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The Trusted Integrator for Sustainable Solutions

REMOVAL SUPPORT TEAM 3
EPA CONTRACT EP-S2-14-01

February 19, 2018

Mr. Paul Kahn, On-Scene Coordinator
U.S. Environmental Protection Agency, Region II
Removal Action Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

EPA CONTRACT No: EP-S2-14-01
TDD No: TO-0010-0085
DC No: RST3-04-D-0128
SUBJECT: REMOVAL ASSESSMENT SAMPLING REPORT
EPIC HOLDINGS SITE
SOUTH GLENS FALLS, SARATOGA COUNTY, NEW YORK

Dear Mr. Kahn,

Enclosed please find the Removal Assessment Sampling Report which summarizes the used Number (No.) 6 fuel oil sampling activities conducted by the U.S. Environmental Protection Agency (EPA) with the support of Weston Solutions, Inc., Removal Support Team 3 (RST 3) at the EPIC Holdings Site (the Site) located in South Glens Falls, Saratoga County, New York. The sampling event was performed as part of a Removal Assessment on August 31, 2017.

If you have any questions or comments, please contact me at (732) 570-4997.

Sincerely,

Weston Solutions, Inc.

Michael Mannino
RST 3 Site Project Manager

Enclosure
cc: TDD File: TO-0010-0085

REMOVAL ASSESSMENT SAMPLING REPORT

EPIC HOLDINGS SITE

South Glens Falls, Saratoga County, New York

SSID No: A26T

DC No: RST3-04-D-0128
TDD No: TO-0010-0085
EPA Contract No: EP-S2-14-01

Prepared for:

U.S. Environmental Protection Agency, Region II
2890 Woodbridge Avenue
Edison, New Jersey 08837

Prepared by:

Removal Support Team 3
Weston Solutions, Inc.
Federal East Division
Edison, New Jersey 08837

February 2018

TABLE OF CONTENTS

LIST OF ATTACHMENTS

1.0 Introduction

On August 31, 2017, a Removal Assessment sampling event was conducted by the U.S. Environmental Protection Agency (EPA) with the support of Weston Solutions Removal Support Team 3 (RST 3) at the EPIC Holdings Site (the (Site). Samples of oil suspected to be used Number (No.) 6 fuel oil were collected and submitted for laboratory analysis in order to determine their composition for disposal purposes.

1.1 Site Location and Description

The EPIC Holdings facility located at 22 Hudson Falls Road in South Glens Falls, Saratoga County, New York. It is an active facility with several tenants, some of which serve as an indoor sports training center (Chase Sports Complex). The facility is estimated to be approximately 90,000 square feet (ft^2) in area.

Refer to Attachment A, Figure 1: Site Location Map.

1.2 Site History and Background

The Site has been subject to potential asbestos abatement activities by unlicensed contractors. Based on existing Site inspection documents by the Department of Labor (DOL) and EPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) program, asbestos-containing material (ACM) has been documented in poor condition and within public areas around the facility.

In April 2016, EPA and RST 3 conducted a Removal Assessment sampling event at the Site. A total of eight bulk samples of suspected asbestos-containing materials (SACM) were collected during the sampling event from areas within the on-site structures. The SACM samples were submitted to a laboratory for asbestos analysis. Based on the analytical results of the bulk SACM samples, chrysotile asbestos ranging from <1.00 to 66.70 percent (%), was positively identified in three samples; amosite asbestos ranging from 50.00 to 57.10%, was positively identified in four samples; and a combination of chrysotile and amosite asbestos was positively identified in one samples. Based on the analytical results from the sampling event, asbestos was positively identified in material removed from, as well as material still found within, the proposed basketball gymnasium.

2.0 Scope of Work

During the previous bulk SACM sampling event in April 2016, the sampling team of EPA and RST 3 observed several 55-gallon drums stored within an on-site structure. The drums were suspected to contain used No. 6 fuel oil. As part of Removal Assessment activities at the Site, RST 3 was tasked by EPA with the collection of 10 samples of the used No. 6 fuel oil for laboratory analysis.

3.0 On-Site Personnel

Name	Affiliation	Duties On-site
Idrissa Ouedraogo	EPA, Region II	On-Scene Coordinator
Michael Mannino	Weston Solutions, Inc. RST 3	Site Project Manager, Site Health and Safety, Sample Collection, and Sample Management
Ashley Gutierrez	Weston Solutions, Inc. RST 3	Sample Collection & Sample Management

EPA: U.S. Environmental Protection Agency
RST 3: Removal Support Team 3

4.0 Summary of Site Activities and Observations

During the sampling event, approximately 274 55-gallon drums were observed within the structure in which they were stored on-site. The drums were either staged on pallets, stacked on shelving, or staged on the ground. RST 3 collected 10 samples of used No. 6 fuel oil from the 55-gallon drums selected by the EPA On-Scene Coordinator (OSC). The sampling event was initiated in modified Level D personal protective equipment (PPE), which included the use of Tyvek. In addition, multiRAE and AreaRAE air monitors were utilized for continuous air monitoring throughout the duration of the sampling event. Upon opening one 55-gallon drum during the sampling event, hydrogen sulfide (H_2S) was detected at 15 parts per million (ppm) which set off the multiRAE alarm. The drum was sealed immediately. The sampling team exited the work area and upgraded PPE from modified Level D to Level C, which included the use of respirator fitted with organic vapor cartridges. The remaining drums selected by the OSC were sampled in Level C PPE. Each drum was resealed after sampling, however, a few drums which were deformed prior to sampling could not be resealed. In such cases, the property manager agreed to reseal the drum. RST 3 performed photographic documentation, maintained a site logbook, and recorded field notes to document all RST 3 site activities throughout the Removal Assessment.

Refer to Attachment B: Photographic Documentation Log

5.0 Sampling Methodology

All on-site field work was performed in accordance with the RST 3 site-specific Health and Safety Plan and EPA's Emergency Response Team (ERT)/Scientific, Engineering, Response & Analytical Services (SERAS) contractor's Standard Operation Procedure (SOP) Number (No.) 2001: *General Field Sampling Guidelines* and SOP No. 2009: *Drum Sampling*. Prior to opening the drum lids for sample collection, the bunghole of each drum was opened, and a MultiRAE was utilized to monitor the headspace for potentially hazardous conditions, including elevated concentrations of volatile organic compounds (VOCs), H_2S, lower explosive limit (LEL), oxygen (O_2), and carbon monoxide (CO). In addition, perimeter air monitoring for hazardous vapors was also conducted using an AreaRAE which was placed near to the access door of the storage unit. Following the satisfactory screening of a drum, the lid was opened, and a dedicated plastic scoop was utilized to collect a sample and transferred into an 8 ounce (oz.) glass jar. All sample information was transcribed into EPA's SCRIBE database, an environmental data management system, from which sample labels and chain of custody (COC) record were generated. The sample labels were affixed to each sample jar which was stored on ice in a cooler for onward delivery to the assigned laboratory.

6.0 Laboratories Receiving Samples

Laboratory Name/Location	Sample Matrix	Analyses
ALS Environmental 34 Dogwood Lane Middletown, Pennsylvania	Used No. 6 Fuel Oil	TCL PCB, RCRA 8 Metals, BTU, Total Halogens, Percent Sulfur

TCL: Target Compound List
PCB: Polychlorinated Biphenyls
RCRA: Resource Conservation and Recovery Act
BTU: British Thermal Units

7.0 Sample Collection and Dispatch

On September 1, 2017 RST 3 hand-delivered 10 samples of used No.6 oil (P001-OS001 through P001-OS010), under COC record No. 2-083117-201000-0002 for target compound list (TCL) polychlorinated biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) metals, British Thermal Units (BTU) (also referred to as heat content), total organic halogens (TOX), and percent sulfur, analyses.

Refer to Attachment C: Chain of Custody Records.

8.0 Analytical Results Summary

Based on the validated analytical results of all 10 samples, PCBs were not detected in any of the samples. The concentrations of TOX ranged from non-detect to 12.9 micrograms per kilogram (mg/kg). Heat content ranged from 10,044 BTU per pound (BTU/lb) to 18,182 BTU/lb. Percent sulfur ranged from 0.372% to 1.732%. At least one or more RCRA metals, including arsenic, barium, cadmium, chromium, lead, selenium, and silver, were detected in each sample. Mercury was detected in two samples, P001-OS006 and P001-OS007.

Attachment D: Validated Data Package.

9.0 Conclusion

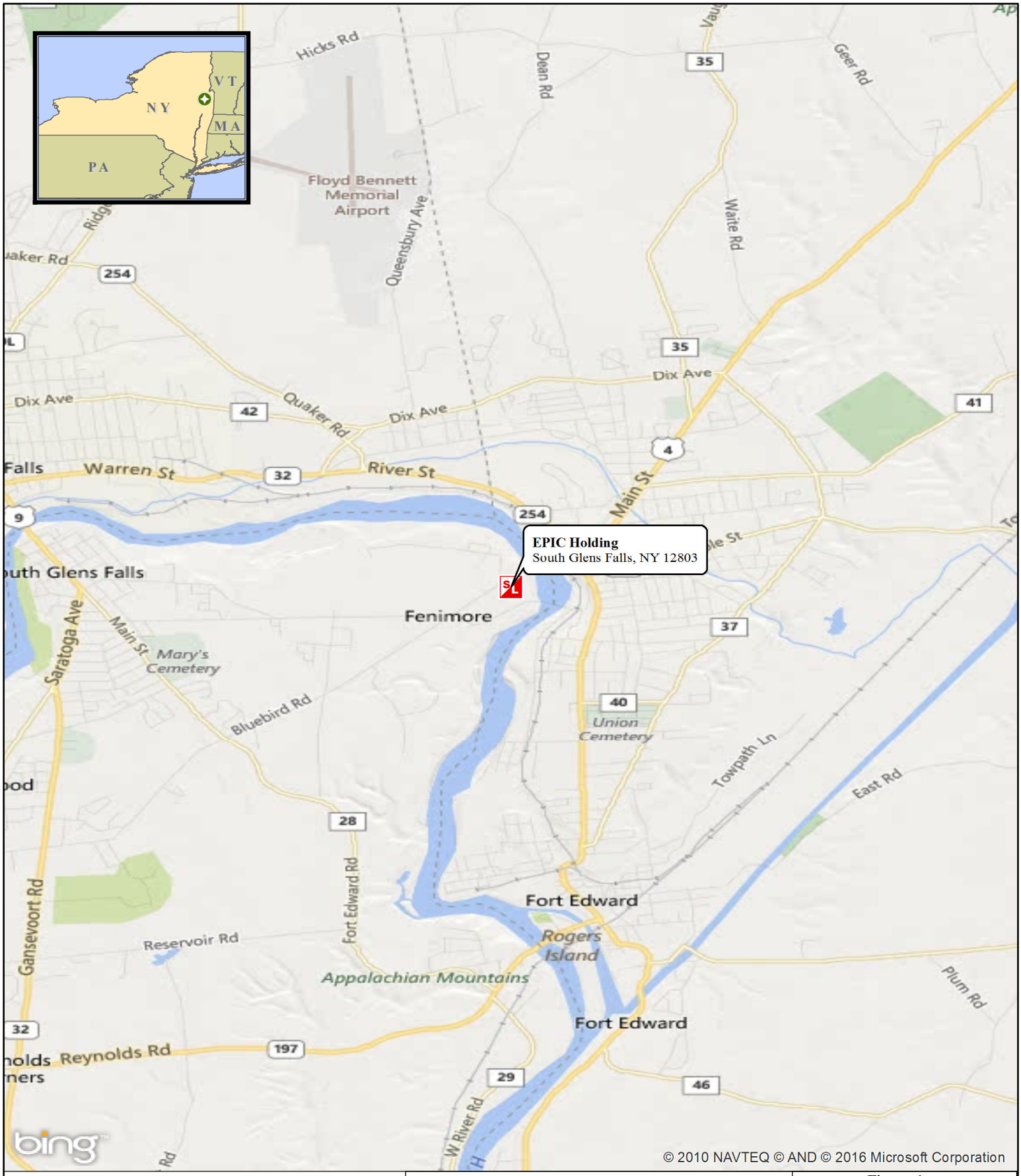
Analytical results indicate that the used No. 6 oil stored on-site contains RCRA hazardous substances. Since all the drums observed on-site were not sampled, there is a possibility that other unidentified, potentially hazardous substances, may exist among the stored drums. EPA may consider additional Removal Assessment sampling events to verify the contents of the remaining drums, and/or initiate a Removal Action to dispose of all the drummed materials stored on-site.

