ANNEX C
FISH TISSUE DATA SHEETS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

EXECUTIVE NARRATIVE

Case No. : 46613
Site: Richardson Hill Road Landfill/Pond
Number of Samples: 19 (Tissue)
Analysis: PCB (MA # 2672.0)

SDG No.: BD6N0
Laboratory: Shealy Environmental Services, Inc.
Sampling dates: 10/18/2016-10/19/2016
Validation SOP: HW-37A (Rev 0)

QAPP: Not available.

SUMMARY OF DEFINITIONS:
Critical: Results have an unacceptable level of uncertainty and should not be used for making decisions. Data have been qualified "R" rejected.
Major: A level of uncertainty exists that may not meet the data quality objectives for the project. A bias is likely to be present in the results. Data has been qualified "J" estimated. "J+" and "J-" represent likely direction of the bias.
Minor: The level of uncertainty is acceptable. No significant bias in the data was observed.

Critical Findings:
None.

Major Findings:
None.

Minor Findings:
None.

COMMENTS: QAPP was not available at the time of validation.

Reviewer Name(s): Raxa J. Shelley

Approver's Signature:

Date: 12/29/16

Name: Russell Arnone

Affiliation: USEPA/R2/HWSB/HWSS

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Data Qualifier Definitions (National Functional Guidelines)			
Qualifier Symbol	Explanation		
	INORGANICS	ORGANICS	CHLORINATED DIOXIN/FURAN
U	The analyte was analyzed for, but was not detected above the level of the reported quantitation limit.	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method	The analyte was analyzed for but not detected. The value preceding the "U" may represent the adjusted Contract Required Quantitation Limit (see DLM02.X, Exhibit D, Section 1.2 and Table 2), or the sample specific estimated detection limit (EDL, see Method 8290A, Section 11.9.5).
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to an issue with the quality of the data generated because certain QC criteria were not met, or the concentration of the analyte was below the adjusted CRQL).
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.	
J–	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.	
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.	The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.	The analyte was not detected (see definition of "U" flag, above). The reported value should be considered approximate.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
N		The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".	
NJ		The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	
C		This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).	
X		This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.	

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DATA ASSESSMENT

ANALYSIS: PCB (MA # 2672.0)

The current SOP HW-37A (Revision 0) July 2015, USEPA Region II for the evaluation of PCB data generated through Statement of Work SOM02.2 has been applied. Data have been reviewed according to TDF specifications, the National Functional Guidelines Report and the CCS Semi-Automated Screening Results Report.

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". Use professional judgment to qualify the non-detects (sample quantitation limits), if the holding times are grossly exceeded. Qualifications were applied to the samples and analytes as shown below.

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 recovery were outside Table 5 of the SOP HW-37A (Revision 0), qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

3. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD):**

MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD data 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.

The relative Aroclor percent difference (RPD) between the following matrix spike and matrix spike duplicate recoveries is outside criteria. Detected compounds are qualified J. Non-detected compounds are not qualified.

Aroclor-1016 BD6Q0, BD6Q0MS, BD6Q0MSD

4. **Laboratory Control Samples (LCS):**

LCS data provides information on the accuracy of the analytical method and laboratory performance. If LCS recoveries fell outside of the acceptable limits, qualifications were applied to the associated samples and compounds as shown below.

No problems were found for this criterion.

5. **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. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects U. Qualifications were applied to the samples and analytes as shown below.

A) **Method blank contamination:**

No problems were found for this criterion.

B) **Field or rinse blank contamination:**

Not applicable.

6. **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 all 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 opening CCV, or closing CCV that is used as an opening CCV for the next 12-hour period, if %D exceeds 25% for analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ".

For closing CCV, if %D exceeds 50% for all analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ". Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

7. **FIELD DUPLICATES:**

Not applicable.

8. **COMPOUND IDENTIFICATION:**

A) **PCB Fraction:**

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 concentration exceeds 10ng/ml in the final sample extract. Qualifications were applied to the samples and analytes as shown below.

Percent Differences	**Qualifier**
0% - 25%	No qualification
26% - 200%	Professional Judgment
101% - 200% (interference detected, either column)	JN
> 50% (PCB value < CRQL, value raised to CRQL)	U
> 200%	R

The following samples were qualified for % difference on the two columns.

No problems were found for this criterion.

9. **CONTRACT PROBLEMS NON-COMPLIANCE:**

None.

10. **FIELD DOCUMENTATION:**

No problems were identified.

11. **OTHER PROBLEMS:**

None.

12. **DILUTIONS, RE-EXTRACTIONS & RE-ANALYSIS:**

Samples may be re-analyzed for dilution, re-extraction and for other QC reasons. In such cases, the best result values are used. See summary report and EDD for applicable samples and analytes.

