NY 12308 Phone: 518.346.4592 | internet: www.pacelabs.com This page intentionally left blank.

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CASE NARRATIVE

CASE NARRATIVE

This data package (SDG ID: 16010182) consists of 5 polyurethane foam samples received on 01/13/2016. The samples are from Project Name: WI001368.0028.00001 MADISON KIPP.

This sample delivery group consists of the following samples:

<u>Lab Sample ID</u>	Client ID	Collection Date
AT00531	MKC-AIR01	01/12/2016 15:26
AT00532	MKC-AIR02	01/12/2016 15:35
AT00533	MKC-AIR03	01/12/2016 15:46
AT00534	TRIP BLANK	01/12/2016
AT00535	FIELD SPIKE	01/12/2016

Sample Delivery and Receipt Conditions

- (1.) All samples were delivered to the laboratory via UPS delivery service on 01/13/2016.
- (2.) All samples were received at the laboratory intact and within holding times.
- (3.) All samples were received at the laboratory properly preserved, if applicable.

PCB Aroclor Analysis

Analysis for PCB Aroclors was performed by EPA Method TO-10A with Dual GC Column Analysis. Samples were extracted by Method TO-10A. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for this analysis, unless otherwise noted.

Respectfully submitted,

Chelsea L. Farmer Project Manager

QUALIFIERS

Definitions

- B Denotes analyte observed in associated method blank or extraction blank. Analyte concentration should be considered as estimated.
- D Surrogate was diluted. The analysis of the sample required a dilution such that the surrogate concentration was diluted outside the laboratory acceptance criteria.
- E Denotes analyte concentration exceeded calibration range of instrument. Sample could not be reanalyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.
- J Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Practical Quantitation Limit (PQL).
- MDL Adjusted Method Detection Limit.
- P Indicates relative percent difference (RPD) between primary and secondary gas chromatograph (GC) column analysis exceeds 40 % or indicates percent difference (PD) between primary and secondary gas chromatograph (GC) column analysis exceeds 25 %.
- PQL Practical Quantitation Limit. PQLs are adjusted for sample weight/volume and dilution factors.
- RL Reporting Limit Denotes lowest analyte concentration reportable for the sample based on regulatory or project specific limits.
- U Denotes analyte not detected at concentration greater than the Practical Quantitation Limit (PQL) or the Reporting Limit (RL) or the Method Detection Limit (MDL) as applicable.
- Z Chromatographic interference due to polychlorinated biphenyl (PCB) co-elution.
- * Value not within control limits.

SAMPLE CHAIN OF CUSTODY



CHAIN-OF-CUSTODY / Analytical <a href="mailto: 16010182P1 ately.

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	Bubble Ba	_	None 🗆	Other 🗆	ICE USED: Wet 🗷	_ Blue □	None
BIOLOGICAL TISSUE IS FROZEN: Yes	n 03 🗆	#122087	/96/ 🗆	COOLER	TEMPERATURE (°C): 🜙		
COMMENTS:	No □	N/A Ø			Temp should be abo	ove freezing to 6°C	
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Short Hold Time Analysis (<72hr):	□Yes	DANO.		6.			
Rush Turn Around Time Requested: Sufficient Volume:	□Yes	⊠(No		7.			
Correct Containers Used:	AYes	□No		8.			
1	Yes	□No		9.			
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	Ç¥Yes	□No		10.			
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- Exceptions that are not checked: TOC, VOA, Subcont	ract Analyses			completed: Wt	Lot # of added prese	ervative:	6
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Trip Blank Present:	□Yes	□No	Ž N/A	15.			
Trip Blank Custody Seals Present:	□Yes	□No	ÈÓN/A				
Pace Trip Blank Lot #: &			,				
Sample Receipt form filled in: KAC 1/13/16		Line-Out (I	ncludes Cop	ying Shipping Docum	ents and verifying sam	ple pH): f A	V 1/13/16
		Log in (Inc	ludes notifyi	ng PM of any discrepa	acies and documenting	ρ in LIMS): ρA	
		Labeling (I	ncludes Scar	ning Bottles and ente	ering LAB IDs into pH Ic	ogbook):	