Report prepared by: Michael Mannino — 2/19/2018
Michael Mannino
RST 3 Site Project Manager
Date

Report reviewed by: Bernard Nwosu — 2/19/2018
Bernard Nwosu
RST 3 Group Leader
Date

ATTACHMENT A

Figure 1: Site Location Map



Legend

Site Location

N

0 0.3 0.6 1.2 1.8 2.4 Miles

Weston Solutions, Inc.
Federal East Division

In Association With
Scientific and Environmental Associates, Inc.,
Environmental Compliance Consultants, Inc.,
Avatar Environmental, LLC, On-Site Environmental,
Inc.and Sovereign Consulting, Inc

Figure 1:
Site Location Map

EPIC Holding Site
South Glens Falls, New York

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

DATE MODIFIED: 4/29/2016

GIS ANALYST:	T. Benton
EPA OSC:	M. Gallo
RST SPM:	M. Mannino
FILENAME:	160429_SITELOCATIONMAP.MXD

\\FSED2DATA1\GISDATA\RST_3\00060210\MXD\160429_SITELOCATIONMAP.MXD

ATTACHMENT B

Photographic Documentation Log

Photographic Documentation Log
EPIC Holdings Site - Removal Assessment
Glens Falls, Saratoga County, New York
August 31, 2018

Photograph 1: The U.S. Environmental Protection Agency (EPA) and Weston Solutions, Inc. Removal Support Team 3 (RST 3) conducted a Removal Assessment sampling event at the EPIC Holdings Site (the Site). Above photograph is a view of the inside of the structure where 55-gallon drums of used Number 6 (No. 6) oil were stored. Note the AreaRAE which was utilized for air monitoring throughout the sampling event.

Photograph 2: View of 55-gallon drums staged on pallets, bound with plastic strips, and stored on shelving.

Photograph 3: View of more 55-gallon drums staged on pallets, bound with plastic strips, and stored on shelving.

Photograph 4: View of the 55-gallon drums staged on pallets on the ground.

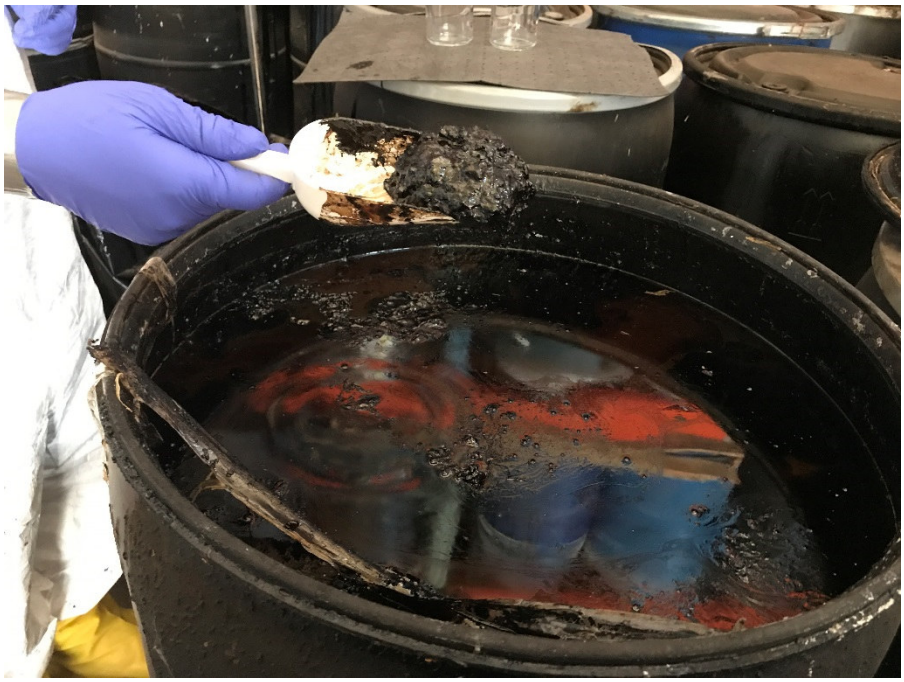
Photograph 5: View of the drum from which sample P001-OS001 was collected.

Photograph 6: View of the drum from which P001-OS002 was collected.

Photograph 7: View of the drum from which P001-OS003 was collected.

Photograph 8: View of the drums from which P001-OS004 and P001-OS005 were collected.

Photograph 9: View of the drum from which P001-OS006 was collected.



Photograph 10: View of the contents of the drum from which P001-OS006 was collected.

Photograph 11: View of the drum from which P001-OS007 was collected.

Photograph 12: View of the drum from which P001-OS008 was collected.

Photograph 13: View of the drum from which P001-OS009 was collected.

Photograph 14: View of the drum from which P001-OS010 was collected.

ATTACHMENT B

Chain of Custody Record

USEPA
DateShipped: 9/1/2017
Lab: ALS Environmental
Lab Contact: Paul Painter

CHAIN OF CUSTODY RECORD

[redacted]
Case #: 457
Lab Phone: 717-944-5541

22584 33
Contact Name: Mike Mannino
Contact Phone: 732-570-4997

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	Lab QC
	P001-OS001	P001-OS001	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS001	P001-OS001	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS002	P001-OS002	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS002	P001-OS002	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS003	P001-OS003	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS003	P001-OS003	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS004	P001-OS004	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS004	P001-OS004	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS005	P001-OS005	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS005	P001-OS005	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS006	P001-OS006	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS006	P001-OS006	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS007	P001-OS007	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS007	P001-OS007	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS008	P001-OS008	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS008	P001-OS008	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS009	P001-OS009	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS009	P001-OS009	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS010	P001-OS010	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N

Special Instructions: Analyze for TCL PCBs, RCRA 8 Metals, BTU, Total Halogens, and Percent Sulfur. TAT: 5 days preliminary. Please send results to Tim.Benton@WestonSolutions.com, Mike.Mannino@WestonSolutions.Com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All samples All analyses	M-Mannino Weston RST 3	8/31/17 21:15	[signature]	9-1-17 0943	

	Y	N	Initials	Cooler Temp: 4.0 °C
Custody Seals Present?		✓	SEN	
(If present) Seals Intact?	✓			Cooler #:
Received on Ice?	✓			
COC/Lbls Complete	✓			Therm ID: 809
Cont in Good Cond?	✓			
Correct Containers?	✓			Ship Carrier
Correct Samp Vol?	✓			FedEx UPS
Correct Preservation?	✓			DHL
Headspace/Volatiles?				

9-1-17 1624

ALS

2258433

USEPA
DateShipped: 9/1/2017
Lab: ALS Environmental
Lab Contact: Paul Painter

CHAIN OF CUSTODY RECORD
[redacted]
Case #: 457
Lab Phone: 717-944-5541

No: 2-083117-201000-0002
Cooler #: 1
Contact Name: Mike Mannino
Contact Phone: 732-570-4997

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	Lab QC
	P001-OS010	P001-OS010	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N

	Y	N	Initials
Custody Seals Present?			SW
(If present) Seals Intact?			
Received on Ice?	✓		
COC/Lbls Complete	✓		
Cont in Good Cond?	✓		
Correct Containers?	✓		
Correct Samp Vol?	✓		
Correct Preservation?	✓		
Headspace/Volatiles?			

Cooler Temp: 7.0 °C
Cooler #:
Therm ID: 309
Ship Carrier
FedEx UPS
DHL
Tracking #:

Special Instructions: Analyze for TCL PCBs, RCRA 8 Metals, BTU, Total Halogens, and Percent Sulfur. TAT: 5 days preliminary. Please send results to Tim.Benton@WestonSolutions.com, Mike.Mannino@WestonSolutions.Com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All samples All analyses	M. Mannino Weston LST3	8/31/17 21:15	SW	9-1-17 0943	

ATTACHMENT B

Validated Data Package

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REMOVAL SUPPORT TEAM 3
EPA CONTRACT EP-S2-14-01

RST 3-04-F-0036

TRANSMITTAL MEMO

To: Mr. Paul Kahn, On-Scene Coordinator
Removal Action Branch
U.S. EPA, Region II

From: Smita Sumbaly, Data Reviewer
RST 3, Region II

Subject: EPIC Holdings Site
Data Validation Assessment

Date: October 30, 2017

The purpose of this memo is to transmit the following information:

- Data validation results for the following parameters:

PCBs	10 Samples
RCRA Metals & Mercury	10 Samples
Total Organic Halides	10 Samples
Heat Content and Percent Sulfur	10 Samples

- Matrices and Number of Samples

Oil	10 Samples

- Sampling Date: August 31, 2017

The final data assessment narrative and original analytical data package are attached.

cc:	RST 3 SPM:	Michael Mannino
	RST 3 SITE FILE TDD #:	TO-0010-0085
	RST 3 ANALYTICAL TDD #:	TO-0010-0093
	TASK#:	4093

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: **October 30, 2017**

TO: **Mr. Paul Kahn, On-Scene Coordinator**
U.S. EPA, Region II

FROM: **Smita Sumbaly**
RST 3 Data Review Team

SUBJECT: **QA/QC Compliance Review Summary**

As requested quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated as applicable:

Data Completeness	Holding Time
Calibration, Initial	Calibration, Continuing
Blanks	MS/MSD (Not Requested)
Laboratory Control Sample	Surrogate Recovery
Sample Quantification	Compound Identification

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I PCBs	II RCRA Metals	III Mercury	IV TOX	V Heat Content	VI % Sulfur
Acceptable as Submitted		X	X	X	X	X
Acceptable with Comments	X					
Unacceptable, Action Pending						
Unacceptable						

Data Reviewed by: Smita Sumbaly Date: 10/30/2017

Approved By: Date: 10/30/2017

Area Code/Phone No.: (732) 585-4410

NARRATIVE

PCS No. 4093

SITE NAME: **EPIC Holdings Site**
22 Hudson Falls Road
South Glens Falls
Saratoga County, New York

Laboratory Name: ALS Environmental, 34 Dogwood Lane, Middletown, Pennsylvania 17057. ALS Environmental lab kept the samples for Polychlorinated Biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) Metals, mercury, and Total Organic Halides (TOX) analyses and shipped the remaining samples to First Energy, BETA Laboratory located at 6670 Beta Drive, Mayfield Village, OH 44143 for the analyses of heat content and percent sulfur.

