CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: B-885-081718-1ft
Date Sampled: 08/17/18 10:02
Percent Solids: 86
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808495
ESS Laboratory Sample ID: 1808495-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/17/18 17:22

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/20/18 12:24		CH81704
Aroclor 1221	ND (0.06)		8082A		1	08/20/18 12:24		CH81704
Aroclor 1232	ND (0.06)		8082A		1	08/20/18 12:24		CH81704
Aroclor 1242 [2C]	**LC, P 0.2** (0.06)		8082A		1	08/20/18 12:24		CH81704
Aroclor 1248	ND (0.06)		8082A		1	08/20/18 12:24		CH81704
Aroclor 1254	**2.5** (0.3)		8082A		5	08/20/18 20:59		CH81704
Aroclor 1260	**0.3** (0.06)		8082A		1	08/20/18 12:24		CH81704
Aroclor 1262	ND (0.06)		8082A		1	08/20/18 12:24		CH81704
Aroclor 1268	ND (0.06)		8082A		1	08/20/18 12:24		CH81704

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*106 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808495

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH81704 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0175*		mg/kg wet	*0.02500*		*70*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0177*		mg/kg wet	*0.02500*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0183*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	*0.0189*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		84	40-140	1	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		80	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		88	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0182*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
ESS Laboratory Work Order: 1808495

Notes and Definitions

U	Analyte included in the analysis, but not detected
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808495

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: AEI Consultants, Inc. - TB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1808495
Date Received: 8/17/2018
Project Due Date: 8/21/2018
Days for Project: 2 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 4.9 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	257504	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	257503	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review

Are barcode labels on correct containers? Yes / No
Are all necessary stickers attached? Yes / No

Completed By: Date & Time: 8/17/18 1601
Reviewed By: Date & Time: 8/21/18
Delivered By: 8/21/18

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1808495

Turn Time Rush 48 HR

Regulatory State

Is this project for any of the following?: ○CT RCP ○MA MCP ○RGP

Reporting Limits See note 1

Electonic Deliverables ☒Limit Checker ☒Standard Excel ☐Other (Please Specify →)

Company Name	Project #	Project Name
AEI Consultants	363655	BASF Cranston

Contact Person	Address
Aaron Tilg	112 water street, 5th floor

City	State	Zip Code	PO #
Boston	MA	02109	—

Telephone Number	FAX Number	Email Address
978-577-7138		atilg@aeiconsultants.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCBs (8082) (BS 901)
1	8/17/18	1:47	~~4oz~~ G	Soil	B-880-081718-(1')	X
2	↓	10:02	~~10 oz~~ G	Soil	B-885-081718-(1')	X

Container Type:	AC-Air Cassette	AG-Amber Glass	B-BOD Bottle	C-Cubitainer	G - Glass	O-Other	P-Poly	S-Sterile	V-Vial	AG
Container Volume:	1-100 mL	2-2.5 gal	3-250 mL	4-300 mL	5-500 mL	6-1L	7-VOA	8-2 oz	9-4 oz	10-8 oz	11-Other*	9
Preservation Code:	1-Non Preserved	2-HCl	3-H2SO4	4-HNO3	5-NaOH	6-Methanol	7-Na2S2O3	8-ZnAce, NaOH	9-NH4Cl	10-DI H2O	11-Ascorbic Acid	12-Other*	1
Number of Containers per Sample:												2

Laboratory Use Only

Cooler Present: Y
Seals Intact: N/A
Cooler Temperature: 4.9 °C 100 N

Sampled by :

Comments: Please specify "Other" preservative and containers types in this space

See project QAPP

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
8/17/18 8:45	8/17/18 1545		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Aaron Ting
AEI Consultants, Inc.
148 Hathaway Road
Dartmouth, MA 02747

RE: BASF Cranston (363655)
ESS Laboratory Work Order Number: 1808508

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:27 pm, Aug 24, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

SAMPLE RECEIPT

The following samples were received on August 17, 2018 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
1808508-01	W-40 0.25-2ft	Soil	8082A
1808508-02	W-41 0.25-2ft	Soil	8082A
1808508-03	W-42 0.25-2ft	Soil	8082A
1808508-04	W-43 0.1-2ft	Soil	8082A
1808508-05	W-44 0.25-2ft	Soil	8082A
1808508-06	W-46 0.25-2ft	Soil	8082A
1808508-07	W-1 0.25-2ft	Soil	8082A
1808508-08	W-2 0.25-2ft	Soil	8082A
1808508-09	W-3 0.25-2ft	Soil	8082A
1808508-10	W-4 0.25-2ft	Soil	8082A
1808508-11	W-5 0.25-2ft	Soil	8082A
1808508-12	DUP-1-2018-08-16	Soil	8082A
1808508-13	W-6 0.5-2ft	Soil	8082A
1808508-14	W-7 0.25-2ft	Soil	8082A
1808508-15	W-8 0.25-2ft	Soil	8082A
1808508-16	W-9 0.25-2ft	Soil	8082A
1808508-17	W-10 0.25-2ft	Soil	8082A
1808508-18	W-11 0.25-2ft	Soil	8082A
1808508-19	W-12 0.25-2ft	Soil	8082A
1808508-20	W-13 0.25-2ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1808508-16	**Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
	Tetrachloro-m-xylene (155% @ 30-150%)
1808508-18	**Lower value is used due to matrix interferences (LC).**
	Aroclor 1242 [2C]
1808508-18	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1242 [2C]