SAMPLE RECEIPT





SAMPLE RECEIPT REPORT 16010182

Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308 Phone: 518.346.4592 Fax: 518.381.6055

CLIENT: ARCADIS

PROJECT: WI001368.0028.00001 MADISON KIPP

LRF: 16010182

REPORT: ANALYTICAL REPORT

EDD: YES

LRF TAT: 2 WEEK

RECEIVED DATE: 01/13/2016 10:20

SAMPLE SEALS INTACT: NA SHIPPED VIA: UPS ^{1,}SAMPLES PRESERVED PER METHOD GUIDANCE: YES

SHIPPING ID: J4543104494 NUMBER OF COOLERS: 1 ³ SAMPLES REC'D IN HOLDTIME: YES **DISPOSAL:** BY LAB (45 DAYS)

CUSTODY SEAL INTACT: YES

COOLER STATUS: CHILLED TEMPERATURE(S): ⁵2.0 °C

COC DISCREPANCY: YES

COMMENTS:

TRIP BLANK AND FIELD SPIKE MISSING MATRIX, SAMPLE TYPE, COLLECTION DATE AND REQUESTED ANALYSES.

NO INFORMATION ON CLIENT LABEL FOR SAMPLE "TRIP BLANK" AND "FIELD SPIKE".

CLIENT ID (LAB ID)	TAT-DUE Date ⁴	DATE-TIME SAMPLED	MATRIX	METHOD	TEST DESCRIPTION	QC REQUEST
MKC-AIR01 (AT00531)	2 WEEK 01-27-16	01/12/2016 15:26	PF10	EPA TO-10A	PCB Analysis (TO-10A)	
MKC-AIR02 (AT00532)	2 WEEK 01-27-16	01/12/2016 15:35	PF10	EPA TO-10A	PCB Analysis (TO-10A)	
MKC-AIR03 (AT00533)	2 WEEK 01-27-16	01/12/2016 15:46	PF10	EPA TO-10A	PCB Analysis (TO-10A)	
TRIP BLANK (AT00534)	2 WEEK 01-27-16	01/12/2016	PF10	EPA TO-10A	PCB Analysis (TO-10A)	
FIELD SPIKE (AT00535)	2 WEEK 01-27-16	01/12/2016	PF10	EPA TO-10A	PCB Analysis (TO-10A)	

The pH preservation check of Oil and Grease (Method 1664) and Total Organic Carbon (Method 5310B) are performed as soon as possible after sample receipt and may not be included in this report.

Reporting Parameters and Lists

EPA TO-10A - PCB Analysis (TO-10A) - (ug)

Aroclor 1016

Aroclor 1221

Aroclor 1232

Aroclor 1242

Aroclor 1248

Aroclor 1254

Aroclor 1260

Total PCB Amount > RL

EPA TO-10A - PCB Analysis (TO-10A) - (ug/m3)

Aroclor 1016

Aroclor 1221

Aroclor 1232

Aroclor 1242 Aroclor 1248

Aroclor 1254

Aroclor 1260

Total PCB Amount > RL

The pH preservation check of aqueous volatile samples is not performed until after the analysis of the sample to maintain zero headspace and is not included in this report.

3 Samples received for pH analysis are not marked as a hold time exceedance here. SW-846 methods suggests analysis to be done within 15 minutes of sample collection. Because of transportation time it 4 is not possible for the laboratory to perform the test in that time. Sample Certificates of Analysis reports are noted as such.

Samples arriving at the laboratory after 4:00 pm are assigned a due date as if they arrived the following business day unless other arrangements have been made.

The due date represents the date the lab report is expected to be completed on or before 5:00 pm (EST) for the date specified.