Sample Summary Report

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: ABLK72	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: ALCS72	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	15		ug/kg	15		1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Spike	14		ug/kg	14		1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6N0	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1221	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1232	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1242	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1248	Target	390		ug/kg	390	D	2.0	Yes	S3VEM
Aroclor-1254	Target	250		ug/kg	250		1.0	Yes	S3VEM
Aroclor-1260	Target	41		ug/kg	41		1.0	Yes	S3VEM
Aroclor-1262	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1268	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6N1	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1221	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1232	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1242	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1248	Target	170		ug/kg	170		1.0	Yes	S3VEM
Aroclor-1254	Target	180		ug/kg	180		1.0	Yes	S3VEM
Aroclor-1260	Target	35		ug/kg	35		1.0	Yes	S3VEM
Aroclor-1262	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1268	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI	
Sample Number: BD6N2	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0	
Sample Location: South Pond	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00	
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	40	U	ug/kg	40	U	1.0	Yes	S3VEM
Aroclor-1221	Target	40	U	ug/kg	40	U	1.0	Yes	S3VEM
Aroclor-1232	Target	40	U	ug/kg	40	U	1.0	Yes	S3VEM
Aroclor-1242	Target	40	U	ug/kg	40	U	1.0	Yes	S3VEM
Aroclor-1248	Target	1000		ug/kg	1000	D	5.0	Yes	S3VEM
Aroclor-1254	Target	650		ug/kg	650	D	5.0	Yes	S3VEM
Aroclor-1260	Target	73		ug/kg	73		1.0	Yes	S3VEM
Aroclor-1262	Target	40	U	ug/kg	40	U	1.0	Yes	S3VEM
Aroclor-1268	Target	40	U	ug/kg	40	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6N3	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	38	U	ug/kg	38	U	1.0	Yes	S3VEM
Aroclor-1221	Target	38	U	ug/kg	38	U	1.0	Yes	S3VEM
Aroclor-1232	Target	38	U	ug/kg	38	U	1.0	Yes	S3VEM
Aroclor-1242	Target	38	U	ug/kg	38	U	1.0	Yes	S3VEM
Aroclor-1248	Target	600		ug/kg	600	D	2.0	Yes	S3VEM
Aroclor-1254	Target	350		ug/kg	350		1.0	Yes	S3VEM
Aroclor-1260	Target	57		ug/kg	57		1.0	Yes	S3VEM
Aroclor-1262	Target	38	U	ug/kg	38	U	1.0	Yes	S3VEM
Aroclor-1268	Target	38	U	ug/kg	38	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6N4	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1221	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1232	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1242	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1248	Target	2000		ug/kg	2000	D	10.0	Yes	S3VEM
Aroclor-1254	Target	1000		ug/kg	1000	D	10.0	Yes	S3VEM
Aroclor-1260	Target	95		ug/kg	95		1.0	Yes	S3VEM
Aroclor-1262	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1268	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6N5	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 16:00:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1221	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1232	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1242	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1248	Target	220		ug/kg	220		1.0	Yes	S3VEM
Aroclor-1254	Target	160		ug/kg	160		1.0	Yes	S3VEM
Aroclor-1260	Target	26	J	ug/kg	26	J	1.0	Yes	S3VEM
Aroclor-1262	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1268	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI	
Sample Number: BD6N6	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016		Sample Time: 16:00:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1221	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1232	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1242	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1248	Target	75		ug/kg	75		1.0	Yes	S3VEM
Aroclor-1254	Target	61		ug/kg	61		1.0	Yes	S3VEM
Aroclor-1260	Target	14	J	ug/kg	14		1.0	Yes	S3VEM
Aroclor-1262	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1268	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM

Case No:	46613	Contract:	EPW14035	SDG No:	BD6N0	Lab Code:	EQI
Sample Number:	BD6N7	Method:	Aroclors	Matrix:	Tissue	MA Number:	2672.0
Sample Location:	South Pond	pH:		Sample Date:	10/19/2016	Sample Time:	16:00:00
% Moisture :				% Solids :	100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1221	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1232	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1242	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1248	Target	54		ug/kg	54		1.0	Yes	S3VEM
Aroclor-1254	Target	50		ug/kg	50		1.0	Yes	S3VEM
Aroclor-1260	Target	10	J	ug/kg	10	J	1.0	Yes	S3VEM
Aroclor-1262	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1268	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6N8	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 16:00:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	22	U	ug/kg	22	U	1.0	Yes	S3VEM
Aroclor-1221	Target	22	U	ug/kg	22	U	1.0	Yes	S3VEM
Aroclor-1232	Target	22	U	ug/kg	22	U	1.0	Yes	S3VEM
Aroclor-1242	Target	22	U	ug/kg	22	U	1.0	Yes	S3VEM
Aroclor-1248	Target	160		ug/kg	160		1.0	Yes	S3VEM
Aroclor-1254	Target	120		ug/kg	120		1.0	Yes	S3VEM
Aroclor-1260	Target	19	J	ug/kg	19	J	1.0	Yes	S3VEM
Aroclor-1262	Target	22	U	ug/kg	22	U	1.0	Yes	S3VEM
Aroclor-1268	Target	22	U	ug/kg	22	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6N9	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 16:00:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1221	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1232	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1242	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1248	Target	98		ug/kg	98		1.0	Yes	S3VEM
Aroclor-1254	Target	84		ug/kg	84		1.0	Yes	S3VEM
Aroclor-1260	Target	21	J	ug/kg	21	J	1.0	Yes	S3VEM
Aroclor-1262	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1268	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM