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-40 0.25-2ft
Date Sampled: 08/16/18 13:23
Percent Solids: 95
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1254 [2C]	**0.2** (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 12:57		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 12:57		CH82105

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-41 0.25-2ft
Date Sampled: 08/16/18 13:34
Percent Solids: 94
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1242	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1254	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1260	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 14:30		CH82103
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 14:30		CH82103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-42 0.25-2ft
Date Sampled: 08/16/18 13:39
Percent Solids: 94
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 13:17		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 13:17		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-43 0.1-2ft
Date Sampled: 08/16/18 14:14
Percent Solids: 94
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 13:36		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 13:36		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-44 0.25-2ft
Date Sampled: 08/16/18 14:23
Percent Solids: 86
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1242	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1254	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1260	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 13:55		CH82105
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 13:55		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-46 0.25-2ft
Date Sampled: 08/16/18 14:43
Percent Solids: 95
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 14:14		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 14:14		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-1 0.25-2ft
Date Sampled: 08/16/18 14:52
Percent Solids: 97
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 14:34		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 14:34		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*61 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*50 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*57 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-2 0.25-2ft
Date Sampled: 08/16/18 14:59
Percent Solids: 92
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1242	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1254	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1260	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 14:53		CH82105
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 14:53		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-3 0.25-2ft
Date Sampled: 08/16/18 15:15
Percent Solids: 93
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 15:12		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 15:12		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-4 0.25-2ft
Date Sampled: 08/16/18 15:25
Percent Solids: 97
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 15:32		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 15:32		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*62 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*60 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-5 0.25-2ft
Date Sampled: 08/16/18 15:34
Percent Solids: 95
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 15:51		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 15:51		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*50 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*45 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*35 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*42 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: DUP-1-2018-08-16
Date Sampled: 08/16/18 11:11
Percent Solids: 95
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 16:10		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 16:10		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*48 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*35 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*41 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-6 0.5-2ft
Date Sampled: 08/16/18 15:44
Percent Solids: 93
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/23/18 17:51

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1221	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1232	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1242	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1248	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1254	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1260	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1262	ND (0.05)		8082A		1	08/24/18 11:24		CH82307
Aroclor 1268	ND (0.05)		8082A		1	08/24/18 11:24		CH82307

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*49 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*42 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*35 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*41 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-7 0.25-2ft
Date Sampled: 08/16/18 15:50
Percent Solids: 96
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1242	**0.6** (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1254 [2C]	**0.2** (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1260 [2C]	**0.1** (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 16:49		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 16:49		CH82105

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*63 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*58 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-8 0.25-2ft
Date Sampled: 08/16/18 15:58
Percent Solids: 93
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1254	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1260	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 17:08		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 17:08		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*62 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-9 0.25-2ft
Date Sampled: 08/16/18 16:09
Percent Solids: 96
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1242	**0.8** (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1254	**0.8** (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1260	**0.2** (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 17:27		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 17:27		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*155 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-10 0.25-2ft
Date Sampled: 08/16/18 16:16
Percent Solids: 96
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1242	**0.9** (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1254	**0.7** (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1260	**0.2** (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 19:42		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 19:42		CH82105

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*122 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-11 0.25-2ft
Date Sampled: 08/16/18 16:28
Percent Solids: 92
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 20:01		CH82105
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 20:01		CH82105
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 20:01		CH82105
Aroclor 1242 [2C]	**LC, P 1.0** (0.3)		8082A		5	08/23/18 9:37		CH82105
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 20:01		CH82105
Aroclor 1254	**2.3** (0.3)		8082A		5	08/23/18 9:37		CH82105
Aroclor 1260	**0.3** (0.06)		8082A		1	08/22/18 20:01		CH82105
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 20:01		CH82105
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 20:01		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*123 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-12 0.25-2ft
Date Sampled: 08/17/18 07:19
Percent Solids: 94
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 16:32

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1242	**0.7** (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1254	**0.7** (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1260	**0.1** (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 20:21		CH82105
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 20:21		CH82105

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*131 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-13 0.25-2ft
Date Sampled: 08/17/18 07:25
Percent Solids: 95
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808508
ESS Laboratory Sample ID: 1808508-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1254 [2C]	**0.3** (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1260 [2C]	ND (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 15:53		CH82106
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 15:53		CH82106

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82103 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0181*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Surrogate: Decachlorobiphenyl	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0219*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140	4	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140	6	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Matrix Spike **Source: 1808508-02**										