⁵All samples which require thermal preservation shall be considered acceptable when received greater than 6 degrees Celsius if they are collected on the same day as received and there is evidence that the chilling process has begun, such as arrival on ice. Control limits are between 0-6 Degrees Celsius. Control limits do not apply for metals analysis.

⁶Samples requesting analysis for Orthophosphate (SM 4500-P E-99,-11) require the samples to be filtered in the field within 15 minutes of the sampling event. Samples that are received unfiltered will be noted as not method compliant on the Certificates of Analysis.

GC - PCB



Job Number: 16010182

Pace Analytical Services, Inc.

2190 Technology Drive Schenectady, NY 12308 Phone: 518.346.4592

Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: MKC-AIR01

Lab Sample ID: 16010182-01 (AT00531)

Collection Date: 01/12/2016 15:26

Sample Matrix: POLYURETHANE FOAM

Received Date: 01/13/2016 10:20

Batch ID Analysis 1: GC10B-1617-	Method 23 EPA Method TO-10A	Date 01/15/2016 16:36	Analyst JKA	Init Wt./Vol.	Final Vol.	Column Phenomenex, Zebron ZB-5, 20 m, 0.18 mm ID, 0.18 μm
Prep 1: 33249	TO-10A	01/14/2016 15:30	MH	2.40m³	5.00 mL	NA
Analyte	CAS No.	Result (ug/m³)	PQL	Dilution Fact	or Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0417	1.00	U	GC10B-1617-23
Aroclor 1221	11104-28-2	ND	0.0417	1.00	U	GC10B-1617-23
Aroclor 1232	11141-16-5	ND	0.0417	1.00	U	GC10B-1617-23
Aroclor 1242	53469-21-9	0.139	0.0417	1.00		GC10B-1617-23
Aroclor 1248	12672-29-6	ND	0.0417	1.00	U	GC10B-1617-23
Aroclor 1254	11097-69-1	ND	0.0417	1.00	U	GC10B-1617-23
Aroclor 1260	11096-82-5	ND	0.0417	1.00	U	GC10B-1617-23
Total PCB Amount > RL	1336-36-3	0.139		1.00		GC10B-1617-23
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%	(o)	$\mathbf{Q}^{^{1}}$	File ID
Tetrachloro-meta-xylene	877-09-8	91.5	60.0	-120		GC10F-1631-23
Decachlorobiphenyl	2051-24-3	109	60.0	-120		GC10F-1631-23
Tetrachloro-meta-xylene	877-09-8	98.0	60.0	-120		GC10B-1617-23
Decachlorobiphenyl	2051-24-3	114	60.0	-120		GC10B-1617-23

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: Concentration results based upon client supplied air volumes.



Job Number: 16010182

Pace Analytical Services, Inc.

2190 Technology Drive Schenectady, NY 12308 Phone: 518.346.4592

Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: MKC-AIR02

Lab Sample ID: 16010182-02 (AT00532)

Collection Date: 01/12/2016 15:35

Sample Matrix: POLYURETHANE FOAM

Received Date: 01/13/2016 10:20

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: GC10F-1631-2	4 EPA Method TO-10A	01/15/2016 16:48	JKA	NA	NA	Phenomenex, Zebron ZB-1MS, 20 m, 0.18 mm ID, 0.18 μm
Prep 1: 33249	TO-10A	01/14/2016 15:30	MH	2.40m³	5.00 mL	NA
Analyte	CAS No.	Result (ug/m³)	PQL	Dilution Facto	or Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0417	1.00	U	GC10F-1631-24
Aroclor 1221	11104-28-2	ND	0.0417	1.00	U	GC10F-1631-24
Aroclor 1232	11141-16-5	ND	0.0417	1.00	U	GC10F-1631-24
Aroclor 1242	53469-21-9	ND	0.0417	1.00	U	GC10F-1631-24
Aroclor 1248	12672-29-6	ND	0.0417	1.00	U	GC10F-1631-24
Aroclor 1254	11097-69-1	ND	0.0417	1.00	U	GC10F-1631-24
Aroclor 1260	11096-82-5	ND	0.0417	1.00	U	GC10F-1631-24
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC10F-1631-24
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%	(o)	\mathbf{Q}^1	File ID
Tetrachloro-meta-xylene	877-09-8	90.0	60.0	-120		GC10F-1631-24
Decachlorobiphenyl	2051-24-3	102	60.0	-120		GC10F-1631-24
Tetrachloro-meta-xylene	877-09-8	94.7	60.0	-120		GC10B-1617-24
Decachlorobiphenyl	2051-24-3	115	60.0	-120		GC10B-1617-24