Case No:	46613	Contract:	EPW14035	SDG No:	BD6N0	Lab Code:	EQI		
Sample Number:	BD6P1	Method:	Aroclors	Matrix:	Tissue	MA Number:	2672.0		
Sample Location:	South Pond	pH:		Sample Date:	10/19/2016	Sample Time:	14:15:00		
% Moisture :				% Solids :	100				

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1221	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1232	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1242	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1248	Target	24		ug/kg	24		1.0	Yes	S3VEM
Aroclor-1254	Target	22		ug/kg	22		1.0	Yes	S3VEM
Aroclor-1260	Target	5.8	J	ug/kg	5.8	J	1.0	Yes	S3VEM
Aroclor-1262	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1268	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6P2	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 14:15:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	28	U	ug/kg	28	U	1.0	Yes	S3VEM
Aroclor-1221	Target	28	U	ug/kg	28	U	1.0	Yes	S3VEM
Aroclor-1232	Target	28	U	ug/kg	28	U	1.0	Yes	S3VEM
Aroclor-1242	Target	28	U	ug/kg	28	U	1.0	Yes	S3VEM
Aroclor-1248	Target	130		ug/kg	130		1.0	Yes	S3VEM
Aroclor-1254	Target	97		ug/kg	97		1.0	Yes	S3VEM
Aroclor-1260	Target	20		ug/kg	20		1.0	Yes	S3VEM
Aroclor-1262	Target	28	U	ug/kg	28	U	1.0	Yes	S3VEM
Aroclor-1268	Target	28	U	ug/kg	28	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6P3	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 14:15:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1221	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1232	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1242	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1248	Target	140		ug/kg	140		1.0	Yes	S3VEM
Aroclor-1254	Target	100		ug/kg	100		1.0	Yes	S3VEM
Aroclor-1260	Target	21		ug/kg	21		1.0	Yes	S3VEM
Aroclor-1262	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1268	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6P4	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 14:15:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1221	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1232	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1242	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1248	Target	170		ug/kg	170		1.0	Yes	S3VEM
Aroclor-1254	Target	160		ug/kg	160		1.0	Yes	S3VEM
Aroclor-1260	Target	35		ug/kg	35		1.0	Yes	S3VEM
Aroclor-1262	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM
Aroclor-1268	Target	32	U	ug/kg	32	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6P5	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 11:00:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1221	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1232	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1242	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1248	Target	71		ug/kg	71		1.0	Yes	S3VEM
Aroclor-1254	Target	71		ug/kg	71		1.0	Yes	S3VEM
Aroclor-1260	Target	20		ug/kg	20		1.0	Yes	S3VEM
Aroclor-1262	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM
Aroclor-1268	Target	31	U	ug/kg	31	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6P6	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 11:00:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1221	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1232	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1242	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1248	Target	66		ug/kg	66		1.0	Yes	S3VEM
Aroclor-1254	Target	61		ug/kg	61		1.0	Yes	S3VEM
Aroclor-1260	Target	14		ug/kg	14		1.0	Yes	S3VEM
Aroclor-1262	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1268	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI	
Sample Number: BD6P7	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016		Sample Time: 11:00:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1221	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1232	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1242	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1248	Target	28		ug/kg	28		1.0	Yes	S3VEM
Aroclor-1254	Target	30		ug/kg	30		1.0	Yes	S3VEM
Aroclor-1260	Target	8.0	J	ug/kg	8.0	J	1.0	Yes	S3VEM
Aroclor-1262	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM
Aroclor-1268	Target	17	U	ug/kg	17	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6P8	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 11:00:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1221	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1232	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1242	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1248	Target	22		ug/kg	22		1.0	Yes	S3VEM
Aroclor-1254	Target	30		ug/kg	30		1.0	Yes	S3VEM
Aroclor-1260	Target	9.3	J	ug/kg	9.3	J	1.0	Yes	S3VEM
Aroclor-1262	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1268	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM