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82103 - 3540C										
Aroclor 1016	0.5	0.06	mg/kg dry	0.5549	ND	97	40-140			
Aroclor 1016 [2C]	0.5	0.06	mg/kg dry	0.5549	ND	94	40-140			
Aroclor 1260	0.4	0.06	mg/kg dry	0.5549	ND	80	40-140			
Aroclor 1260 [2C]	0.5	0.06	mg/kg dry	0.5549	ND	82	40-140			
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg dry	*0.02775*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0258*		mg/kg dry	*0.02775*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0287*		mg/kg dry	*0.02775*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0303*		mg/kg dry	*0.02775*		*109*	*30-150*			
Matrix Spike Dup Source: 1808508-02										
Aroclor 1016	0.5	0.05	mg/kg dry	0.5464	ND	91	40-140	7	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg dry	0.5464	ND	92	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg dry	0.5464	ND	80	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg dry	0.5464	ND	81	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0211*		mg/kg dry	*0.02732*		*77*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0238*		mg/kg dry	*0.02732*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0261*		mg/kg dry	*0.02732*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0274*		mg/kg dry	*0.02732*		*100*	*30-150*			
Batch CH82105 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS										

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82105 - 3540C										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		78	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		75	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		77	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		73	40-140			
Surrogate: Decachlorobiphenyl	*0.0189*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0181*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0173*		mg/kg wet	*0.02500*		*69*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	24	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	20	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	22	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	21	30	
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Matrix Spike **Source: 1808508-19**										
Aroclor 1016	1.1	0.06	mg/kg dry	0.5512	ND	194	40-140			
Aroclor 1016 [2C]	0.9	0.06	mg/kg dry	0.5512	ND	171	40-140			
Aroclor 1260	0.6	0.06	mg/kg dry	0.5512	0.1	85	40-140			
Aroclor 1260 [2C]	0.7	0.06	mg/kg dry	0.5512	0.1	102	40-140			
Surrogate: Decachlorobiphenyl	*0.0214*		mg/kg dry	*0.02756*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg dry	*0.02756*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0370*		mg/kg dry	*0.02756*		*134*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0269*		mg/kg dry	*0.02756*		*97*	*30-150*			
Matrix Spike Dup **Source: 1808508-19**										
Aroclor 1016	1.0	0.05	mg/kg dry	0.5484	ND	182	40-140	7	30	
Aroclor 1016 [2C]	1.1	0.05	mg/kg dry	0.5484	ND	193	40-140	12	30	
Aroclor 1260	0.6	0.05	mg/kg dry	0.5484	0.1	80	40-140	5	30	
Aroclor 1260 [2C]	0.6	0.05	mg/kg dry	0.5484	0.1	93	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.0185*		mg/kg dry	*0.02742*		*68*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0183*		mg/kg dry	*0.02742*		*67*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0360*		mg/kg dry	*0.02742*		*131*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0210*		mg/kg dry	*0.02742*		*77*	*30-150*			
Batch CH82106 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82106 - 3540C										
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0151*		mg/kg wet	*0.02500*		*60*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0153*		mg/kg wet	*0.02500*		*61*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0145*		mg/kg wet	*0.02500*		*58*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0178*		mg/kg wet	*0.02500*		*71*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	*0.0178*		mg/kg wet	*0.02500*		*71*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140	1	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		90	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0178*		mg/kg wet	*0.02500*		*71*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0191*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Batch CH82307 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82307 - 3540C										
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0204*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		104	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Surrogate: Decachlorobiphenyl	*0.0258*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140	4	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		100	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		95	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0236*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808508

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: AEI Consultants, Inc. - TB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1808508
Date Received: 8/17/2018
Project Due Date: 8/24/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.9 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	257649	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	257648	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	257647	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	257646	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	257645	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	257644	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	257643	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	257642	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	257641	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	257640	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
11	257639	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
12	257638	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
13	257637	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
14	257636	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
15	257635	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
16	257634	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
17	257633	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
18	257632	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
19	257631	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
20	257630	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? Yes / No

ESS Laboratory Sample and Cooler Receipt Checklist

Client: AEI Consultants, Inc. - TB/MM

ESS Project ID: 1808508

Date Received: 8/17/2018

Are all necessary stickers attached? Yes / No

Completed By: _____ Date & Time: 8/17/18 1911G

Reviewed By: _____ Date & Time: 8/17/18 2009

Delivered By: _____ 8/17/18 2009

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab #	1608588
Reporting Limits	RDEC
Electonic Deliverables	☒ Limit Checker ☒ Standard Excel ☒ Other (Please Specify →)

Turn Time: 5-day Rush
Regulatory State: RI
Is this project for any of the following?: ○ CT RCP ○ MA MCP ○ RGP

Company Name	Project #	Project Name
AET	3163655	BASF Cranston

Contact Person	Address
Aaron Ting	112 Water St, 5th Floor

City	State	Zip Code	PO #
Boston	MA	02109	

Telephone Number	FAX Number	Email Address
978-577-7138		ating@aeiconsultants.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCB (Soxhlet)
1	8-16	13:23	C	Soil	W-40 0.25-2'	X
2	↓	13:34	↓	↓	W-41 0.25-2' *	X
3		13:39			W-42 0.25-2'	X
4		14:14			W-43 0.1-2'	X
5		14:23			W-44 0.25-2'	X
6		14:43			W-46 0.25-2'	X
7		14:52			W-1 0.25-2'	X
8		14:59			W-2 0.25-2'	X
9		15:15			W-3 0.25-2'	X
10		15:25			W-4 0.25-2'	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial — AG
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other* — 1
Number of Containers per Sample: 10