INTRODUCTION:

The laboratory's portion of this case consisted of 10 oil samples for PCBs, RCRA metals, mercury, total organic halides, heat content, and percent sulfur analyses. All samples were collected on August 31, 2017. The ALS work order ID number is 2258433 and BETA Laboratory Report Number is R170905021-ALS.

The laboratory reported No problem(s) with the receipt of these samples.

The laboratory reported No problems with the analyses of PCBs, RCRA metals, mercury, total organic halides, heat content, and percent sulfur.

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the following forms.

Appropriate Form Is and Chain of Custody have been copied from the original data package and appended to the data assessment narrative for reference.

Organic:
- Y Holding Time
- Y Calibration, Continuing
- Y Blanks
- Y Data Completeness
- Y Calibration, Initial
- Y Surrogate Recovery
- Y Compound Identification/Quantification

Inorganic:
- Y Data Completeness
- Y Calibration, Initial/Continuing
- Y ICP Interference Check
- Y Holding Time
- Y Blanks
- Y Laboratory Control Sample

Comments: Refer to Data Assessment Narrative.

REGION II RST 3 DATA ASSESSMENT REPORT

SITE: EPIC Holdings Site **SDG No.:** WEN-012

LAB: ALS Environmental, 34 Dogwood Lane, Middletown, Pennsylvania, 17057

ANALYSIS: Polychlorinated Biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) Metals, Total Organic Halides (TOX), Heat Content, and Percent Sulfur

No. of Samples/Matrix: 10 Oil

CONTRACTOR: RST 3

The following table summarizes the analytical methods used for the requested analyses and the USEPA Region 2 data validation standard operating procedures (SOPs) used for data validation.

Analysis	Analytical Method	Data Validation SOP No.
PCBs	EPA Method 600/4-81-045	SOP No. HW-45 (Revision 1.1), December 2010
RCRA Metals and Mercury	SW-846 Method 6010C and 7471	SOP No. HW-3a/3c (Revision 0), July 2015
TOX	SW-846 Method 9020B	Lab provided QC criteria and analytical methods 9020B
Percent Sulfur	ASTM D4294	Analytical Method ASTM D4294
Heat Content	ASTM D4809	Analytical Method ASTM D4809

All data were found to be valid and acceptable except those analytes which have been rejected, "R" (unusable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewers
Signature: Smita Sumbaly **Date:** 10/30/2017

Verified By: _____ **Date:** 10/30/2017

On August 31, 2017, USEPA Region II, RST 3 sampling personnel collected 10 oil waste samples from the EPIC Holdings Site located at 22 Hudson Falls Road, South Glens Falls, Saratoga County, New York. These samples were delivered under Chain of Custody for the requested analyses to ALS Environmental, 34 Dogwood Lane, Middletown, Pennsylvania 17057. ALS Environmental lab kept the samples for PCBs, RCRA Metals, mercury, and TOX analyses and shipped the remaining samples to First Energy, BETA Laboratory located at 6670 Beta Drive, Mayfield Village, OH 44143 for the analyses of heat content and percent sulfur. The laboratory verified that sample was received intact, properly sealed, and refrigerated. Sample cooler temperature measured at 7.0° C.

Field Sample ID	Lab Sample ID	Matrix	Analysis	Sampling Date
SDG No.: WEN-012				
P001-OS001	2258433001	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17305		Heat Content and Percent Sulfur	
P001-OS002	2258433002	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17306		Heat Content and Percent Sulfur	
P001-OS003	2258433003	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17307		Heat Content and Percent Sulfur	
P001-OS004	2258433004	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17308		Heat Content and Percent Sulfur	
P001-OS005	2258433005	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17309		Heat Content and Percent Sulfur	
P001-OS006	2258433006	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17310		Heat Content and Percent Sulfur	
P001-OS007	2258433007	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17311		Heat Content and Percent Sulfur	
P001-OS008	2258433008	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17312		Heat Content and Percent Sulfur	

Field Sample ID	Lab Sample ID	Matrix	Analysis	Sampling Date
SDG No.: WEN-012				
P001-OS009	2258433009	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK17313		Heat Content and Percent Sulfur	
P001-OS010	2258433010	Oil	PCBs	8/31/2017
			RCRA Metals and Mercury	
			Total Organic Halides (TOX)	
	AK173145		Heat Content and Percent Sulfur	

All data were reviewed for sample receipt conditions, holding times, calibrations, and potential blank contaminations, but only non-compliant QC observations, if any, are discussed in detail in this report. The samples were submitted for screening data. Field duplicate and MS/MSD samples were not required.

DATA ASSESSMENT

ANALYSIS: PCB

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems were found for this criterion.

2. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

The recoveries of decachlorobiphenyl from Column 2 in samples P001-OS002 and P001-OS004 exceeded the control limit. Since none of the target analytes was detected, no action was required.

The recoveries of decachlorobiphenyl from Column 1in samples P001-OS007, P001-OS008, and P001-OS010 were less than the control limit. All non-detected results were estimated (UJ).

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data. Qualifications were applied to the samples and analytes as shown below.

Matrix spike and matrix spike duplicate (MS/MSD) analyses were not requested but performed on sample P001-OS001by the laboratory for the PCB analysis. The relative percent difference was greater than the QC limits for Aroclor 1260 in column 1; and Aroclor 1016 and Aroclor 1260 in column 2. Since Aroclor 1016 and Aroclor 1260 were not detected in sample P001-OS001, no qualification was required.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A) Method blank contamination:

Method blank was free of contaminants

B) Field or rinse blank contamination:

Not Applicable

5. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Percent Relative Standard Deviation (%RSD):
For the PCB fraction, if %RSD exceeds 20% for any analytes and the two surrogates, qualify all associated positive results "J" and use professional judgment to qualify non-detects. Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

B) Percent Difference (%D):
For initial calibration verification (ICV), if the %D exceeds 30 for any analytes, estimate (J) all associated positive results and use professional judgment to qualify non-detects. For opening continuing calibration verification (CCV), or closing CCV that is used as an opening CCV for the next 12-hour period, if %D exceeds 20 for any analytes, qualify all associated positive results "J" and non-detects "UJ". For closing CCV, if %D exceeds 50% for any analytes, qualify all associated positive results "J" and non-detects "UJ". Qualifications were applied to the samples and analytes as shown below.

Although the %D of some individual Aroclor-1016 and/or Aroclor-1260 peaks exceeded 15% in some CCVs, the average %D of five peaks used for pattern recognition were <15% for these Aroclors. Data qualifications were not required.

6. FIELD DUPLICATES:

Not Applicable

7. COMPOUND IDENTIFICATION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the pesticide concentration exceeds 10 ug/mL in the final sample extract.

Aroclors were not detected in any samples.

8. METHOD/CONTRACT NON-COMPLIANCE:

None

9. OTHERS

The MS/MSD analyses were not requested, but the laboratory performed the MS/MSD analyses on sample P001-OS001 for PCBs.

10. DILUTIONS, RE-EXTRACTIONS & REANALYSIS:

None

RCRA Metals, Mercury

The results presented in the data package are acceptable with the exception noted in the following data assessment narrative.

1. HOLDING TIME AND PRESERVATION

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time or pH (aqueous samples) is not within the acceptable range, the data may not be valid. Those analytes detected in the samples whose holding time or pH have not been met, will be qualified as estimated, "J"; the non-detects will be flagged as unusable, "R".

No problems were found for this criterion.

2. CALIBRATION

Method requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable quantitative data for the metals on the inorganic target analyte list (TAL). Initial calibration verification (ICV) demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical run. Continuing calibration verification (CCV) demonstrates that the initial calibration is still valid by checking the performance of the instrument on a continuing basis.

A) INITIAL CALIBRATION

A blank and at least five calibration standards shall be used to establish each analytical curve. At least one of these standards shall be at or below the contract required quantitation limit (CRQL). The calibration curve shall be fitted using linear regression or weighted linear regression. The curve may be forced through zero. The curve must have a correlation coefficient $\geq$ 0.995.

No problems were found for this criterion.

B) INITIAL AND CONTINUING CALIBRATION VERIFICATION

Immediately after each system has been calibrated, the accuracy of the initial calibration must be verified and documented for each target analyte by the analysis of an ICV solution(s). The CCV standard shall be analyzed at a frequency of every two hours during an analytical run. The CCV standard shall also be analyzed at the beginning of the run, and again after the last analytical sample. The percent recovery acceptable limits for ICV/CCV are 90 – 110%.

No problems were found for this criterion.

3. BLANK CONTAMINATION

Quality assurance (QA) blanks, i.e., method, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Initial calibration blanks (ICB) and continuing calibration blank (CCB) are used to ensure a stable instrument baseline before and during the analysis of analytical samples. The preparation blank is used to assess the level of contamination

introduced to the analytical samples throughout the sample preparation process. Field and rinse blanks measure cross-contamination of samples during field operations. Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

4. INTERFERENCE CHECK SAMPLE

The interference check sample (ICS) verifies the analytical instrument's ability to overcome interferences typical of those found in samples. The laboratory should have analyzed and reported ICS results for all elements being reported from the analytical run and for all interferents (target and non-target) for these reported elements. The ICS consists of two solutions: Solution A and Solution AB. Solution A consists of the interferents, and Solution AB consists of the analytes mixed with the interferents. Results for the analysis of ICS Solution must fall within the control limits of ± 20% or ±CRQL (whichever is greater) of the true value for the analytes and interferents included in the solution. If results that are ≥ MDL are observed for analytes that are not present in the ICS solution, the possibility of false positives exists. If negative results are observed for analytes that are not present in the ICS solution, and their absolute value is ≥ MDL, the possibility of false negatives in the samples exists. In general, ICP sample data can be accepted if the concentrations of Aluminum, Calcium, Iron, and Magnesium in the sample are found to be less than or equal to their respective concentrations in the ICS.

No problems were found for this criterion.

5. DUPLICATE SAMPLE ANALYSIS

The objective of duplicate sample analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. A control limit of 35% for the relative percent difference (RPD) shall be used for original and duplicate sample values ≥ five times (5x) the Contract Required Quantitation Limit (CRQL). The difference between the two results should be < the CRQL if either the sample or duplicate value is < 5x the CRQL. For a duplicate sample analysis that does not meet the technical criteria, the action was applied to only the field sample used to prepare the duplicate analysis.

Not Applicable

6. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The spike percent recovery (%R) shall be within the established acceptance limits of 75 – 125% or lab established QC limits. However, spike recovery limits do not apply when the sample concentration is ≥ 4x the spike added. For a matrix spike analysis that does not meet the technical criteria, the action was applied to only the field sample used to prepare the matrix spike sample.

Not Applicable

7. FIELD DUPLICATE

Field duplicates may be taken and analyzed as an indication of overall precision. These analyses measure both field and laboratory precision. A control limit of 20% for the Relative Percent Difference (RPD) shall be used for original and duplicate sample values ≥ five times (5x) the CRQL. A control limit of two times (2x) the CRQL shall be used if either the sample or duplicate value is < 5x the CRQL. For field duplicates analysis that does not meet the technical criteria, the action was applied to only the field sample and it's duplicate.

Not applicable.

8. LABORATORY CONTROL SAMPLE

The Laboratory Control Sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Aqueous/water, soil/sediment, wipe, and filter LCSs shall be analyzed for each analyte utilizing the same sample preparations, analytical methods, and Quality Assurance/Quality Control (QA/QC) procedures as employed for the samples. All LCS recoveries must fall within the control limits of 70-130%, except for antimony and silver which must fall within the control limits of 50-150%.