Case No:	46613	Contract:	EPW14035	SDG No:	BD6N0	Lab Code:	EQI
Sample Number:	BD6Q0	Method:	Aroclors	Matrix:	Tissue	MA Number:	2672.0
Sample Location:	South Pond	pH:		Sample Date:	10/19/2016	Sample Time:	09:30:00
% Moisture :				% Solids :	100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1221	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1232	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1242	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1248	Target	61		ug/kg	61		1.0	Yes	S3VEM
Aroclor-1254	Target	80		ug/kg	80		1.0	Yes	S3VEM
Aroclor-1260	Target	24	J	ug/kg	24	J	1.0	Yes	S3VEM
Aroclor-1262	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1268	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6Q0MS	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location:	pH:	Sample Date: 10/19/2016	Sample Time: 09:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	110	J	ug/kg	110		1.0	Yes	S3VEM
Aroclor-1221	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1232	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1242	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1248	Target	100		ug/kg	100		1.0	Yes	S3VEM
Aroclor-1254	Target	84		ug/kg	84		1.0	Yes	S3VEM
Aroclor-1260	Spike	87		ug/kg	87		1.0	Yes	S3VEM
Aroclor-1262	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1268	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6N0	Lab Code: EQI
Sample Number: BD6Q0MSD	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location:	pH:	Sample Date: 10/19/2016	Sample Time: 09:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	85	J	ug/kg	85		1.0	Yes	S3VEM
Aroclor-1221	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1232	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1242	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1248	Target	76		ug/kg	76		1.0	Yes	S3VEM
Aroclor-1254	Target	69		ug/kg	69		1.0	Yes	S3VEM
Aroclor-1260	Spike	82		ug/kg	82		1.0	Yes	S3VEM
Aroclor-1262	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM
Aroclor-1268	Target	25	U	ug/kg	25	U	1.0	Yes	S3VEM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

EXECUTIVE NARRATIVE

Case No. : 46613
Site: Richardson Hill Road Landfill/Pond
Number of Samples: 7 (Tissue)
Analysis: PCB (MA # 2672.0)

SDG No.: BD6P9
Laboratory: Shealy Environmental Services, Inc.
Sampling dates: 10/18/2016-10/19/2016
Validation SOP: HW-37A (Rev 0)

QAPP: Not available.

SUMMARY OF DEFINITIONS:
Critical: Results have an unacceptable level of uncertainty and should not be used for making decisions. Data have been qualified "R" rejected.
Major: A level of uncertainty exists that may not meet the data quality objectives for the project. A bias is likely to be present in the results. Data has been qualified "J" estimated. "J+" and "J-" represent likely direction of the bias.
Minor: The level of uncertainty is acceptable. No significant bias in the data was observed.

Critical Findings:
None.

Major Findings:
PCB: Sample BD6Q4 has analytes that have been qualified "J", "J+" or "J-".

Minor Findings:
None.

COMMENTS: QAPP was not available at the time of validation.

Reviewer Name(s): Raxa J. Shelley

Approver's Signature:

Date: 12/29/16

Name: Russell Arnone

Affiliation: USEPA/R2/HWSB/HWSS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

Data Qualifier Definitions (National Functional Guidelines)			
Qualifier Symbol	Explanation		
	INORGANICS	ORGANICS	CHLORINATED DIOXIN/FURAN
U	The analyte was analyzed for, but was not detected above the level of the reported quantitation limit.	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method	The analyte was analyzed for but not detected. The value preceding the "U" may represent the adjusted Contract Required Quantitation Limit (see DLM02.X, Exhibit D, Section 1.2 and Table 2), or the sample specific estimated detection limit (EDL, see Method 8290A, Section 11.9.5).
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to an issue with the quality of the data generated because certain QC criteria were not met, or the concentration of the analyte was below the adjusted CRQL).
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.	
J–	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.	
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.	The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.	The analyte was not detected (see definition of "U" flag, above). The reported value should be considered approximate.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
N		The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".	
NJ		The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	
C		This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).	
X		This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.	

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DATA ASSESSMENT

ANALYSIS: PCB (MA # 2672.0)

The current SOP HW-37A (Revision 0) July 2015, USEPA Region II for the evaluation of PCB data generated through Statement of Work SOM02.2 has been applied. Data have been reviewed according to TDF specifications, the National Functional Guidelines Report and the CCS Semi-Automated Screening Results Report.

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". Use professional judgment to qualify the non-detects (sample quantitation limits), if the holding times are grossly exceeded. Qualifications were applied to the samples and analytes as shown below.

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 recovery were outside Table 5 of the SOP HW-37A (Revision 0), qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

3. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD):**

MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD data 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.

The following Aroclor matrix/matrix spike duplicate samples have percent recoveries that are greater than the upper acceptance limit. Detected compounds are qualified J. Non-detected compounds are not qualified.

Aroclor-1016 BD6R0, BD6R0DL, BD6R0MS, BD6R0MSD

4. **Laboratory Control Samples (LCS):**

LCS data provides information on the accuracy of the analytical method and laboratory performance. If LCS recoveries fell outside of the acceptable limits, qualifications were applied to the associated samples and compounds as shown below.

No problems were found for this criterion.

5. 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. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects U. Qualifications were applied to the samples and analytes as shown below.

A) Method blank contamination:

No problems were found for this criterion.

B) Field or rinse blank contamination:

Not applicable.

6. 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 all 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 opening CCV, or closing CCV that is used as an opening CCV for the next 12-hour period, if %D exceeds 25% for analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ".

For closing CCV, if %D exceeds 50% for all analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ". Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

7. FIELD DUPLICATES:

No problems were found for this criterion.