Laboratory Use Only
Cooler Present: Y
Seals Intact: NA
Cooler Temperature: 2.9 °C

Sampled by: J. Klement
Comments: Please specify "Other" preservative and containers types in this space
* Run MS/MSD on this sample

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Joshua Klement 8-17-18 1655	8/17/18 1658		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # K808208

Turn Time 5-day Rush

Regulatory State RI

Is this project for any of the following?: ○CT RCP ○MA MCP ○RGP

Reporting Limits

Electonic Deliverables ☒Limit Checker ☒Standard Excel ☐Other (Please Specify →)

Company Name	Project #	Project Name
AEI	3L03L055	BASF Cranston

Contact Person	Address
Aaron Ting	112 Water St, 5th Floor

City	State	Zip Code	PO #
Boston	MA	02109	

Telephone Number	FAX Number	Email Address
978-577-7138	—	ating@aeiconsultants.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCBs (Soxhlet)
11	8/16/18	1534	~~SE~~	~~G~~ S	W-5 0.25-2'	X
12	↓	1111	↓	↓	DUP-1-2018-08-16	X
13	↓	1544	↓	↓	W-6 0.5-2'	X
14	↓	1550	↓	↓	W-7 0.25-2'	X
15	↓	1558	↓	↓	W-8 0.25-2'	X
16	↓	1609	↓	↓	W-9 0.25-2'	X
17	↓	1616	↓	↓	W-10 0.25-2'	X
18	↓	1628	↓	↓	W-11 0.25-2'	X
19	8/17/18	0719	↓	↓	W-12 0.25-2' *	X
20	↓	0725	↓	↓	W-13 0.25-2'	X
						Δ6
						9
						1
						1D

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other*

Number of Containers per Sample:

Laboratory Use Only

Cooler Present: ~~Y~~

Seals Intact: ~~Y~~ N/A

Cooler Temperature: 2.9 °C Ice

Sampled by: J. Klement

Comments: Please specify "Other" preservative and containers types in this space

* Run MS/MSD on this sample

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Joshua Klemen 8-17-18 1655	8/17/18 1658		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Aaron Ting
AEI Consultants, Inc.
148 Hathaway Road
Dartmouth, MA 02747

RE: BASF Cranston (363655)
ESS Laboratory Work Order Number: 1808509

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:51 pm, Aug 24, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808509

SAMPLE RECEIPT

The following samples were received on August 17, 2018 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
1808509-01	W-33a 0-2ft	Soil	8082A
1808509-02	W-33b 0-2ft	Soil	8082A
1808509-03	W-26 0-2ft	Soil	8082A
1808509-04	W-25 0-2ft	Soil	8082A
1808509-05	W-23 0-2ft	Soil	8082A
1808509-06	W-22 0-1.5ft	Soil	8082A
1808509-07	W-21 0-2ft	Soil	8082A
1808509-08	W-20 0.5-2ft	Soil	8082A
1808509-09	W-19 0-2ft	Soil	8082A
1808509-10	W-18 0-2ft	Soil	8082A
1808509-11	W-16 0-2ft	Soil	8082A
1808509-12	W-15 0-2ft	Soil	8082A
1808509-13	W-17 0-2ft	Soil	8082A
1808509-14	W-14 0-2ft	Soil	8082A
1808509-15	W-45 0-2ft	Soil	8082A
1808509-16	W-29 0-2ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808509

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1808509-02 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1808509-13 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1808509-14 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808509

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-33a 0-2ft
Date Sampled: 08/17/18 11:06
Percent Solids: 94
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1254	**0.7** (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1260	**0.2** (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 16:12		CH82106
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 16:12		CH82106

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*68 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-33b 0-2ft
Date Sampled: 08/17/18 11:18
Percent Solids: 94
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1221	ND (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1232	ND (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1242	ND (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1248	ND (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1254	**26.6** (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1260	**3.3** (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1262	ND (2.7)		8082A		50	08/23/18 11:36		CH82106
Aroclor 1268	ND (2.7)		8082A		50	08/23/18 11:36		CH82106

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SM	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SM	30-150
Surrogate: Tetrachloro-m-xylene	%	SM	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SM	30-150

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-26 0-2ft
Date Sampled: 08/17/18 12:01
Percent Solids: 94
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1221	ND (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1232	ND (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1242 [2C]	ND (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1248	ND (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1254	**0.3** (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1260	ND (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1262	ND (0.05)		8082A		1	08/23/18 11:54		CH82106
Aroclor 1268	ND (0.05)		8082A		1	08/23/18 11:54		CH82106

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*48 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-25 0-2ft
Date Sampled: 08/17/18 12:15
Percent Solids: 95
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1254	**0.8** (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1260 [2C]	**0.3** (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 19:03		CH82106
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 19:03		CH82106