No problems were found for this criterion.

9. ICP SERIAL DILUTION

The serial dilution of samples quantitated by Inductively Coupled Plasma determines whether or not significant physical or chemical interferences exist due to sample matrix. If the analyte concentration is sufficiently high [concentration in the original sample is > 50 times (50x) the MDL], the Percent Difference (%D) between the original determination and the serial dilution analysis (a five-fold dilution) after correction for dilution shall be less than 15. For a serial dilution analysis that does not meet the technical criteria, the action was applied to only the field sample used to prepare the serial dilution analysis.

Not Applicable

10. PERCENT SOLIDS

The laboratory is required to perform the percent solids determination prior to sample preparation and analysis. All results of a sample with percent solids less than 50% are qualified estimated, "J/UJ".

Not Applicable

11. CONTRACT NON-COMPLIANCE

None

TOX, Heat Content, Percent Sulfur

TOTAL ORGANIC HALIDES (TOX) was analyzed by SW 846 Method 9020B: Laboratory performed the following QC analyses where applicable: method blank, laboratory control sample (LCS), matrix spike, and laboratory duplicate. All method blanks were free of contamination or met the QC requirements. Matrix spike and LCS recoveries, and relative percent difference (RPD) values for laboratory duplicate analyses were within laboratory-established control limits. All sample analyses were within holding time.

Sample results were reported between non-detects to 12.9 mg/kg.

Heat of Contents was determined by American Society for Testing and Materials (ASTM) Method of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method): A British thermal unit (BTU) is a measure of the heat content of fuels or energy sources. It is the quantity of heat required to raise the temperature of one pound of liquid water by 1 degree Fahrenheit at the temperature that water has its greatest density (approximately 39 degrees Fahrenheit).

Heat contents were determined in all samples from 10044 BTU/lb to 18182 BTU/lb.

Percent Sulfur was analyzed by ASTM D4294 for Sulfur in Petroleum and Petroleum Products by Energy Dispersive X-ray Fluorescence Spectrometry.

Percent sulfur was detected in all samples from 0.372% to 1.583%.

The results presented in the data package are acceptable as reported.

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com
NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 , DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

October 04, 2017

Work Order: 2258433
SDG: WEN012

Ms. Smita Sumbaly
Weston Solutions, Inc.
1090 King Georges Post Road
Suite 201
Edison, NJ 08837

Laboratory Results for: RFP 457 EP-S2-14-01

Dear Ms. Smita Sumbaly:

Enclosed are the analytical results for samples received by the laboratory starting on September 01, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP. Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads. This laboratory report may not be reproduced, except infull, without the written approval of ALS Environmental. Any events, such as QC failures, are explained in the report narrative.

If you have any questions regarding this certificate of analysis, please contact Ms. Jennifer M Stanhope Lamoreux (Reporting Manager) at (717) 944-5541. You may also contact me via email at jennifer.lamoreux@ALSglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Jennifer M Stanhope Lamoreux
Reporting Manager

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010, NY 11759, PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

September 12, 2017

Ms. Smita Sumbaly
Weston Solutions, Inc.
1090 King Georges Post Road
Suite 201
Edison, NJ 08837

Certificate of Analysis

Project Name:	**RFP 457 EP-S2-14-01**	Workorder:	**2258433**
Purchase Order:		Workorder ID:	**WEN012|RFP 457 EP-S2-14-01**

Dear Ms. Sumbaly:

Enclosed are the analytical results for samples received by the laboratory on Friday, September 1, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Michael Beuthe

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan J. Scherer
Ms. Susan J Scherer
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010, NY 11759, PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

SAMPLE SUMMARY

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2258433001	P001-OS001	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433002	P001-OS002	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433003	P001-OS003	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433004	P001-OS004	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433005	P001-OS005	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433006	P001-OS006	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433007	P001-OS007	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433008	P001-OS008	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433009	P001-OS009	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client
2258433010	P001-OS010	Other	8/31/2017 00:00	9/1/2017 09:43	Collected by Client

ALS Environmental

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NELAP Certifications: NJ PA010, NY 11759, PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

SAMPLE SUMMARY

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

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PROJECT SUMMARY

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Workorder Comments

See attached subcontracted BTU and sulfur results from BETA Laboratory. SSL 09/07/17

ALS Environmental

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

September 12, 2017

Ms. Smita Sumbaly
Weston Solutions, Inc.
1090 King Georges Post Road
Suite 201
Edison, NJ 08837

Certificate of Analysis

Project Name:	RFP 457 EP-S2-14-01	Workorder:	2258433
Purchase Order:		Workorder ID:	WEN012|RFP 457 EP-S2-14-01

Dear Ms. Sumbaly:

Enclosed are the analytical results for samples received by the laboratory on Friday, September 1, 2017.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Michael Beuthe

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan J. Scherer
Ms. Susan J Scherer
Project Coordinator

ALS-Middletown
Case Narrative
WEN-012 (2258433)

Sample Management

This report contains the results of the analysis of ten (10) oil waste samples collected on August 31, 2017. Analytical results and quality control information are summarized in this data package.

Sample Receipt

Samples arrived at ALS via courier on September 1, 2017. Upon receipt, the samples were inspected and compared to the Chain of Custody. Sample temperature was documented on the enclosed Chain of Custody. Samples were received intact and properly preserved, unless noted on the enclosed Certificate of Analysis and/or Chain of Custody.

Polychlorinated Biphenyls as Aroclors in Soil by 600/4-81-045

Sample Handling. Ten (10) oil samples were extracted and analyzed for PCBs by 600/4-81-045.The extractions and analyses were performed within the holding times associated with each method.

Reporting. The samples were analyzed using dual-column instrumentation. Detected analytes were reported from the column yielding the lower result, unless quality control data or poor chromatography warranted the selection of the higher result.

Initial Calibrations. Prior to sample analysis, an initial calibration was properly analyzed and met method criteria for all target analytes.

Calibration verification. The initial calibration was verified prior to sample analysis and every 12 hours, thereafter. The average peak concentration results for each Aroclor were within control limits.

Blanks. Polychlorinated biphenyls as Aroclors were not detected in the method blank.

Surrogates. Surrogate results were within control limits, except as follows:

- In 26031630 LCS, 2258433007, 2258433008, 2258433010, Decachlorobiphenyl was recovered below control limits on column, RTX-CLP2.
- In 2258433002, 2258433004, Decachlorobiphenyl was recovered above control limits on column, RTX-440.

Blank spikes: Polychlorinated biphenyls as Aroclors were within control limits.

Matrix and Matrix Spike samples. Polychlorinated biphenyls as Aroclors were within control limits

Total Metals by SW-846 Method 6010C

Sample handling. Ten (10) soil samples were microwave digested by SW-846 method 3051A, and the digestates were analyzed for total metals on the ThermoFisher ICP6500_2 and ICP6500, using SW-846 method 6010C. The samples were digested and analyzed within the six-month holding time established for the method.

Calibration. All criteria associated with the calibration and calibration verification standards were within control limits

Blanks. Metals were not detected in the blanks.

Laboratory Control Samples. Recoveries were within the control limits.

Spikes. A matrix spike and matrix spike duplicate were not digested or analyzed on the samples in this deliverable group.

Total Mercury in Soil by EPA Method 7471

Sample handling. Ten (10) soil samples were analyzed for total mercury on the CETAC Hg Analyzer using EPA method 7471. The samples were digested and analyzed within the 28-day holding time established for the method.

Calibration. All criteria associated with the calibration and check standards were within control limits.

Blanks. Mercury was not detected in the method blank.

Laboratory Control Sample. The laboratory control sample was within the control limits of 80-120% for this method.

Spikes. A matrix spike / matrix spike duplicate was not performed on samples in this deliverable group.

Total Organic Halogen by SW-846 9020B

Sample handling. Ten (10) aqueous samples were analyzed for total organic halogen by SW-846 Method 9020B. As per the method, each sample was analyzed in duplicate and the average result was reported. The samples were analyzed within the 28-day holding time established for the method.

Calibration. A single-point standard of 10 ug/L, identified as 10UG, was analyzed at the beginning of the run and after every ten samples to verify the accuracy of the analysis. The standard recovered within the QC limits of 90-110%.

A single-point standard of 20 ug/L, identified as 20 UG, was analyzed initially on the day of analysis to verify the accuracy of the analysis. The standard recovered within the QC limits of 90-110%.

Blanks. Initial and continuing method blanks were analyzed with the samples. Total organic halogen was not detected above the reporting limit of 10 ug/L in the blanks.

Laboratory Control Samples. A laboratory control sample, identified as 2602438 and 2602439, were analyzed and recovered within the QC limits of 90-110%.

A laboratory control sample, identified as 2604324 and 2604325, were analyzed and recovered within the QC limits of 90-110%.

OTHER ANALYTES WORK TABLE

PROJECT: EPIC Holdings Site

SAMPLING DATE: August 31, 2017

SAMPLE #/CONCENTRATION (mg/Kg)

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS001	P001-OS002	P001-OS003	P001-OS004	P001-OS005
Lab Sample ID	2258433001	2258433002	2258433003	2258433004	2258433005
Sample Wt/Vol	1.00/10 mL	1.03/10 mL	1.01/10 mL	1.02/10 mL	1.02/10 mL
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Polychlorinated Biphenyl (PCB)					
Arochlor-1016	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1221	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1232	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1242	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1248	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1254	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1260	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1262	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U
Arochlor-1268	1.0 U	0.97 U	0.99 U	0.98 U	0.98 U

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS006	P001-OS007	P001-OS008	P001-OS009	P001-OS010
Lab Sample ID	2258433006	2258433007	2258433008	2258433009	2258433010
Sample Wt/Vol	1.0/10 mL	1.0/10 mL	1.03/10 mL	1.03/10 mL	1.02/10 mL
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Polychlorinated Biphenyl (PCB)					
Arochlor-1016	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1221	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1232	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1242	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1248	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1254	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1260	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1262	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ
Arochlor-1268	1.0 U	1.0 UJ	0.97 UJ	0.97 U	0.98 UJ

Sample Wt./Vol. - Sample weight/volume
U - Analyte was not detected
J - Estimated Value

OTHER ANALYTES WORK TABLE

PROJECT: EPIC Holdings Site

SAMPLING DATE: August 31, 2017

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS001	P001-OS002	P001-OS003	P001-OS004	P001-OS005
Lab Sample ID	2258433001	2258433002	2258433003	2258433004	2258433005
Sample Wt/Vol	0.27 g/50.0 mL	0.27 g/50.0 mL	0.26 g/50.0 mL	0.25 g/50.0 mL	0.25 g/50.0 mL
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Inorganics (mg/Kg)					
Arsenic	3.7 U	**1.3 J**	3.8 U	4.0 U	4.0 U
Barium	**1.1 J**	**20.6**	**1.6 J**	**2.8**	**3.7**
Cadmium	0.93 U	0.93 U	0.96 U	1.0 U	1.0 U
Chromium	1.9 U	**2.1**	1.9 U	2.0 U	2.0 U
Lead	**4.5**	**12.1**	**4.5**	**5.8**	**2.3 J**
Selenium	9.3 U	9.3 U	9.6 U	10.0 U	10.0 U
Silver	0.93 U	0.93 U	0.96 U	1.0 U	1.0 U