8. COMPOUND IDENTIFICATION:

A) PCB Fraction:

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 concentration exceeds 10ng/ml in the final sample extract. Qualifications were applied to the samples and analytes as shown below.

Percent Differences	Qualifier
0% - 25%	No qualification
26% - 200%	Professional Judgment
101% - 200% (interference detected, either column)	JN
> 50% (PCB value < CRQL, value raised to CRQL)	U
> 200%	R

The following samples were qualified for % difference on the two columns.

BD6Q4

9. **CONTRACT PROBLEMS NON-COMPLIANCE:**

None.

10. **FIELD DOCUMENTATION:**

No problems were identified.

11. **OTHER PROBLEMS:**

None.

12. **DILUTIONS, RE-EXTRACTIONS & RE-ANALYSIS:**

Samples may be re-analyzed for dilution, re-extraction and for other QC reasons. In such cases, the best result values are used. See summary report and EDD for applicable samples and analytes.

Sample Summary Report

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: ABLK69	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: ABLK72	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: ALCS72	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	15		ug/kg	15		1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Spike	14		ug/kg	14		1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: ALCS89	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	14		ug/kg	14		1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Spike	13		ug/kg	13		1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: BD6P9	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 11:00:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1221	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1232	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1242	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1248	Target	65		ug/kg	65		1.0	Yes	S3VEM
Aroclor-1254	Target	68		ug/kg	68		1.0	Yes	S3VEM
Aroclor-1260	Target	18	J	ug/kg	18	J	1.0	Yes	S3VEM
Aroclor-1262	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1268	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI	
Sample Number: BD6Q2	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016		Sample Time: 09:30:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	21	U	ug/kg	21	U	1.0	Yes	S3VEM
Aroclor-1221	Target	21	U	ug/kg	21	U	1.0	Yes	S3VEM
Aroclor-1232	Target	21	U	ug/kg	21	U	1.0	Yes	S3VEM
Aroclor-1242	Target	21	U	ug/kg	21	U	1.0	Yes	S3VEM
Aroclor-1248	Target	29		ug/kg	29		1.0	Yes	S3VEM
Aroclor-1254	Target	33		ug/kg	33		1.0	Yes	S3VEM
Aroclor-1260	Target	8.0	J	ug/kg	8.0	J	1.0	Yes	S3VEM
Aroclor-1262	Target	21	U	ug/kg	21	U	1.0	Yes	S3VEM
Aroclor-1268	Target	21	U	ug/kg	21	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: BD6Q3	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016	Sample Time: 09:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1221	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1232	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1242	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1248	Target	120		ug/kg	120		1.0	Yes	S3VEM
Aroclor-1254	Target	160		ug/kg	160		1.0	Yes	S3VEM
Aroclor-1260	Target	39		ug/kg	39		1.0	Yes	S3VEM
Aroclor-1262	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM
Aroclor-1268	Target	29	U	ug/kg	29	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI	
Sample Number: BD6Q4	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/19/2016		Sample Time: 09:30:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1221	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1232	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1242	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1248	Target	91	J	ug/kg	91	P	1.0	Yes	S3VEM
Aroclor-1254	Target	120		ug/kg	120		1.0	Yes	S3VEM
Aroclor-1260	Target	29	J	ug/kg	29	J	1.0	Yes	S3VEM
Aroclor-1262	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM
Aroclor-1268	Target	30	U	ug/kg	30	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: BD6R0	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	350		ug/kg	350	D	5.0	Yes	S3VEM
Aroclor-1254	Target	230		ug/kg	230	D	5.0	Yes	S3VEM
Aroclor-1260	Target	30		ug/kg	30		1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: BD6R0MS	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location:	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	190	J	ug/kg	190		1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	250		ug/kg	250	E	1.0	Yes	S3VEM
Aroclor-1254	Target	170		ug/kg	170		1.0	Yes	S3VEM
Aroclor-1260	Spike	63		ug/kg	63		1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: BD6R0MSD	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location:	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	200	J	ug/kg	200		1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	290		ug/kg	290	E	1.0	Yes	S3VEM
Aroclor-1254	Target	200		ug/kg	200		1.0	Yes	S3VEM
Aroclor-1260	Spike	61		ug/kg	61		1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6P9	Lab Code: EQI
Sample Number: BD6R2	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: South Pond	pH:	Sample Date: 10/18/2016	Sample Time: 10:30:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1221	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1232	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1242	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1248	Target	700		ug/kg	700	D	5.0	Yes	S3VEM
Aroclor-1254	Target	470		ug/kg	470	D	5.0	Yes	S3VEM
Aroclor-1260	Target	74		ug/kg	74		1.0	Yes	S3VEM
Aroclor-1262	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1268	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM