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-23 0-2ft
Date Sampled: 08/17/18 12:28
Percent Solids: 98
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/22/18 19:22		CH82106
Aroclor 1221	ND (0.05)		8082A		1	08/22/18 19:22		CH82106
Aroclor 1232	ND (0.05)		8082A		1	08/22/18 19:22		CH82106
Aroclor 1242	ND (0.05)		8082A		1	08/22/18 19:22		CH82106
Aroclor 1248	ND (0.05)		8082A		1	08/22/18 19:22		CH82106
Aroclor 1254	**1.4** (0.3)		8082A		5	08/23/18 12:12		CH82106
Aroclor 1260 [2C]	**0.2** (0.05)		8082A		1	08/22/18 19:22		CH82106
Aroclor 1262	ND (0.05)		8082A		1	08/22/18 19:22		CH82106
Aroclor 1268	ND (0.05)		8082A		1	08/22/18 19:22		CH82106

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-22 0-1.5ft
Date Sampled: 08/17/18 13:37
Percent Solids: 84
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1242	ND (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1254	**0.3** (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1260	**0.1** (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 19:41		CH82106
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 19:41		CH82106

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*60 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-21 0-2ft
Date Sampled: 08/17/18 13:47
Percent Solids: 89
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 20:00		CH82106
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 20:00		CH82106
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 20:00		CH82106
Aroclor 1242	**3.0** (0.3)		8082A		5	08/23/18 12:31		CH82106
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 20:00		CH82106
Aroclor 1254	**3.8** (0.3)		8082A		5	08/23/18 12:31		CH82106
Aroclor 1260 [2C]	**0.3** (0.06)		8082A		1	08/22/18 20:00		CH82106
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 20:00		CH82106
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 20:00		CH82106

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*61 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-20 0.5-2ft
Date Sampled: 08/17/18 13:56
Percent Solids: 93
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1242	**0.07** (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1254	**0.3** (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1260	ND (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 20:19		CH82106
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 20:19		CH82106

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*62 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-19 0-2ft
Date Sampled: 08/17/18 14:15
Percent Solids: 88
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1242	**0.5** (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1254	**1.0** (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1260	**0.1** (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 20:38		CH82106
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 20:38		CH82106

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*114 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*114 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-18 0-2ft
Date Sampled: 08/17/18 14:29
Percent Solids: 93
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1242	ND (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1254	**0.4** (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1260	ND (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 20:57		CH82106
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 20:57		CH82106

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*55 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-16 0-2ft
Date Sampled: 08/17/18 14:34
Percent Solids: 86
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 21:17		CH82106
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 21:17		CH82106
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 21:17		CH82106
Aroclor 1242	**0.3** (0.06)		8082A		1	08/22/18 21:17		CH82106
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 21:17		CH82106
Aroclor 1254	**6.6** (0.6)		8082A		10	08/23/18 12:50		CH82106
Aroclor 1260	**0.9** (0.06)		8082A		1	08/22/18 21:17		CH82106
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 21:17		CH82106
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 21:17		CH82106

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-15 0-2ft
Date Sampled: 08/17/18 14:51
Percent Solids: 92
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/21/18 17:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1221	ND (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1232	ND (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1242	ND (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1248	ND (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1254	**0.09** (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1260	ND (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1262	ND (0.06)		8082A		1	08/22/18 21:36		CH82106
Aroclor 1268	ND (0.06)		8082A		1	08/22/18 21:36		CH82106

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*56 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-17 0-2ft
Date Sampled: 08/17/18 15:00
Percent Solids: 83
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1221	ND (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1232	ND (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1242	ND (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1248	ND (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1254	**82.4** (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1260	ND (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1262	ND (6.3)		8082A		100	08/23/18 20:39		CH82205
Aroclor 1268	ND (6.3)		8082A		100	08/23/18 20:39		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-14 0-2ft
Date Sampled: 08/17/18 15:05
Percent Solids: 88
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1221	ND (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1232	ND (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1242	ND (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1248	ND (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1254	**15.6** (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1260	ND (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1262	ND (1.1)		8082A		20	08/23/18 20:58		CH82205
Aroclor 1268	ND (1.1)		8082A		20	08/23/18 20:58		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-45 0-2ft
Date Sampled: 08/17/18 15:45
Percent Solids: 96
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1221	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1232	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1242	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1248	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1254	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1260	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1262	ND (0.05)		8082A		1	08/23/18 12:26		CH82205
Aroclor 1268	ND (0.05)		8082A		1	08/23/18 12:26		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-29 0-2ft
Date Sampled: 08/17/18 11:45
Percent Solids: 90
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808509
ESS Laboratory Sample ID: 1808509-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1221	ND (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1232	ND (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1242	ND (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1248	ND (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1254	**0.3** (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1260 [2C]	**0.4** (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1262	ND (0.06)		8082A		1	08/23/18 12:46		CH82205
Aroclor 1268	ND (0.06)		8082A		1	08/23/18 12:46		CH82205

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808509

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82106 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0151*		mg/kg wet	*0.02500*		*60*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0153*		mg/kg wet	*0.02500*		*61*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0145*		mg/kg wet	*0.02500*		*58*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0178*		mg/kg wet	*0.02500*		*71*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	*0.0178*		mg/kg wet	*0.02500*		*71*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140	1	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		90	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0178*		mg/kg wet	*0.02500*		*71*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0191*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Batch CH82205 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808509

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82205 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		100	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Surrogate: Decachlorobiphenyl	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		96	40-140	4	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		96	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	6	30	
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
ESS Laboratory Work Order: 1808509