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS006	P001-OS007	P001-OS008	P001-OS009	P001-OS010
Lab Sample ID	2258433006	2258433007	2258433008	2258433009	2258433010
Sample Wt/Vol	0.26 g/50.0 mL	0.27 g/50.0 mL	0.24 g/50.0 mL	0.24 g/50.0 mL	0.24 g/50.0 mL
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Inorganics (mg/Kg)					
Arsenic	**9.8**	3.7 U	**2.2 J**	4.2 U	**2.2 J**
Barium	**194**	**0.94 J**	**41.7**	**1.8 J**	**68.0**
Cadmium	0.96 U	0.93 U	1.0 U	1.0 U	1.0 U
Chromium	**29.5**	1.9 U	**5.1**	2.1 U	**5.6**
Lead	**245**	**2.4 J**	**67.7**	4.2 U	**72.2**
Selenium	**3.7 J**	9.3 U	10.4 U	10.4 U	10.4 U
Silver	0.96 U	0.93 U	1.0 U	1.0 U	1.0 U

Sample Wt./Vol. - Sample weight/volume

U - Analyte was not detected

J - Estimated Value

OTHER ANALYTES WORK TABLE

PROJECT: EPIC Holdings Site

SAMPLING DATE: August 31, 2017

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS001	P001-OS002	P001-OS003	P001-OS004	P001-OS005
Lab Sample ID	2258433001	2258433002	2258433003	2258433004	2258433005
% Solids	100	100	100	100	100
Sample Wt/Vol	0.26 g/100.0 mL	0.25 g/100.0 mL	0.28 g/100.0 mL	0.26 g/100.0 mL	0.27 g/100.0 mL
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Inorganics (mg/Kg)					
Mercury	0.096 U	0.10 U	0.089 U	0.096 U	0.093 U

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS006	P001-OS007	P001-OS008	P001-OS009	P001-OS010
Lab Sample ID	2258433006	2258433007	2258433008	2258433009	2258433010
Sample Wt/Vol	0.25 g/100.0 mL	0.28 g/100.0 mL	0.25 g/100.0 mL	0.26 g/100.0 mL	0.28 g/100.0 mL
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Inorganics (mg/Kg)					
Mercury	**0.089 J**	0.089 U	**0.091 J**	0.096 U	**0.13**

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS001	P001-OS002	P001-OS003	P001-OS004	P001-OS005
Lab Sample ID	2258433001	2258433002	2258433003	2258433004	2258433005
% Solids	100	100	100	100	100
Sample Wt	2.09	2.08	2.20	2.06	2.02
Total Organic Halogen (TOX) (mg/Kg)					
TOX	**9.7**	4.7 U	**10.4**	**2.7 J**	**7.7**

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS006	P001-OS007	P001-OS008	P001-OS009	P001-OS010
Lab Sample ID	2258433006	2258433007	2258433008	2258433009	2258433010
Sample Wt	2.06	2.02	2.13	2.16	2.12
Total Organic Halogen (TOX) (mg/Kg)					
TOX	**9.5**	**12.9**	4.7 U	**6.2**	**3.2 J**

Sample Wt./Vol. - Sample weight/volume
U - Analyte was not detected
J - Estimated Value

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NELAP Certifications: NJ PA010, NY 11759, PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433001 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS001 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	9.7		mg/kg	4.8	1.3	SW846 9023			9/7/17 11:01	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	1.0		600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1016	ND		mg/kg	1.0	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1221	ND		mg/kg	1.0	0.40	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1232	ND		mg/kg	1.0	0.36	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1242	ND		mg/kg	1.0	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1248	ND		mg/kg	1.0	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1254	ND		mg/kg	1.0	0.29	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1260	ND		mg/kg	1.0	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1262	ND		mg/kg	1.0	0.080	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Aroclor-1268	ND		mg/kg	1.0	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	87		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
Tetrachloro-m-xylene (S)	116		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 02:52	KJH	A
METALS											
Arsenic, Total	ND		mg/kg	3.7	1.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:32	SRT	A1
Barium, Total	1.1J	J	mg/kg	1.9	0.62	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:32	SRT	A1
Cadmium, Total	ND		mg/kg	0.93	0.31	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:32	SRT	A1
Chromium, Total	ND		mg/kg	1.9	0.62	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:32	SRT	A1
Lead, Total	4.5		mg/kg	3.7	1.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:32	SRT	A1
Mercury, Total	ND		mg/kg	0.096	0.031	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:16	AXC	A2
Selenium, Total	ND		mg/kg	9.3	3.1	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:32	SRT	A1
Silver, Total	ND		mg/kg	0.93	0.31	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:32	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/6/17 00:00	SUB	C

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433002 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS002 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	ND		mg/kg	4.8	1.3	SW846 9023			9/7/17 11:19	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	0.97		600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1016	ND		mg/kg	0.97	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1221	ND		mg/kg	0.97	0.39	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1232	ND		mg/kg	0.97	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1242	ND		mg/kg	0.97	0.33	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1248	ND		mg/kg	0.97	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1254	ND		mg/kg	0.97	0.28	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1260	ND		mg/kg	0.97	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1262	ND		mg/kg	0.97	0.078	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Aroclor-1268	ND		mg/kg	0.97	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	79.9		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
Tetrachloro-m-xylene (S)	109		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 03:45	KJH	A
METALS											
Arsenic, Total	1.3J	J	mg/kg	3.7	1.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:43	SRT	A1
Barium, Total	20.6		mg/kg	1.9	0.62	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:43	SRT	A1
Cadmium, Total	ND		mg/kg	0.93	0.31	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:43	SRT	A1
Chromium, Total	2.1		mg/kg	1.9	0.62	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:43	SRT	A1
Lead, Total	12.1		mg/kg	3.7	1.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:43	SRT	A1
Mercury, Total	ND		mg/kg	0.10	0.032	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:17	AXC	A2
Selenium, Total	ND		mg/kg	9.3	3.1	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:43	SRT	A1
Silver, Total	ND		mg/kg	0.93	0.31	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:43	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/6/17 00:00	SUB	C

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433003 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS003 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	10.4		mg/kg	4.5	1.2	SW846 9023			9/7/17 11:33	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	0.99		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1016	ND		mg/kg	0.99	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1221	ND		mg/kg	0.99	0.40	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1232	ND		mg/kg	0.99	0.36	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1242	ND		mg/kg	0.99	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1248	ND		mg/kg	0.99	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1254	ND		mg/kg	0.99	0.29	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1260	ND		mg/kg	0.99	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1262	ND		mg/kg	0.99	0.079	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Aroclor-1268	ND		mg/kg	0.99	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	88.6		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
Tetrachloro-m-xylene (S)	112		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:02	KJH	A
METALS											
Arsenic, Total	ND		mg/kg	3.8	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:47	SRT	A1
Barium, Total	1.6J	J	mg/kg	1.9	0.64	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:47	SRT	A1
Cadmium, Total	ND		mg/kg	0.96	0.32	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:47	SRT	A1
Chromium, Total	ND		mg/kg	1.9	0.64	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:47	SRT	A1
Lead, Total	4.5		mg/kg	3.8	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:47	SRT	A1
Mercury, Total	ND		mg/kg	0.089	0.029	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:21	AXC	A2
Selenium, Total	ND		mg/kg	9.6	3.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:47	SRT	A1
Silver, Total	ND		mg/kg	0.96	0.32	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:47	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/6/17 00:00	SUB	C

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ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433004 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS004 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	2.7J	J	mg/kg	4.9	1.3	SW846 9023			9/7/17 11:56	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	0.98		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1016	ND		mg/kg	0.98	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1221	ND		mg/kg	0.98	0.39	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1232	ND		mg/kg	0.98	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1242	ND		mg/kg	0.98	0.33	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1248	ND		mg/kg	0.98	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1254	ND		mg/kg	0.98	0.28	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1260	ND		mg/kg	0.98	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1262	ND		mg/kg	0.98	0.078	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Aroclor-1268	ND		mg/kg	0.98	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	69.2		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
Tetrachloro-m-xylene (S)	110		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:20	KJH	A
METALS											
Arsenic, Total	ND		mg/kg	4.0	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:50	SRT	A1
Barium, Total	2.8		mg/kg	2.0	0.67	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:50	SRT	A1
Cadmium, Total	ND		mg/kg	1.0	0.33	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:50	SRT	A1
Chromium, Total	ND		mg/kg	2.0	0.67	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:50	SRT	A1
Lead, Total	5.8		mg/kg	4.0	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:50	SRT	A1
Mercury, Total	ND		mg/kg	0.096	0.031	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:22	AXC	A2
Selenium, Total	ND		mg/kg	10.0	3.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:50	SRT	A1
Silver, Total	ND		mg/kg	1.0	0.33	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:50	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/7/17 00:00	SUB	C

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ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433005 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS005 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	7.7		mg/kg	5.0	1.3	SW846 9023			9/7/17 13:30	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	0.98		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1016	ND		mg/kg	0.98	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1221	ND		mg/kg	0.98	0.39	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1232	ND		mg/kg	0.98	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1242	ND		mg/kg	0.98	0.33	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1248	ND		mg/kg	0.98	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1254	ND		mg/kg	0.98	0.28	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1260	ND		mg/kg	0.98	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1262	ND		mg/kg	0.98	0.078	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Aroclor-1268	ND		mg/kg	0.98	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	132		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
Tetrachloro-m-xylene (S)	110		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:37	KJH	A
METALS											
Arsenic, Total	ND		mg/kg	4.0	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:54	SRT	A1
Barium, Total	3.7		mg/kg	2.0	0.67	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:54	SRT	A1
Cadmium, Total	ND		mg/kg	1.0	0.33	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:54	SRT	A1
Chromium, Total	ND		mg/kg	2.0	0.67	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:54	SRT	A1
Lead, Total	2.3J	J	mg/kg	4.0	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:54	SRT	A1
Mercury, Total	ND		mg/kg	0.093	0.030	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:25	AXC	A2
Selenium, Total	ND		mg/kg	10.0	3.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:54	SRT	A1
Silver, Total	ND		mg/kg	1.0	0.33	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:54	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/7/17 00:00	SUB	C

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2258433 WEN012 RFP 457 EP-S2-14-01

Lab ID: 2258433006 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS006 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	9.5		mg/kg	4.9	1.3	SW846 9023			9/7/17 13:42	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	1.0		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1016	ND		mg/kg	1.0	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1221	ND		mg/kg	1.0	0.40	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1232	ND		mg/kg	1.0	0.36	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1242	ND		mg/kg	1.0	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1248	ND		mg/kg	1.0	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1254	ND		mg/kg	1.0	0.29	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1260	ND		mg/kg	1.0	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1262	ND		mg/kg	1.0	0.080	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Aroclor-1268	ND		mg/kg	1.0	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	100		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
Tetrachloro-m-xylene (S)	108		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 04:55	KJH	A
METALS											
Arsenic, Total	9.8		mg/kg	3.8	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:58	SRT	A1
Barium, Total	194		mg/kg	1.9	0.64	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:58	SRT	A1
Cadmium, Total	ND		mg/kg	0.96	0.32	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:58	SRT	A1
Chromium, Total	29.5		mg/kg	1.9	0.64	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:58	SRT	A1
Lead, Total	245		mg/kg	3.8	1.3	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:58	SRT	A1
Mercury, Total	0.089J	J	mg/kg	0.10	0.032	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:26	AXC	A2
Selenium, Total	3.7J	J	mg/kg	9.6	3.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:58	SRT	A1
Silver, Total	ND		mg/kg	0.96	0.32	SW846 6010C	9/6/17 01:05	LXC	9/7/17 12:58	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/7/17 00:00	SUB	C