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: Concentration results based upon client supplied air volumes.



Job Number: 16010182

Pace Analytical Services, Inc.

2190 Technology Drive Schenectady, NY 12308 Phone: 518.346.4592

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Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: MKC-AIR03

Lab Sample ID: 16010182-03 (AT00533)

Collection Date: 01/12/2016 15:46

Sample Matrix: POLYURETHANE FOAM

Received Date: 01/13/2016 10:20

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: GC10F-1631-2	25 EPA Method TO-10A	01/15/2016 17:01	JKA	NA	NA	Phenomenex, Zebron ZB-1MS, 20 m, 0.18 mm ID, 0.18 μm
Prep 1: 33249	TO-10A	01/14/2016 15:30	MH	2.40m³	5.00 mL	NA
Analyte	CAS No.	Result (ug/m³)	PQL	Dilution Facto	or Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0417	1.00	U	GC10F-1631-25
Aroclor 1221	11104-28-2	ND	0.0417	1.00	U	GC10F-1631-25
Aroclor 1232	11141-16-5	ND	0.0417	1.00	U	GC10F-1631-25
Aroclor 1242	53469-21-9	ND	0.0417	1.00	U	GC10F-1631-25
Aroclor 1248	12672-29-6	ND	0.0417	1.00	U	GC10F-1631-25
Aroclor 1254	11097-69-1	ND	0.0417	1.00	U	GC10F-1631-25
Aroclor 1260	11096-82-5	ND	0.0417	1.00	U	GC10F-1631-25
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC10F-1631-25
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%	(o)	$\mathbf{Q}^{^{1}}$	File ID
Tetrachloro-meta-xylene	877-09-8	82.6	60.0	-120		GC10F-1631-25
Decachlorobiphenyl	2051-24-3	101	60.0	-120		GC10F-1631-25
Tetrachloro-meta-xylene	877-09-8	87.4	60.0	-120		GC10B-1617-25
Decachlorobiphenyl	2051-24-3	111	60.0	-120		GC10B-1617-25

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: Concentration results based upon client supplied air volumes.



Job Number: 16010182

Pace Analytical Services, Inc.

2190 Technology Drive Schenectady, NY 12308 Phone: 518.346.4592

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Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: TRIP BLANK

Lab Sample ID: 16010182-04 (AT00534)

Collection Date: 01/12/2016

Sample Matrix: POLYURETHANE FOAM

Received Date: 01/13/2016 10:20

Batch I	D Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: GC10F-16	31-26 EPA Method TO-10A	01/15/2016 17:13	JKA	NA	NA	Phenomenex, Zebron ZB-1MS, 20 m, 0.18 mm ID, 0.18 μm
Prep 1: 33249	TO-10A	01/14/2016 15:30	MH	$0.00 m^3$	5.00 mL	NA
Analyte	CAS No.	Result (ug)	PQL	Dilution Fact	or Flags	File ID
Aroclor 1016	12674-11-2	ND	0.100	1.00	U	GC10F-1631-26
Aroclor 1221	11104-28-2	ND	0.100	1.00	U	GC10F-1631-26
Aroclor 1232	11141-16-5	ND	0.100	1.00	U	GC10F-1631-26
Aroclor 1242	53469-21-9	ND	0.100	1.00	U	GC10F-1631-26
Aroclor 1248	12672-29-6	ND	0.100	1.00	U	GC10F-1631-26
Aroclor 1254	11097-69-1	ND	0.100	1.00	U	GC10F-1631-26
Aroclor 1260	11096-82-5	ND	0.100	1.00	U	GC10F-1631-26
Total PCB Amount > R	L 1336-36-3	ND		1.00	U	GC10F-1631-26
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%	(o)	$\mathbf{Q}^{^{1}}$	File ID
Tetrachloro-meta-xylen	e 877-09-8	92.3	60.0	-120		GC10F-1631-26
Decachlorobiphenyl	2051-24-3	108	60.0	-120		GC10F-1631-26
Tetrachloro-meta-xylen	e 877-09-8	89.7	60.0	-120		GC10B-1617-26
Decachlorobiphenyl	2051-24-3	113	60.0	-120		GC10B-1617-26