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808509

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: AEI Consultants, Inc. - TB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1808509
Date Received: 8/17/2018
Project Due Date: 8/24/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.9 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	257669	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	257668	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	257667	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	257666	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	257665	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	257664	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	257663	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	257662	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	257661	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	257660	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
11	257659	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
12	257658	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
13	257657	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
14	257656	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
15	257655	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? Yes / No
Are all necessary stickers attached? Yes / No

Completed By:
Reviewed By:
Date & Time: 8/17/18 1920

ESS Laboratory Sample and Cooler Receipt Checklist

Client:	AEI Consultants, Inc. - TB/MM	ESS Project ID:	1808509
		Date Received:	8/17/2018
By:		Date & Time:	8/17/18 2006
Delivered By:			8/17/18 2006

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1808509

Turn Time: Rush

Reporting Limits:

Regulatory State:

Electonic Deliverables: ☐ Limit Checker ☐ Standard Excel ☐ Other (Please Specify →)

Is this project for any of the following?: ○ CT RCP ○ MA MCP ○ RGP

Company Name: AEI

Project # 363655

Project Name: BASF CRANSTON

Contact Person: AARON TING

See page 1 of 5

Address:

City:

State:

Zip Code:

PO #:

Telephone Number:

FAX Number:

Email Address:

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB (Soxhlet)	Hold
1	8/17/18	1104	C	S	W-33a 0-2'	X	
2		1118			W-33b 0-2'	X	
		1212			DUP-2-2018-08-17	X	X
3		1201			W-24 0-2'	X	
4		1215			W-25 0-2'	X	
5		1228			W-23 0-2'	X	
6		1337			W-22 0-1.5'	X	
7		1347			W-21 0-2'	X	
		1313			DUP-3-2018-08-17		X
8		1356			W-20 0.5-2'	X	
Number of Containers per Sample:						16	
						9	
						1	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other*

Sampled by: J. Klement

Comments: Please specify "Other" preservative and containers types in this space

Laboratory Use Only

Cooler Present: Y

Seals Intact: NA

Cooler Temperature: 2.4 °C Iep

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Joshua Klement 16:55 8-17-18	8/17/18 1658		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

See page 1 of 5

5 of 5

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # K608509

Turn Time: Rush
Regulatory State
Is this project for any of the following?: ○CT RCP ○MA MCP ○RGP
Reporting Limits
Electonic Deliverables: ☐Limit Checker ☐Standard Excel ☐Other (Please Specify →)

Company Name: AEI
Project #: 363655
Project Name: BASF CRANSTON
Contact Person: AARON TING
Address: See page 1 of 5
City
State
Zip Code
PO #
Telephone Number
FAX Number
Email Address

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCBs (Soxhlet)	Analysis: Temperature
9	8/17/18	1415	C	S	W-19 0-2'	X	
10	8/17/18	14:29			W-18 0-2'		
11		14:34			W-16 0-2'		
12		14:51			W-15 0-2'		
13		15:00			W-17 0-2'		
14		15:05			W-14 0-2'		
15		15:45			W-45 0-2'		
	8-16-18	12:00			Temp Blank		X
16	8/17/18	1145			W-29 (0-2)	X	

Sample added per client - 8/20/18 - ML

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other*
Number of Containers per Sample:

Laboratory Use Only
Cooler Present: Y
Seals Intact: NA
Cooler Temperature: 2.9 °C Ice

Sampled by :
Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
8-17-18 16:33	8/17/18 1658		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Aaron Ting
AEI Consultants, Inc.
148 Hathaway Road
Dartmouth, MA 02747

RE: BASF Cranston (363655)
ESS Laboratory Work Order Number: 1808510

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:13 pm, Aug 24, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808510

SAMPLE RECEIPT

The following samples were received on August 17, 2018 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
1808510-01	W-30 0.25-2ft	Soil	8082A
1808510-02	DUP-1-2018-08-17	Soil	8082A
1808510-03	W-31 0-2ft	Soil	8082A
1808510-04	W-32 0.5-2ft	Soil	8082A
1808510-05	W-39 0-2ft	Soil	8082A
1808510-06	W-38 0-2ft	Soil	8082A
1808510-07	W-37 0-2ft	Soil	8082A
1808510-08	W-36 0-2ft	Soil	8082A
1808510-09	W-35 0-2ft	Soil	8082A
1808510-10	W-34 1-2ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808510

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1808510-07 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Tetrachloro-m-xylene (210% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808510

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-30 0.25-2ft
Date Sampled: 08/17/18 08:19
Percent Solids: 96
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1221	ND (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1232	ND (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1242	ND (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1248	ND (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1254 [2C]	**0.08** (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1260	ND (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1262	ND (0.05)		8082A		1	08/23/18 13:24		CH82205
Aroclor 1268	ND (0.05)		8082A		1	08/23/18 13:24		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: DUP-1-2018-08-17
Date Sampled: 08/17/18 11:11
Percent Solids: 94
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1221	ND (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1232	ND (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1242	ND (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1248	ND (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1254	**0.1** (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1260	ND (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1262	ND (0.06)		8082A		1	08/23/18 13:43		CH82205
Aroclor 1268	ND (0.06)		8082A		1	08/23/18 13:43		CH82205