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433007 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS007 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	12.9		mg/kg	5.0	1.3	SW846 9023			9/7/17 13:54	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND J		mg/kg	1.0		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1016	ND J		mg/kg	1.0	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1221	ND J		mg/kg	1.0	0.40	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1232	ND J		mg/kg	1.0	0.36	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1242	ND J		mg/kg	1.0	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1248	ND J		mg/kg	1.0	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1254	ND J		mg/kg	1.0	0.29	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1260	ND J		mg/kg	1.0	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1262	ND J		mg/kg	1.0	0.080	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Aroclor-1268	ND J		mg/kg	1.0	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	83.4		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
Tetrachloro-m-xylene (S)	107		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:12	KJH	A
METALS											
Arsenic, Total	ND		mg/kg	3.7	1.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:02	SRT	A1
Barium, Total	0.94J	J	mg/kg	1.9	0.62	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:02	SRT	A1
Cadmium, Total	ND		mg/kg	0.93	0.31	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:02	SRT	A1
Chromium, Total	ND		mg/kg	1.9	0.62	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:02	SRT	A1
Lead, Total	2.4J	J	mg/kg	3.7	1.2	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:02	SRT	A1
Mercury, Total	ND		mg/kg	0.089	0.029	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:27	AXC	A2
Selenium, Total	ND		mg/kg	9.3	3.1	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:02	SRT	A1
Silver, Total	ND		mg/kg	0.93	0.31	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:02	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/7/17 00:00	SUB	C

10/16/17

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433008 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS008 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	ND		mg/kg	4.7	1.3	SW846 9023			9/7/17 14:31	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	0.97		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1016	ND		mg/kg	0.97	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1221	ND		mg/kg	0.97	0.39	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1232	ND		mg/kg	0.97	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1242	ND		mg/kg	0.97	0.33	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1248	ND		mg/kg	0.97	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1254	ND		mg/kg	0.97	0.28	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1260	ND		mg/kg	0.97	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1262	ND		mg/kg	0.97	0.078	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Aroclor-1268	ND		mg/kg	0.97	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	81.2		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
Tetrachloro-m-xylene (S)	101		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:30	KJH	A
METALS											
Arsenic, Total	2.2J	J	mg/kg	4.2	1.4	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:05	SRT	A1
Barium, Total	41.7		mg/kg	2.1	0.69	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:05	SRT	A1
Cadmium, Total	ND		mg/kg	1.0	0.35	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:05	SRT	A1
Chromium, Total	5.1		mg/kg	2.1	0.69	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:05	SRT	A1
Lead, Total	67.7		mg/kg	4.2	1.4	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:05	SRT	A1
Mercury, Total	0.091J	J	mg/kg	0.10	0.032	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:28	AXC	A2
Selenium, Total	ND		mg/kg	10.4	3.5	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:05	SRT	A1
Silver, Total	ND		mg/kg	1.0	0.35	SW846 6010C	9/6/17 01:05	LXC	9/7/17 13:05	SRT	A1
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/7/17 00:00	SUB	C

10/16/17

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433009 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS009 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	6.2		mg/kg	4.6	1.2	SW846 9023			9/7/17 14:43	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	0.97		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1016	ND		mg/kg	0.97	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1221	ND		mg/kg	0.97	0.39	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1232	ND		mg/kg	0.97	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1242	ND		mg/kg	0.97	0.33	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1248	ND		mg/kg	0.97	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1254	ND		mg/kg	0.97	0.28	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1260	ND		mg/kg	0.97	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1262	ND		mg/kg	0.97	0.078	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Aroclor-1268	ND		mg/kg	0.97	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	89.7		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
Tetrachloro-m-xylene (S)	114		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 05:47	KJH	A
METALS											
Arsenic, Total	ND		mg/kg	4.2	1.4	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:09	SRT	A2
Barium, Total	1.8J	J	mg/kg	2.1	0.69	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:09	SRT	A2
Cadmium, Total	ND		mg/kg	1.0	0.35	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:09	SRT	A2
Chromium, Total	ND		mg/kg	2.1	0.69	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:09	SRT	A2
Lead, Total	ND		mg/kg	4.2	1.4	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:09	SRT	A2
Mercury, Total	ND		mg/kg	0.096	0.031	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:29	AXC	A1
Selenium, Total	ND		mg/kg	10.4	3.5	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:09	SRT	A2
Silver, Total	ND		mg/kg	1.0	0.35	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:09	SRT	A2
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/7/17 00:00	SUB	C

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ANALYTICAL RESULTS

Workorder: 2258433 WEN012|RFP 457 EP-S2-14-01

Lab ID: 2258433010 Date Collected: 8/31/2017 00:00 Matrix: Other

Sample ID: P001-OS010 Date Received: 9/1/2017 09:43

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Halogen, Total Organic (TOX)	3.2J	J	mg/kg	4.7	1.3	SW846 9023			9/11/17 11:03	PAG	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	0.98		600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1016	ND		mg/kg	0.98	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1221	ND		mg/kg	0.98	0.39	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1232	ND		mg/kg	0.98	0.35	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1242	ND		mg/kg	0.98	0.33	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1248	ND		mg/kg	0.98	0.34	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1254	ND		mg/kg	0.98	0.28	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1260	ND		mg/kg	0.98	0.12	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1262	ND		mg/kg	0.98	0.078	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Aroclor-1268	ND		mg/kg	0.98	0.14	600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	71.3		%	64 - 150		600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
Tetrachloro-m-xylene (S)	106		%	74 - 152		600/4-81-045	9/8/17 08:20	BS	9/11/17 06:05	KJH	A
METALS											
Arsenic, Total	2.2J	J	mg/kg	4.2	1.4	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:13	SRT	A2
Barium, Total	68.0		mg/kg	2.1	0.69	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:13	SRT	A2
Cadmium, Total	ND		mg/kg	1.0	0.35	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:13	SRT	A2
Chromium, Total	5.6		mg/kg	2.1	0.69	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:13	SRT	A2
Lead, Total	72.2		mg/kg	4.2	1.4	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:13	SRT	A2
Mercury, Total	0.13		mg/kg	0.089	0.029	SW846 7471B	9/6/17 03:00	AXC	9/6/17 06:30	AXC	A1
Selenium, Total	ND		mg/kg	10.4	3.5	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:13	SRT	A2
Silver, Total	ND		mg/kg	1.0	0.35	SW846 6010C	9/7/17 02:40	LXC	9/7/17 13:13	SRT	A2
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/7/17 00:00	SUB	C

10/16/17

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

6010C 3051A
- 13 -
SAMPLE PREPARATION SUMMARY

Client: Weston Solutions, Inc.-NJ

SDG No.: WEN-012

Contract: WEN012|RFP 457 EP-S2-14-01

Lab Code:

Method: P

Case No.:

SAS No.:

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	264108						
2601413	MB for HBN 264108 [MDIG/6729	MB	QC-SOLI	6/17/09	0.50	50.0	100.00
2601414	LCS1 for HBN 264108 [MDIG/672	LCS	QC-SOLI	6/17/09	0.50	50.0	100.00
2258433001	P001-OS001	SAM	OIL/OTH	6/17/09	0.27	50.0	100.00
2258433002	P001-OS002	SAM	OIL/OTH	6/17/09	0.27	50.0	100.00
2258433003	P001-OS003	SAM	OIL/OTH	6/17/09	0.26	50.0	100.00
2258433004	P001-OS004	SAM	OIL/OTH	6/17/09	0.25	50.0	100.00
2258433005	P001-OS005	SAM	OIL/OTH	6/17/09	0.25	50.0	100.00
2258433006	P001-OS006	SAM	OIL/OTH	6/17/09	0.26	50.0	100.00
2258433007	P001-OS007	SAM	OIL/OTH	6/17/09	0.27	50.0	100.00
2258433008	P001-OS008	SAM	OIL/OTH	6/17/09	0.24	50.0	100.00

6010C 3051A
- 13 -
SAMPLE PREPARATION SUMMARY

Client: Weston Solutions, Inc.-NJ

SDG No.: WEN-012

Contract: WEN012|RFP 457 EP-S2-14-0

Lab Code:

Method: P

Case No.:

SAS No.:

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	264954						
2602199	MB for HBN 264954 [MDIG/6732	MB	QC-SOLI	7/17/09	0.50	50.0	100.00
2602200	LCS1 for HBN 264954 [MDIG/673	LCS	QC-SOLI	7/17/09	0.50	50.0	100.00
2258433009	P001-OS009	SAM	OIL/OTH	7/17/09	0.24	50.0	100.00
2258433010	P001-OS010	SAM	OIL/OTH	7/17/09	0.24	50.0	100.00

Mercury 7471 Prep (Soil) rev 11/12/2015

Batch: 67302	Queue: MDIG	HBN: 264114	RULE: HGSPREP	ALS SOP:
File Name: 67302_170906-012852			METHOD: SW7471	Autoclave ID:

Comments:	Thermometer:			Start
1)	ID:	N/A	Date:	09/06/2017
2)	Starting °C:	N/A	Time:	03:00:00
3)	Ending °C:	N/A	Tech:	AXC
4)	Balance ID#:	BAL-24	Reviewed/Approved By:	
5)			Date:	

Reagents and Working Standards	Reagent ID	Pipette ID
Intermediate STD: 2.5mL to 100mL	MR11691	03-034
Intermediate QC: 2.5mL to 100mL	MR11692	03-034
5% KMnO4:	MR11710	
H2SO4:	170519002	
HNO3	170614004	
Working STD: 2.5mL Intermediate STD+300uL HNO3 to 100mL	MR11693	03-333
Working QC: 2.5mL Intermediate QC+300uL HNO3 to 100mL	MR11694	03-333

Calibration and Check Standards	Num
S0(ICB, CCB):# of S0's made:	3
S0.2: 0.25 mL Working Std into 25 mL:	MR11702
S1.0: 0.5 mL Working Std into 25 mL:	MR11703
S2.0: 2.0 mL Working Std into 25 mL:	MR11704
S4.0: 4.0 mL Working Std into 25 mL:	MR11705
S10: 10.0 mL Working Std into 25 mL:	MR11706
CCV: 4.0 mL Working QC into 25 mL:	MR11707
ICV: 4.0 mL Working Std into 25 mL:	MR11708
# of CCV's made	3

Sample ID	Cont ID	Samp Type	Parent Sample ID	Sample WT, grams	Additional KMnO4, mL	Final Vol mL	Spike Amt mL	Spike Std #	Pipette ID#	Com
2601458		MB		0.5		100				
2601459		LCS		0.5		100	0.2	MR11691	03-034	
2255745001	A	S		0.50		100				
2258132001	A	S		0.55		100				
2258390001	A	S		0.51		100				
2601460		MS	2258390001	0.54		100	0.5	MR11691	03-333	
2601461		MSD	2258390001	0.55		100	0.5	MR11691	03-333	
2258391001	A	S		0.51		100				
2258397001	B	S		0.57		100				
2258146001	B	S		0.53		100				
2258146003	B	S		0.55		100				
2258148001	A	S		0.54		100				
2258149001	A	S		0.52		100				
2258150001	A	S		0.58		100				
2258151001	A	S		0.56		100				
2258847001	A	S		0.52		100				
2258847002	A	S		0.54		100				
2258847003	A	S		0.52		100				
2258847004	A	S		0.56		100				