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

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PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.



Job Number: 16010182

Pace Analytical Services, Inc.

2190 Technology Drive Schenectady, NY 12308 Phone: 518.346.4592

Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: FIELD SPIKE

Lab Sample ID: 16010182-05 (AT00535)

Collection Date: 01/12/2016

Sample Matrix: POLYURETHANE FOAM

Received Date: 01/13/2016 10:20

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: GC10B-1617-2	27 EPA Method TO-10A	01/15/2016 17:26	JKA	NA	NA	Phenomenex, Zebron ZB-5, 20 m, 0.18 mm ID, 0.18 μm
Prep 1: 33249	TO-10A	01/14/2016 15:30	MH	$0.00 m^3$	5.00 mL	NA
Analyte	CAS No.	Result (ug)	PQL	Dilution Facto	or Flags	File ID
Aroclor 1016	12674-11-2	ND	0.100	1.00	U	GC10B-1617-27
Aroclor 1221	11104-28-2	ND	0.100	1.00	U	GC10B-1617-27
Aroclor 1232	11141-16-5	ND	0.100	1.00	U	GC10B-1617-27
Aroclor 1242	53469-21-9	0.993	0.100	1.00		GC10B-1617-27
Aroclor 1248	12672-29-6	ND	0.100	1.00	U	GC10B-1617-27
Aroclor 1254	11097-69-1	ND	0.100	1.00	U	GC10B-1617-27
Aroclor 1260	11096-82-5	ND	0.100	1.00	U	GC10B-1617-27
Total PCB Amount > RL	1336-36-3	0.993		1.00		GC10B-1617-27
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%	(o)	$\mathbf{Q}^{^{1}}$	File ID
Tetrachloro-meta-xylene	877-09-8	90.8	60.0	-120		GC10F-1631-27
Decachlorobiphenyl	2051-24-3	101	60.0	-120		GC10F-1631-27
Tetrachloro-meta-xylene	877-09-8	92.5	60.0	-120		GC10B-1617-27
Decachlorobiphenyl	2051-24-3	108	60.0	-120		GC10B-1617-27

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Quality Control Samples (Lab)



Quality Control Results Method Blank

Job Number: 16010182

Pace Analytical Services, Inc. 2190 Technology Drive

Schenectady, NY 12308 Phone: 518.346.4592 Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: Method Blank (AT00531B)

Lab Sample ID: PBLK-81

Collection Date: N/A

Sample Matrix: POLYURETHANE FOAM

Received Date: N/A **Percent Solid:** N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: GC10B-1617-2	20 EPA Method TO-10A	01/15/2016 15:58	JKA	NA	NA	Phenomenex, Zebron ZB-5, 20 m, 0.18 mm ID, 0.18 μm
Prep 1: 33249	TO-10A	01/14/2016 15:30	MH	0.00m³	5.00 mL	NA
Analyte	CAS No.	Result (ug)	PQL	Dilution Fact	or Flags	File ID
Aroclor 1016	12674-11-2	ND	0.100	1.00	U	GC10B-1617-20
Aroclor 1221	11104-28-2	ND	0.100	1.00	U	GC10B-1617-20
Aroclor 1232	11141-16-5	ND	0.100	1.00	U	GC10B-1617-20
Aroclor 1242	53469-21-9	ND	0.100	1.00	U	GC10B-1617-20
Aroclor 1248	12672-29-6	ND	0.100	1.00	U	GC10B-1617-20
Aroclor 1254	11097-69-1	ND	0.100	1.00	U	GC10B-1617-20
Aroclor 1260	11096-82-5	ND	0.100	1.00	U	GC10B-1617-20
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC10B-1617-20
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%	(o)	$\mathbf{Q}^{^{1}}$	File ID
Tetrachloro-meta-xylene	877-09-8	89.9	60.0	-120		GC10B-1617-20
Decachlorobiphenyl	2051-24-3	108	60.0	-120		GC10B-1617-20