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-31 0-2ft
Date Sampled: 08/17/18 08:43
Percent Solids: 97
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1221	ND (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1232	ND (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1242	ND (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1248	ND (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1254	**0.8** (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1260 [2C]	**0.2** (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1262	ND (0.05)		8082A		1	08/23/18 14:02		CH82205
Aroclor 1268	ND (0.05)		8082A		1	08/23/18 14:02		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-32 0.5-2ft
Date Sampled: 08/17/18 08:51
Percent Solids: 96
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1221	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1232	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1242	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1248	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1254	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1260	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1262	ND (0.05)		8082A		1	08/23/18 14:21		CH82205
Aroclor 1268	ND (0.05)		8082A		1	08/23/18 14:21		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*114 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-39 0-2ft
Date Sampled: 08/17/18 09:39
Percent Solids: 94
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/23/18 14:40		CH82205
Aroclor 1221	ND (0.06)		8082A		1	08/23/18 14:40		CH82205
Aroclor 1232	ND (0.06)		8082A		1	08/23/18 14:40		CH82205
Aroclor 1242	**0.5** (0.06)		8082A		1	08/23/18 14:40		CH82205
Aroclor 1248	ND (0.06)		8082A		1	08/23/18 14:40		CH82205
Aroclor 1254	**2.6** (0.3)		8082A		5	08/23/18 21:17		CH82205
Aroclor 1260	**0.4** (0.06)		8082A		1	08/23/18 14:40		CH82205
Aroclor 1262	ND (0.06)		8082A		1	08/23/18 14:40		CH82205
Aroclor 1268	ND (0.06)		8082A		1	08/23/18 14:40		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-38 0-2ft
Date Sampled: 08/17/18 09:45
Percent Solids: 93
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1221	ND (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1232	ND (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1242	ND (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1248	ND (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1254	**0.6** (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1260	**0.3** (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1262	ND (0.06)		8082A		1	08/23/18 15:00		CH82205
Aroclor 1268	ND (0.06)		8082A		1	08/23/18 15:00		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*111 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-37 0-2ft
Date Sampled: 08/17/18 09:54
Percent Solids: 93
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1221	ND (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1232	ND (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1242	ND (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1248	ND (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1254	**0.3** (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1260 [2C]	**0.1** (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1262	ND (0.06)		8082A		1	08/23/18 15:18		CH82205
Aroclor 1268	ND (0.06)		8082A		1	08/23/18 15:18		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*106 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*210 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-36 0-2ft
Date Sampled: 08/17/18 10:33
Percent Solids: 92
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	08/23/18 15:37		CH82205
Aroclor 1221	ND (0.06)		8082A		1	08/23/18 15:37		CH82205
Aroclor 1232	ND (0.06)		8082A		1	08/23/18 15:37		CH82205
Aroclor 1242	ND (0.06)		8082A		1	08/23/18 15:37		CH82205
Aroclor 1248	ND (0.06)		8082A		1	08/23/18 15:37		CH82205
Aroclor 1254	**2.0** (0.3)		8082A		5	08/23/18 21:36		CH82205
Aroclor 1260	**0.4** (0.06)		8082A		1	08/23/18 15:37		CH82205
Aroclor 1262	ND (0.06)		8082A		1	08/23/18 15:37		CH82205
Aroclor 1268	ND (0.06)		8082A		1	08/23/18 15:37		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-35 0-2ft
Date Sampled: 08/17/18 10:40
Percent Solids: 93
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1221	ND (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1232	ND (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1242	ND (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1248	ND (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1254	**0.8** (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1260	**0.2** (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1262	ND (0.05)		8082A		1	08/23/18 15:56		CH82205
Aroclor 1268	ND (0.05)		8082A		1	08/23/18 15:56		CH82205

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: W-34 1-2ft
Date Sampled: 08/17/18 10:50
Percent Solids: 95
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808510
ESS Laboratory Sample ID: 1808510-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/22/18 16:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1221	ND (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1232	ND (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1242	ND (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1248	ND (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1254	**0.2** (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1260 [2C]	**0.09** (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1262	ND (0.05)		8082A		1	08/23/18 16:16		CH82205
Aroclor 1268	ND (0.05)		8082A		1	08/23/18 16:16		CH82205

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808510

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH82205 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		100	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Surrogate: Decachlorobiphenyl	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		96	40-140	4	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		96	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	6	30	
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
ESS Laboratory Work Order: 1808510

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808510

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: AEI Consultants, Inc. - TB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1808510
Date Received: 8/17/2018
Project Due Date: 8/24/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.9 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	257684	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	257683	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	257682	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	257681	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	257680	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	257679	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	257678	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	257677	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	257676	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	257675	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review

Are barcode labels on correct containers? Yes / No
Are all necessary stickers attached? Yes / No

Completed By: Date & Time: 8/17/18, 1926
Reviewed By: Date & Time: 8/17/18 2002
Delivered By: 8/17/18 2002

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1808510

Turn Time: Rush
Regulatory State:
Reporting Limits:
Is this project for any of the following?: ○CT RCP ○MA MCP ○RGP
Electonic Deliverables: ☐Limit Checker ☐Standard Excel ☐Other (Please Specify →)