Mercury 7471 Prep (Soil) rev 11/12/2015

Batch: 67303	Queue: MDIG	HBN: 264115	RULE: HGSPREP	ALS SOP:
File Name: 67303_170906-012936			METHOD: SW7471	Autoclave ID:

Comments:	Thermometer:			Start
1)	ID:	N/A	Date:	09/06/2017
2)	Starting °C:	N/A	Time:	03:00:00
3)	Ending °C:	N/A	Tech:	AXC
4)	Balance ID#:	BAL-24	Reviewed/Approved By:	
5)			Date:	

Reagents and Working Standards	Reagent ID	Pipette ID
Intermediate STD: 2.5mL to 100mL	MR11691	03-034
Intermediate QC: 2.5mL to 100mL	MR11692	03-034
5% KMnO4	MR11710	
H2SO4:	170519002	
HNO3:	170614004	
Working STD: 2.5mL Intermediate STD+300uL HNO3 to 100mL	MR11693	03-333
Working QC: 2.5mL Intermediate QC+300uL HNO3 to 100mL	MR11694	03-333

Calibration and Check Standards	Num
S0(ICB, CCB):# of S0's made	3
S0.2: 0.25 mL Working Std into 25 mL	MR11702
S1.0: 0.5 mL Working Std into 25 mL	MR11703
S2.0: 2.0 mL Working Std into 25 mL	MR11704
S4.0: 4.0 mL Working Std into 25 mL	MR11705
S10: 10.0 mL Working Std into 25 mL	MR11706
CCV: 4.0 mL Working QC into 25 mL	MR11707
ICV: 4.0 mL Working Std into 25 mL	MR11708
# of CCV's made	3

Sample ID	Cont ID	Samp Type	Parent Sample ID	Sample WT, grams	Additional KMnO4, mL	Final Vol mL	Spike Amt mL	Spike Std #	Pipette ID#	Com
2601464		MB		0.5		100				
2601465		LCS		0.5		100	0.2	MR11691	03-034	
2258433003	A	S		0.28		100				
2258433004	A	S		0.26		100				
2258433005	A	S		0.27		100				
2258433006	A	S		0.25		100				
2258433007	A	S		0.28		100				
2258433008	A	S		0.25		100				
2258433009	A	S		0.26		100				
2258433010	A	S		0.28		100				
2258127003	A	S		1.98		100				
2601466		MS	2258127003	1.97		100	0.5	MR11691	03-333	
2601467		MSD	2258127003	2.03		100	0.5	MR11691	03-333	
2258127006	A	S		2.02		100				
2257143001	A	S		2.03		100				
2258486001	A	S		0.54		100				
2258647001	A	S		0.55		100				
2258652001	A	S		0.50		100				
2258845008	A	S		0.29		100				

2258847005	A	S		0.57		100				
2257057001	A	S		1.03		100				
2601462		MS	2257057001	1.00		100	0.5	MR11691	03-333	
2601463		MSD	2257057001	1.00		100	0.5	MR11691	03-333	
2258889001	A	S		0.29		100				
2258433001	A	S		0.26		100				
2258433002	A	S		0.25		100				

End

TOX-100 # 1 Results

BATCH: 285016/192749

Sample ID	sample weight (g)	Date/Time	Reps	Sample Size		Counts1	Blank	Conc.		AVG.
10 UG COUNT		9/7/2017 8:46	1	10.00	ul	10.426				104%
20 UG COUNT		9/7/2017 9:05	1	10.00	ul	19.780				98.9%
BLANK	2.00	9/7/2017 9:26	1	20.00	ul	-0.058				
BLANK	2.00	9/7/2017 9:32	2	20.00	ul	0.094				0.047
LCS	2.00	9/7/2017 10:05	1	20.00	ul	3.207	0.047	474.00	mg/Kg	94.8%
LCS	2.00	9/7/2017 10:16	2	20.00	ul	3.066	0.047	452.85	mg/Kg	90.6%
2258831001	2.18	9/7/2017 10:23	1	20.00	ul	0.094	0.047	5.39	mg/Kg	
2258831001	2.18	9/7/2017 10:29	2	20.00	ul	0.001	0.047	0.00	mg/Kg	2.7 mg/kg
2258433001	2.09	9/7/2017 10:54	1	20.00	ul	0.144	0.047	11.60	mg/Kg	
2258433001	2.09	9/7/2017 11:01	2	20.00	ul	0.112	0.047	7.78	mg/Kg	9.7 mg/kg
2258433002	2.08	9/7/2017 11:10	1	20.00	ul	-0.025	0.047	0.00	mg/Kg	
2258433002	2.08	9/7/2017 11:19	2	20.00	ul	0.014	0.047	0.00	mg/Kg	0 mg/kg
2258433003	2.20	9/7/2017 11:27	1	20.00	ul	0.210	0.047	18.52	mg/Kg	
2258433003	2.20	9/7/2017 11:33	2	20.00	ul	0.067	0.047	2.27	mg/Kg	10.4 mg/kg
2258433004	2.06	9/7/2017 11:51	1	20.00	ul	0.090	0.047	5.22	mg/Kg	
2258433004	2.06	9/7/2017 11:56	2	20.00	ul	0.049	0.047	0.24	mg/Kg	2.7 mg/kg
2258433004 MS	2.06	9/7/2017 12:26	1	20.00	ul	3.491	0.047	501.55	mg/Kg	
2258433004 MSD	2.06	9/7/2017 12:37	2	20.00	ul	3.494	0.047	501.99	mg/Kg	
10 UG COUNT		9/7/2017 13:01	1	10.00	ul	10.185				102%
BLANK	2.00	9/7/2017 13:10	1	20.00	ul	-0.035				
BLANK	2.00	9/7/2017 13:19	2	20.00	ul	0.000				0.000
2258433005	2.02	9/7/2017 13:25	1	20.00	ul	0.097	0.000	12.00	mg/Kg	
2258433005	2.02	9/7/2017 13:30	2	20.00	ul	0.027	0.000	3.34	mg/Kg	7.7 mg/kg
2258433006	2.06	9/7/2017 13:36	1	20.00	ul	0.156	0.000	18.93	mg/Kg	
2258433006	2.06	9/7/2017 13:42	2	20.00	ul	-0.055	0.000	0.00	mg/Kg	9.5 mg/kg
2258433007	2.02	9/7/2017 13:48	1	20.00	ul	0.125	0.000	15.47	mg/Kg	
2258433007	2.02	9/7/2017 13:54	2	20.00	ul	0.083	0.000	10.27	mg/Kg	12.9 mg/kg
2258433008	2.13	9/7/2017 14:12	1	20.00	ul	0.014	0.000	1.64	mg/Kg	
2258433008	2.13	9/7/2017 14:31	2	20.00	ul	-0.010	0.000	0.00	mg/Kg	0.8 mg/kg
2258433009	2.16	9/7/2017 14:38	1	20.00	ul	0.080	0.000	9.26	mg/Kg	
2258433009	2.16	9/7/2017 14:43	2	20.00	ul	0.027	0.000	3.13	mg/Kg	6.2 mg/kg
10 UG COUNT		9/7/2017 15:10	1	10.00	ul	10.285				103%

TOX-100 # 2 Results

BATCH: 285841/192905

Sample ID	sample weight (g)	Date/Time	Reps.	Sample Size		Counts1	Blank	Conc.		AVG.
10 UG COUNT		9/11/2017 9:09	1	10.00	ul	9.570				95.7%
20 UG COUNT		9/11/2017 9:24	1	10.00	ul	21.112				106%
BLANK	2.00	9/11/2017 9:32	1	20.00	ul	-0.057				
BLANK	2.00	9/11/2017 9:56	2	20.00	ul	-0.003				0.000
LCS	2.00	9/11/2017 10:26	1	20.00	ul	3.270	0.000	490.50	mg/Kg	98.1%
LCS	2.00	9/11/2017 10:38	2	20.00	ul	3.103	0.000	465.45	mg/Kg	93.1%
2259585001	2.17	9/11/2017 10:44	1	20.00	ul	-0.068	0.000	0.00	mg/Kg	
2259585001	2.17	9/11/2017 10:50	2	20.00	ul	0.041	0.000	4.72	mg/Kg	2.4 mg/kg
2258433010	2.12	9/11/2017 10:56	1	20.00	ul	-0.016	0.000	0.00	mg/Kg	
2258433010	2.12	9/11/2017 11:03	2	20.00	ul	0.055	0.000	6.49	mg/Kg	3.2 mg/kg
2257443001	2.09	9/11/2017 11:15	1	20.00	ul	5.102	0.000	1220.57	mg/Kg	
2257443001	2.09	9/11/2017 11:26	2	20.00	ul	4.933	0.000	1180.14	mg/Kg	1200 mg/kg
2257443002	2.05	9/11/2017 11:41	1	20.00	ul	2.910	0.000	709.76	mg/Kg	
2257443002	2.05	9/11/2017 11:51	2	20.00	ul	2.738	0.000	667.80	mg/Kg	689 mg/kg
2257443003	2.10	9/11/2017 12:01	1	20.00	ul	1.289	0.000	306.90	mg/Kg	
2257443003	2.10	9/11/2017 12:12	2	20.00	ul	2.114	0.000	503.33	mg/Kg	RR TO VERIFY
2257443003	2.10	9/11/2017 12:24	1	20.00	ul	2.197	0.000	523.10	mg/Kg	513 mg/kg
2258433010 MS	2.12	9/11/2017 12:35	1	20.00	ul	3.278	0.000	463.87	mg/Kg	
2258433010 MSD	2.12	9/11/2017 12:46	2	20.00	ul	3.304	0.000	467.55	mg/Kg	466 mg/kg
10 UG COUNT		9/11/2017 13:07	1	10.00	ul	9.929				99.3%
BLANK	2.00	9/11/2017 13:17	1	20.00	ul	0.089				
BLANK	2.00	9/11/2017 13:24	2	20.00	ul	-0.041				0.045
2257443004	2.00	9/11/2017 13:35	1	20.00	ul	2.291	0.045	561.50	mg/Kg	
2257443004	2.00	9/11/2017 13:47	2	20.00	ul	2.214	0.045	542.25	mg/Kg	552 mg/kg
2259647001	2.16	9/11/2017 13:54	1	20.00	ul	-0.037	0.045	0.00	mg/Kg	
2259647001	2.16	9/11/2017 14:00	2	20.00	ul	-0.003	0.045	0.00	mg/Kg	0 mg/kg
2259223001	2.14	9/11/2017 14:05	1	20.00	ul	-0.003	0.045	0.00	mg/Kg	
2259223001	2.14	9/11/2017 14:23	2	20.00	ul	0.006	0.045	0.00	mg/Kg	0 mg/kg
2259331001	2.08	9/11/2017 14:29	1	20.00	ul	0.001	0.045	0.00	mg/Kg	
2259331001	2.08	9/11/2017 14:37	2	20.00	ul	0.014	0.045	0.00	mg/Kg	0 mg/kg
2259334001	2.11	9/11/2017 14:43	1	20.00	ul	0.001	0.045	0.00	mg/Kg	
2259334001	2.11	9/11/2017 14:48	2	20.00	ul	-0.002	0.045	0.00	mg/Kg	0 mg/kg

GENERAL ORGANIC WASTE DILUTIONS

EPA Method: 600 PCB oil

Batch# 465916

Extraction Date: 9-8-17

Surrogate Amount: 500 ~

Surrogate Lot #: LCIIF

Syringe ID#: H2-567

Balance ID#: 13

Reagents:
1. PCB oil Free transformer Lot# LC72594EN
2. Hexane 170905012
3. Hexane 167829
4.