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.



Quality Control Results Method Blank

Job Number: 16010182

Pace Analytical Services, Inc. 2190 Technology Drive

Schenectady, NY 12308 Phone: 518.346.4592 Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: Method Blank (AT00531B)

Lab Sample ID: PBLK-81

Collection Date: N/A

Sample Matrix: POLYURETHANE FOAM

Received Date: N/A
Percent Solid: N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: GC10F-1631-	20 EPA Method TO-10A	01/15/2016 15:58	JKA	NA	NA	Phenomenex, Zebron ZB-1MS, 20 m, 0.18 mm ID, 0.18 μm
Prep 1: 33249	TO-10A	01/14/2016 15:30	MH	0.00m³	5.00 mL	NA
Analyte	CAS No.	Result (ug)	PQL	Dilution Fact	or Flags	File ID
Aroclor 1016	12674-11-2	ND	0.100	1.00	U	GC10F-1631-20
Aroclor 1221	11104-28-2	ND	0.100	1.00	U	GC10F-1631-20
Aroclor 1232	11141-16-5	ND	0.100	1.00	U	GC10F-1631-20
Aroclor 1242	53469-21-9	ND	0.100	1.00	U	GC10F-1631-20
Aroclor 1248	12672-29-6	ND	0.100	1.00	U	GC10F-1631-20
Aroclor 1254	11097-69-1	ND	0.100	1.00	U	GC10F-1631-20
Aroclor 1260	11096-82-5	ND	0.100	1.00	U	GC10F-1631-20
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC10F-1631-20
			Lin	• : 4a		
Surrogate	CAS No.	% Recovery	(%		\mathbf{Q}^1	File ID
Tetrachloro-meta-xylene	877-09-8	95.1	60.0	-120		GC10F-1631-20
Decachlorobiphenyl	2051-24-3	114	60.0	-120		GC10F-1631-20

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.





Quality Control Results Lab Control Sample (LCS)

Job Number: 16010182

Pace Analytical Services, Inc. 2190 Technology Drive

Schenectady, NY 12308 Phone: 518.346.4592 Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: Lab Control Sample (AT00531L)

Lab Sample ID: LCS-81

Collection Date: N/A

Sample Matrix: POLYURETHANE FOAM

Received Date: N/A **Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:		EPA Method TO-10A	01/15/2016 16:10	JKA	NA NA	NA NA	Phenomenex, Zebron ZB-5, 20 m, 0.18 mm ID, 0.18 μm
Pren 1:	33249	TO-10A	01/14/2016 15:30	MH	0.00m^3	5.00 mL	NA

Analyte Spiked	CAS No.	Added (ug)	LCS (ug)	LCS % Rec.	Q Lim	
Aroclor 1242	53469-21-9	1.00	1.04	104	70.0-	130

¹ Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

			Limits		
Surrogate	CAS No.	% Recovery	(%)	$\mathbf{Q}^{^{1}}$	File ID
Tetrachloro-meta-xylene	877-09-8	98.4	60.0-120	I	GC10B-1617-21
Decachlorobiphenyl	2051-24-3	113	60.0-120		GC10B-1617-21

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.