Company Name: AEI
Project #: 363655
Project Name: BASF CRANSTON
Contact Person: AARON TING
Address:
City:
State:
Zip Code:
PO #:
Telephone Number:
FAX Number:
Email Address:

See page 1 of 5

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCBs (Soxhlet)
1	8/17/18	0819	SC (ACO)	S (ACO)	W-30 0.25-2'	X
2		1111			DUP-1-2018-08-17	X
3		0843			W-31 0-2'	X
4		0851			W-32 0.5-2'	X
5		0939			W-39 0-2'	X
6		0945			W-38 0-2'	X
7		0954			W-37 0-2'	X
8		1033			W-36 0-2'	X
9		1040			W-35 0-2'	X
10		10:50			W-34 1-2'	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial — A6
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other* — 1
Number of Containers per Sample: 10

Laboratory Use Only
Cooler Present: Y
Seals Intact: N
Cooler Temperature: 2.9 °C Ice

Sampled by: J. Klement
Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Joshua Klement 8-17-18 16:55	8/17/18 1658		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Aaron Ting
AEI Consultants, Inc.
148 Hathaway Road
Dartmouth, MA 02747

RE: BASF Cranston (363655)
ESS Laboratory Work Order Number: 1808511

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:12 pm, Oct 30, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808511

SAMPLE RECEIPT

The following samples were received on October 17, 2018 for the analyses specified on the enclosed Chain of Custody Record.

These samples were originally received on hold on August 17, 2018.

Lab Number	Sample Name	Matrix	Analysis
1808511-01	DUP-2-2018-08-17	Soil	8082A
1808511-02	DUP-3-2018-08-17	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808511

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1808511-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808511

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: DUP-2-2018-08-17
Date Sampled: 08/17/18 12:12
Percent Solids: 94
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808511
ESS Laboratory Sample ID: 1808511-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 10/25/18 16:24

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1221	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1232	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1242	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1248	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1254 [2C]	**2.9** (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1260	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1262	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512
Aroclor 1268	ND (0.3)		8082A		5	10/26/18 15:29	C8J0592	CJ82512

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston
Client Sample ID: DUP-3-2018-08-17
Date Sampled: 08/17/18 13:13
Percent Solids: 83
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1808511
ESS Laboratory Sample ID: 1808511-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 10/25/18 16:24

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1221	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1232	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1242	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1248	**12.2** (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1254	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1260	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1262	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512
Aroclor 1268	ND (1.2)		8082A		20	10/26/18 15:48	C8J0592	CJ82512

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808511

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CJ82512 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0246*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0231*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS										
Aroclor 1016	0.6	0.05	mg/kg wet	0.5000		111	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		107	40-140			
Surrogate: Decachlorobiphenyl	*0.0278*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0270*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0247*		mg/kg wet	*0.02500*		*99*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		107	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		100	40-140	2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		99	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		103	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0261*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0255*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808511

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: AEI Consultants, Inc.
Client Project ID: BASF Cranston

ESS Laboratory Work Order: 1808511

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: AEI Consultants, Inc. - TB/MM

Shipped/Delivered Via: Client

ESS Project ID: 1808511
Date Received: 8/17/2018
Project Due Date: 9/16/2018
Days for Project: Hold

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.9 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

samples on hold, Rec'd W-29 0-2collected 8/17/18@1145, not listed on COCs 8/17/18

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	257686	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	257685	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review

Are barcode labels on correct containers? Yes / No
Are all necessary stickers attached? Yes / No

Completed By: Date & Time: 8/17/18 1929
Reviewed By: Date & Time: 8/17/18 1959
Delivered By: 8/17/18 1959

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1805 511

Turn Time: Rush

Reporting Limits:

Regulatory State:

Is this project for any of the following?: ○CT RCP ○MA MCP ○RGP

Electonic Deliverables: ☐Limit Checker ☐Standard Excel ☐Other (Please Specify →)

Company Name: AEI

Project #: 363655

Project Name: BASF CRANSTON

Contact Person: AARON TING

See page 1 of 5

Address:

City:

State:

Zip Code:

PO #:

Telephone Number:

FAX Number:

Email Address:

Analysis: PCB (Soxhlet) Hold

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB (Soxhlet)	Hold
	8/17/18	1104	C	S	W-33a 0-2'	X	
		1118			W-33b 0-2'	X	
1		1212			DUP-2-2018-08-17	X	X
		1201			W-26 0-2'	X	
		1215			W-25 0-2'	X	
		1228			W-23 0-2'	X	
		1337			W-22 0-1.5'	X	
		1347			W-21 0-2'	X	
2		1313			DUP-3-2018-08-17		X
		1356			W-20 0.5-2'	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other*

Number of Containers per Sample: Ab 9 1

Laboratory Use Only

Cooler Present: Y

Seals Intact: NA

Cooler Temperature: 2.4 °C lcp

Sampled by: J. Klement

Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
16:55 8-17-18	8/17/18 1658		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Richard Kowalski
AEI Consultants, Inc.
148 Hathaway Road
Dartmouth, MA 02747

RE: BASF Cranston (363655)
ESS Laboratory Work Order Number: 1808523

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 12:21 pm, Aug 22, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.