Case No:	46613	Contract:	EPW14035	SDG No:	BD6P9	Lab Code:	EQI
Sample Number:	BD6S1	Method:	Aroclors	Matrix:	Tissue	MA Number:	2672.0
Sample Location:	South Pond	pH:		Sample Date:	10/18/2016	Sample Time:	10:30:00
% Moisture :				% Solids :	100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1221	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1232	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1242	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1248	Target	710		ug/kg	710	D	5.0	Yes	S3VEM
Aroclor-1254	Target	450		ug/kg	450	D	5.0	Yes	S3VEM
Aroclor-1260	Target	53		ug/kg	53		1.0	Yes	S3VEM
Aroclor-1262	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1268	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

EXECUTIVE NARRATIVE

Case No. : 46613
Site: Richardson Hill Road Landfill/Pond
Number of Samples: 14 (Tissue)
Analysis: PCB (MA # 2672.0)

SDG No.: BD6Q5
Laboratory: Shealy Environmental Services, Inc.
Sampling dates: 10/18/2016-10/19/2016
Validation SOP: HW-37A (Rev 0)

QAPP: Not available.

SUMMARY OF DEFINITIONS:
Critical: Results have an unacceptable level of uncertainty and should not be used for making decisions. Data have been qualified "R" rejected.
Major: A level of uncertainty exists that may not meet the data quality objectives for the project. A bias is likely to be present in the results. Data has been qualified "J" estimated. "J+" and "J-" represent likely direction of the bias.
Minor: The level of uncertainty is acceptable. No significant bias in the data was observed.

Critical Findings:
None.

Major Findings:
None.

Minor Findings:
None.

COMMENTS: QAPP was not available at the time of validation.

Reviewer Name(s): Raxa J. Shelley

Approver's Signature:

Date: 12/26/16

Name: Russell Arnone

Affiliation: USEPA/R2/HWSB/HWSS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

Data Qualifier Definitions (National Functional Guidelines)			
Qualifier Symbol	Explanation		
	INORGANICS	ORGANICS	CHLORINATED DIOXIN/FURAN
U	The analyte was analyzed for, but was not detected above the level of the reported quantitation limit.	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method	The analyte was analyzed for but not detected. The value preceding the "U" may represent the adjusted Contract Required Quantitation Limit (see DLM02.X, Exhibit D, Section 1.2 and Table 2), or the sample specific estimated detection limit (EDL, see Method 8290A, Section 11.9.5).
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to an issue with the quality of the data generated because certain QC criteria were not met, or the concentration of the analyte was below the adjusted CRQL).
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.	
J–	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.	
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.	The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.	The analyte was not detected (see definition of "U" flag, above). The reported value should be considered approximate.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
N		The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".	
NJ		The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	
C		This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).	
X		This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

DATA ASSESSMENT

ANALYSIS: PCB (MA # 2672.0)

The current SOP HW-37A (Revision 0) July 2015, USEPA Region II for the evaluation of PCB data generated through Statement of Work SOM02.2 has been applied. Data have been reviewed according to TDF specifications, the National Functional Guidelines Report and the CCS Semi-Automated Screening Results Report.

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". Use professional judgment to qualify the non-detects (sample quantitation limits), if the holding times are grossly exceeded. Qualifications were applied to the samples and analytes as shown below.

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 recovery were outside Table 5 of the SOP HW-37A (Revision 0), qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

3. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD):**

MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD data 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.

No problems were found for this criterion.

4. **Laboratory Control Samples (LCS):**

LCS data provides information on the accuracy of the analytical method and laboratory performance. If LCS recoveries fell outside of the acceptable limits, qualifications were applied to the associated samples and compounds as shown below.

No problems were found for this criterion.

5. **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. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects U. Qualifications were applied to the samples and analytes as shown below.

A) **Method blank contamination:**

No problems were found for this criterion.

B) **Field or rinse blank contamination:**

Not applicable.

6. **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 all 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 opening CCV, or closing CCV that is used as an opening CCV for the next 12-hour period, if %D exceeds 25% for analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ".

For closing CCV, if %D exceeds 50% for all analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ". Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

7. **FIELD DUPLICATES:**

Samples BD6Q8 and BD6S0: RPD is greater than 50 for Aroclor-1248, Aroclor-1254 and Aroclor-1260.

8. **COMPOUND IDENTIFICATION:**

A) **PCB Fraction:**

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

concentration exceeds 10ng/ml in the final sample extract. Qualifications were applied to the samples and analytes as shown below.

Percent Differences	**Qualifier**
0% - 25%	No qualification
26% - 200%	Professional Judgment
101% - 200% (interference detected, either column)	JN
> 50% (PCB value < CRQL, value raised to CRQL)	U
> 200%	R

The following samples were qualified for % difference on the two columns.

No problems were found for this criterion.

9. **CONTRACT PROBLEMS NON-COMPLIANCE:**

None.

10. **FIELD DOCUMENTATION:**

No problems were identified.

11. **OTHER PROBLEMS:**

None.

12. **DILUTIONS, RE-EXTRACTIONS & RE-ANALYSIS:**

Samples may be re-analyzed for dilution, re-extraction and for other QC reasons. In such cases, the best result values are used. See summary report and EDD for applicable samples and analytes.