Quality Control Results Lab Control Sample (LCS)

Job Number: 16010182

Pace Analytical Services, Inc. 2190 Technology Drive

Schenectady, NY 12308 Phone: 518.346.4592 Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: Lab Control Sample (AT00531L)

Lab Sample ID: LCS-81

Collection Date: N/A

Sample Matrix: POLYURETHANE FOAM

Received Date: N/A **Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC10F-1631-21	EPA Method TO-10A	01/15/2016 16:10	JKA	NA	NA	Phenomenex, Zebron ZB-1MS, 20 m, 0.18 mm ID, 0.18 μm
Prep 1:	33249	TO-10A	01/14/2016 15:30	MH	$0.00 m^3$	5.00 mL	NA

		Added	LCS	LCS	Limits	
Analyte Spiked	CAS No.	(ug)	(ug)	% Rec.	$\mathbf{Q}^{\scriptscriptstyle 1}$ (%)	
Aroclor 1242	53469-21-9	1.00	0.920	92.0	70.0-130	

¹ Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

			Limits	1
Surrogate	CAS No.	% Recovery	(%)	Q¹ File ID
Tetrachloro-meta-xylene	877-09-8	90.0	60.0-120	GC10F-1631-21
Decachlorobiphenyl	2051-24-3	103	60.0-120	GC10F-1631-21

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.





Pace Analytical Services, Inc. 2190 Technology Drive

Schenectady, NY 12308 Phone: 518.346.4592 Fax: 518.381.6055

Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: Lab Control Sample - Duplicate (AT00531S)

Lab Sample ID: LCSD-81

Collection Date: N/A

Sample Matrix: POLYURETHANE FOAM

Received Date: N/A Percent Solid: N/A

	Batch ID Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC10B-1617-22 EPA Method TO-10A	01/15/2016 16:23	JKA	NA	NA	Phenomenex, Zebron ZB-5, 20 m, 0.18 mm ID, 0.18 µm
Prep 1:	33249 TO-10A	01/14/2016 15:30	MH	$0.00 m^3$	5.00 mL	NA

							Precision			
Analyte Spiked	CAS No.	Added (ug)	LCSD (ug)	LCSD % Rec.	\mathbf{Q}^{1}	Limits (%)	LCS % Rec.	RPD	\mathbf{Q}^1	Limits (%)
Aroclor 1242	53469-21-9	1.00	1.05	105		70.0-130	104	0.957		20

¹ Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

			Limits	
Surrogate	CAS No.	% Recovery	(%)	Q¹ File ID
Tetrachloro-meta-xylene	877-09-8	95.4	60.0-120	GC10B-1617-22
Decachlorobiphenyl	2051-24-3	110	60.0-120	GC10B-1617-22

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.





Pace Analytical Services, Inc.

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Client: ARCADIS

Project: WI001368.0028.00001 MADISON KIPP

Client Sample ID: Lab Control Sample - Duplicate (AT00531S)

Lab Sample ID: LCSD-81

Collection Date: N/A

Sample Matrix: POLYURETHANE FOAM

Received Date: N/A Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC10F-1631-22	EPA Method TO-10A	01/15/2016 16:23	JKA	NA	NA	Phenomenex, Zebron ZB-1MS, 20 m, 0.18 mm ID, 0.18 μm
Prep 1:	33249	TO-10A	01/14/2016 15:30	MH	$0.00 m^3$	5.00 mL	NA

							Precision			
Analyte Spiked	CAS No.	Added (ug)	LCSD (ug)	LCSD % Rec.	\mathbf{Q}^{1}	Limits (%)	LCS % Rec.	RPD	\mathbf{Q}^1	Limits (%)
Aroclor 1242	53469-21-9	1.00	0.956	95.6		70.0-130	92.0	3.84		20

¹ Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

			Limits	
Surrogate	CAS No.	% Recovery	(%)	Q ¹ File ID
Tetrachloro-meta-xylene	877-09-8	87.5	60.0-120	GC10F-1631-22
Decachlorobiphenyl	2051-24-3	102	60.0-120	GC10F-1631-22

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.