Line #	Sample #	Sample Amount	Final Volume	QC Spike lot#	QC Spike Amount	QC Type	Cleanup Method	Sample Specific Comments
1.)	2603162	1.03	10ml	—	—	MB	3665A	
2.)	2603163	1.04		GCIIA-	15ml	LCS		
3.)	22584331001	1.00		—	—	—		
4.)	2603164	1.02		GCIIA-	150-1	MS		
5.)	2603165	~~1.00~~ 1.24		GCIIA-	150-1	MSD		
6.)	22584330002	1.03		—	—	—		
7.)	22584330003	1.01		—	—	—		
8.)	22584330004	1.02		—	—	—		
9.)	22584330005	1.02		—	—	—		
10.)	22584330006	1.00		—	—	—		
11.)	22584330007	1.00		—	—	—		
12.)	22584330008	1.03		—	—	—		
13.)	22584330009	1.03		—	—	—		
14.)	22584330010	1.02		—	—	—		
15.)								
16.)								
17.)								
18.)								
19.)								
20.)								
21.)								
22.)								
23.)								
24.)								

Approved by:
Date Approved:
Revision 10/2015

Page #: 76

Reviewed by:
Date Reviewed:

OTHER ANALYTES WORK TABLE

PROJECT: EPIC Holdings Site

SAMPLING DATE: August 31, 2017

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS001	P001-OS002	P001-OS003	P001-OS004	P001-OS005
ALS Lab Sample ID	2258433001	2258433002	2258433003	2258433004	2258433005
BETA Lab ID	AK17305	AK17306	AK17307	AK17308	AK17309
Inorganics					
Sulfur in Fuel	1.004 %	0.746 %	1.058 %	0.470 %	0.372 %
Heat Content	15977 BTU/lb	14665 BTU/lb	16453 BTU/lb	17198 BTU/lb	16925 BTU/lb

Matrix	Oil	Oil	Oil	Oil	Oil
Field Sample ID	P001-OS006	P001-OS007	P001-OS008	P001-OS009	P001-OS010
ALS Lab Sample ID	2258433006	2258433007	2258433008	2258433009	2258433010
BETA ID	AK17310	AK17311	AK17312	AK17313	AK17314
Inorganics					
Sulfur in Fuel	1.583 %	1.018 %	1.246 %	1.091 %	1.732 %
Heat Content	10598 BTU/lb	16265 BTU/lb	10044 BTU/lb	18182 BTU/lb	10205 BTU/lb

% - Percent
BTU/lb - British thermal unit/Pound

FirstEnergy
BETA Laboratory

6670 Beta Drive
Mayfield Village, OH 44143
800-470 BETA
440-604-9836
Fax 440-604-9600

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
Attn: Brad Kintzer

Report Level: 2

Report Summary

Thursday, September 7, 2017

Report Number: R170905021-ALS

Samples Received: 9/5/2017

Project: ALS EXT

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

There were no problems with the analytical events associated with this report unless noted in the sample notes section.

When noted: BDL = Below Detection Limit MDL = Method Detection Limit

Entire Report Reviewed By: M. Belviso Belviso, Michael 44467 Sr. Lab Tech I am approving this document Sep 7 2017 11:41 AM cosign Date: September 07, 2017

Mike Belviso

FirstEnergy®

BETA Laboratory

Analytical Report

BETA ID#: AK17305
Sample ID: EXT-ALS
Description: 2258433001

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	1.004	%	0.020	MS	9/6/17
D4809					
Heat Content	15977	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

FirstEnergy®
BETA Laboratory

Analytical Report

BETA ID#: AK17306
Sample ID: EXT-ALS
Description: 2258433002

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	0.746	%	0.020	MS	9/6/17
D4809					
Heat Content	14665	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

FirstEnergy®

BETA Laboratory

Analytical Report

BETA ID#: AK17307
Sample ID: EXT-ALS
Description: 2258433003

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	1.058	%	0.020	MS	9/6/17
D4809					
Heat Content	16453	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

ALS

FirstEnergy®
BETA Laboratory

Analytical Report

BETA ID#: AK17308
Sample ID: EXT-ALS
Description: 2258433004

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	0.470	%	0.020	MS	9/7/17
D4809					
Heat Content	17198	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

FirstEnergy®
BETA Laboratory

Analytical Report

BETA ID#: AK17309
Sample ID: EXT-ALS
Description: 2258433005

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	0.372	%	0.020	MS	9/7/17
D4809					
Heat Content	16925	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

FirstEnergy®

BETA Laboratory

Analytical Report

BETA ID#: AK17310
Sample ID: EXT-ALS
Description: 2258433006

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	1.583	%	0.020	MS	9/7/17
D4809					
Heat Content	10598	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

ALS

FirstEnergy®
BETA Laboratory

Analytical Report

BETA ID#: AK17311
Sample ID: EXT-ALS
Description: 2258433007

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	1.018	%	0.020	MS	9/7/17
D4809					
Heat Content	16265	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

FirstEnergy®

BETA Laboratory

Analytical Report

BETA ID#: AK17312
Sample ID: EXT-ALS
Description: 2258433008

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	1.246	%	0.020	MS	9/7/17
D4809					
Heat Content	10044	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

FirstEnergy®

BETA Laboratory

Analytical Report

BETA ID#: AK17313
Sample ID: EXT-ALS
Description: 2258433009

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	1.091	%	0.020	MS	9/7/17
D4809					
Heat Content	18182	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

FirstEnergy

BETA Laboratory

Analytical Report

BETA ID#: AK17314
Sample ID: EXT-ALS
Description: 2258433010

Date Collected: 08/31/2017
Time: 00:00

ANALYSIS	RESULT	UNITS	MDL	ANALYST	DATE
D4294					
Sulfur in Fuel Oil	1.732	%	0.020	MS	9/7/17
D4809					
Heat Content	10205	BTU/lb	1	MS	9/6/17

Analysis Certificate # R170905021-ALS

Measuring and Testing Equipment Used

Analysis	Type of Equipment	BETA ID	Last Cal Date	Cal Due Date
D4294 - Sulfur in Fuel Oil				
	SULFUR ANALYZER, TWIN-X	BETA739	PTU	N/A
D4809 - Heat Content				
	BALANCE	BETA2085	PTU	N/A
	CALORIMETER, 6300	BETA737	PTU	N/A
	CALORIMETER, 6400	BETA0729	PTU	N/A
	CALORIMETER, 6400	BETA1044	PTU	N/A

PTU is calibrated daily, prior to use

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 1 of 1

Quote #: Beta 2017000141

Client Name: ALS ENVIRONMENTAL
Address: 34 DOGWOOD LANE
MIDDLETOWN PA 17057
Contact: SUSAN SCHERER
Phone#: 717-702-2245
Project Name/#:
Bill To: ALS ENVIRONMENTAL

TAT [ ] Normal-Standard TAT is 10-12 business days.
[X] Rush-Subject to ALS approval and surcharges.

Date Required: 4-day TAT Approved By:
Email? [X] -Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] -Y No.:

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Heat Content (BTU)-ASTM D4809	Sulfur X-Ray Fluorescence ASTM D4294
Container Type					G	
Container Size					8OZ	
Preservative					UNP	
1 2258433001	8/31/2017	0		O	1	X
2 2258433002	8/31/2017	0		O	1	X
3 2258433003	8/31/2017	0		O	1	X
4 2258433004	8/31/2017	0		O	1	X
5 2258433005	8/31/2017	0		O	1	X
6 2258433006	8/31/2017	0		O	1	X
7 2258433007	8/31/2017	0		O	1	X
8 2258433008	8/31/2017	0		O	1	X
9 2258433009	8/31/2017	0		O	1	X
10 2258433010	8/31/2017	0		O	1	X

Enter Number of Containers Per Sample or Field Results Below.

Receipt Information (completed by Receiving Lab)
Cooler Temp: ____ Therm ID: ____
No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments
Subcontract to:
Beta Laboratory
6670 Beta Drive
Mayfield Village OH 44143
(800) 470-2382

ALS Field Services: __Pickup __Labor __Composite Sampling __Rental Equipment __Other:

Project Comments:
LOGGED BY(signature): Date Time
REVIEWED BY(signature): Date Time

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Nancy Spo	9/1/17	14:45	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC
Reportable to PADEP? Yes [ ]
PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS

USEPA
DateShipped: 9/1/2017
Lab: ALS Environmental
Lab Contact: Paul Painter

CHAIN OF CUSTODY RECORD

[redacted]
Case #: 457
Lab Phone: 717-944-5541

2258433
Contact Name: Mike Mannino
Contact Phone: 732-570-4997

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb # Cont	Container	Preservative	Lab QC
	P001-OS001	P001-OS001	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS001	P001-OS001	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS002	P001-OS002	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS002	P001-OS002	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS003	P001-OS003	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS003	P001-OS003	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS004	P001-OS004	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS004	P001-OS004	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS005	P001-OS005	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS005	P001-OS005	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS006	P001-OS006	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS006	P001-OS006	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS007	P001-OS007	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS007	P001-OS007	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS008	P001-OS008	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS008	P001-OS008	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS009	P001-OS009	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS009	P001-OS009	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N
	P001-OS010	P001-OS010	TCL PCBs, RCRA 8 Metals, BTU	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N

Special Instructions: Analyze for TCL PCBs, RCRA 8 Metals, BTU, Total Halogens, and Percent Sulfur. TAT: 5 days preliminary. Please send results to Tim.Benton@WestonSolutions.com, Mike.Mannino@WestonSolutions.Com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All samples All analyses	M. Mannino Weston RST 3	8/31/17 2115		9-1-17 0943	

	Y	N	Initials
Custody Seals Present?		✓	SZN
(If present) Seals Intact?			
Received on Ice?	✓		
COC/Lbls Complete	✓		
Cont in Good Cond?	✓		
Correct Containers?	✓		
Correct Samp Vol?	✓		
Correct Preservation?	✓		
Headspace/Volatiles?			

Cooler Temp: 3.0 °C
Cooler #:
Therm ID: 309
Ship Carrier
FedEx UPS
DHL

9-1-17 1624

2258433

USEPA
DateShipped: 9/1/2017
Lab: ALS Environmental
Lab Contact: Paul Painter

CHAIN OF CUSTODY RECORD
[redacted]
Case #: 457
Lab Phone: 717-944-5541

No: 2-083117-201000-0002
Cooler #: 1
Contact Name: Mike Mannino
Contact Phone: 732-570-4997

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	Lab QC
	P001-OS010	P001-OS010	Total Halogens, Percent Sulfur	Oil	8/31/2017	1	8 oz. Glass Jar	4 C	N

	Y	N	Initials
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Lbls Complete			
Cont in Good Cond?			
Correct Containers?			
Correct Samp Vol?			
Correct Preservation?			
Headspace/Volatiles?			

Cooler Temp: 7.0 °C
Cooler #:
Ship Carrier
FedEx UPS
DHL

Special Instructions: Analyze for TCL PCBs, RCRA 8 Metals, BTU, Total Halogens, and Percent Sulfur. TAT: 5 days preliminary. Please send results to Tim.Benton@WestonSolutions.com, Mike.Mannino@WestonSolutions.Com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All samples All analyses	Weston RST3	8/31/17 21:15		9-1-17 0943	