Sample Summary Report

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: ABLK69	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: ALCS89	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	14		ug/kg	14		1.0	Yes	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1260	Spike	13		ug/kg	13		1.0	Yes	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI	
Sample Number: BD6Q5	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016		Sample Time: 15:10:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1221	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1232	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1242	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1248	Target	27		ug/kg	27		1.0	Yes	S3VEM
Aroclor-1254	Target	38		ug/kg	38		1.0	Yes	S3VEM
Aroclor-1260	Target	10	J	ug/kg	10	J	1.0	Yes	S3VEM
Aroclor-1262	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM
Aroclor-1268	Target	15	U	ug/kg	15	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6Q6	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1221	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1232	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1242	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1248	Target	18	J	ug/kg	18	J	1.0	Yes	S3VEM
Aroclor-1254	Target	48		ug/kg	48		1.0	Yes	S3VEM
Aroclor-1260	Target	18	J	ug/kg	18	J	1.0	Yes	S3VEM
Aroclor-1262	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM
Aroclor-1268	Target	20	U	ug/kg	20	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI	
Sample Number: BD6Q7	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016		Sample Time: 15:10:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1221	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1232	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1242	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1248	Target	98		ug/kg	98		1.0	Yes	S3VEM
Aroclor-1254	Target	160		ug/kg	160		1.0	Yes	S3VEM
Aroclor-1260	Target	50		ug/kg	50		1.0	Yes	S3VEM
Aroclor-1262	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1268	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6Q8	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1221	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1232	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1242	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1248	Target	38		ug/kg	38		1.0	Yes	S3VEM
Aroclor-1254	Target	42		ug/kg	42		1.0	Yes	S3VEM
Aroclor-1260	Target	12	J	ug/kg	12	J	1.0	Yes	S3VEM
Aroclor-1262	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM
Aroclor-1268	Target	23	U	ug/kg	23	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI	
Sample Number: BD6Q9	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016		Sample Time: 15:10:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1221	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1232	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1242	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1248	Target	50		ug/kg	50		1.0	Yes	S3VEM
Aroclor-1254	Target	76		ug/kg	76		1.0	Yes	S3VEM
Aroclor-1260	Target	23		ug/kg	23		1.0	Yes	S3VEM
Aroclor-1262	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM
Aroclor-1268	Target	19	U	ug/kg	19	U	1.0	Yes	S3VEM

Case No:	46613	Contract:	EPW14035	SDG No:	BD6Q5	Lab Code:	EQI
Sample Number:	BD6R3	Method:	Aroclors	Matrix:	Tissue	MA Number:	2672.0
Sample Location:	Herrick Creek	pH:		Sample Date:	10/18/2016	Sample Time:	15:10:00
% Moisture :				% Solids :	100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1221	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1232	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1242	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1248	Target	280		ug/kg	280	D	2.0	Yes	S3VEM
Aroclor-1254	Target	410		ug/kg	410	D	2.0	Yes	S3VEM
Aroclor-1260	Target	140		ug/kg	140		1.0	Yes	S3VEM
Aroclor-1262	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1268	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6R3MS	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location:	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	340		ug/kg	340		1.0	Yes	S3VEM
Aroclor-1221	Target	64	U	ug/kg	64	U	1.0	Yes	S3VEM
Aroclor-1232	Target	64	U	ug/kg	64	U	1.0	Yes	S3VEM
Aroclor-1242	Target	64	U	ug/kg	64	U	1.0	Yes	S3VEM
Aroclor-1248	Target	360		ug/kg	360		1.0	Yes	S3VEM
Aroclor-1254	Target	440		ug/kg	440		1.0	Yes	S3VEM
Aroclor-1260	Spike	350		ug/kg	350		1.0	Yes	S3VEM
Aroclor-1262	Target	64	U	ug/kg	64	U	1.0	Yes	S3VEM
Aroclor-1268	Target	64	U	ug/kg	64	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6R3MSD	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location:	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	440		ug/kg	440		1.0	Yes	S3VEM
Aroclor-1221	Target	84	U	ug/kg	84	U	1.0	Yes	S3VEM
Aroclor-1232	Target	84	U	ug/kg	84	U	1.0	Yes	S3VEM
Aroclor-1242	Target	84	U	ug/kg	84	U	1.0	Yes	S3VEM
Aroclor-1248	Target	410		ug/kg	410		1.0	Yes	S3VEM
Aroclor-1254	Target	420		ug/kg	420		1.0	Yes	S3VEM
Aroclor-1260	Spike	400		ug/kg	400		1.0	Yes	S3VEM
Aroclor-1262	Target	84	U	ug/kg	84	U	1.0	Yes	S3VEM
Aroclor-1268	Target	84	U	ug/kg	84	U	1.0	Yes	S3VEM

Case No:	46613	Contract:	EPW14035	SDG No:	BD6Q5	Lab Code:	EQI
Sample Number:	BD6R4	Method:	Aroclors	Matrix:	Tissue	MA Number:	2672.0
Sample Location:	Herrick Creek	pH:		Sample Date:	10/18/2016	Sample Time:	15:10:00
% Moisture :				% Solids :	100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1221	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1232	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1242	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1248	Target	180		ug/kg	180		1.0	Yes	S3VEM
Aroclor-1254	Target	300		ug/kg	300		1.0	Yes	S3VEM
Aroclor-1260	Target	110		ug/kg	110		1.0	Yes	S3VEM
Aroclor-1262	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM
Aroclor-1268	Target	33	U	ug/kg	33	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6R5	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	47	U	ug/kg	47	U	1.0	Yes	S3VEM
Aroclor-1221	Target	47	U	ug/kg	47	U	1.0	Yes	S3VEM
Aroclor-1232	Target	47	U	ug/kg	47	U	1.0	Yes	S3VEM
Aroclor-1242	Target	47	U	ug/kg	47	U	1.0	Yes	S3VEM
Aroclor-1248	Target	220		ug/kg	220		1.0	Yes	S3VEM
Aroclor-1254	Target	280		ug/kg	280		1.0	Yes	S3VEM
Aroclor-1260	Target	96		ug/kg	96		1.0	Yes	S3VEM
Aroclor-1262	Target	47	U	ug/kg	47	U	1.0	Yes	S3VEM
Aroclor-1268	Target	47	U	ug/kg	47	U	1.0	Yes	S3VEM

Case No:	46613	Contract:	EPW14035	SDG No:	BD6Q5	Lab Code:	EQI
Sample Number:	BD6R6	Method:	Aroclors	Matrix:	Tissue	MA Number:	2672.0
Sample Location:	Herrick Creek	pH:		Sample Date:	10/18/2016	Sample Time:	15:10:00
% Moisture :				% Solids :	100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1221	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1232	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1242	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1248	Target	150		ug/kg	150		1.0	Yes	S3VEM
Aroclor-1254	Target	320		ug/kg	320	D	2.0	Yes	S3VEM
Aroclor-1260	Target	120		ug/kg	120		1.0	Yes	S3VEM
Aroclor-1262	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1268	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6R7	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	36	U	ug/kg	36	U	1.0	Yes	S3VEM
Aroclor-1221	Target	36	U	ug/kg	36	U	1.0	Yes	S3VEM
Aroclor-1232	Target	36	U	ug/kg	36	U	1.0	Yes	S3VEM
Aroclor-1242	Target	36	U	ug/kg	36	U	1.0	Yes	S3VEM
Aroclor-1248	Target	190		ug/kg	190		1.0	Yes	S3VEM
Aroclor-1254	Target	290		ug/kg	290		1.0	Yes	S3VEM
Aroclor-1260	Target	100		ug/kg	100		1.0	Yes	S3VEM
Aroclor-1262	Target	36	U	ug/kg	36	U	1.0	Yes	S3VEM
Aroclor-1268	Target	36	U	ug/kg	36	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI	
Sample Number: BD6R8	Method: Aroclors	Matrix: Tissue		MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016		Sample Time: 15:10:00
% Moisture :		% Solids : 100		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	37	U	ug/kg	37	U	1.0	Yes	S3VEM
Aroclor-1221	Target	37	U	ug/kg	37	U	1.0	Yes	S3VEM
Aroclor-1232	Target	37	U	ug/kg	37	U	1.0	Yes	S3VEM
Aroclor-1242	Target	37	U	ug/kg	37	U	1.0	Yes	S3VEM
Aroclor-1248	Target	220		ug/kg	220		1.0	Yes	S3VEM
Aroclor-1254	Target	300		ug/kg	300		1.0	Yes	S3VEM
Aroclor-1260	Target	88		ug/kg	88		1.0	Yes	S3VEM
Aroclor-1262	Target	37	U	ug/kg	37	U	1.0	Yes	S3VEM
Aroclor-1268	Target	37	U	ug/kg	37	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6R9	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	55	U	ug/kg	55	U	1.0	Yes	S3VEM
Aroclor-1221	Target	55	U	ug/kg	55	U	1.0	Yes	S3VEM
Aroclor-1232	Target	55	U	ug/kg	55	U	1.0	Yes	S3VEM
Aroclor-1242	Target	55	U	ug/kg	55	U	1.0	Yes	S3VEM
Aroclor-1248	Target	210		ug/kg	210		1.0	Yes	S3VEM
Aroclor-1254	Target	300		ug/kg	300		1.0	Yes	S3VEM
Aroclor-1260	Target	94		ug/kg	94		1.0	Yes	S3VEM
Aroclor-1262	Target	55	U	ug/kg	55	U	1.0	Yes	S3VEM
Aroclor-1268	Target	55	U	ug/kg	55	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6S0	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	46	U	ug/kg	46	U	1.0	Yes	S3VEM
Aroclor-1221	Target	46	U	ug/kg	46	U	1.0	Yes	S3VEM
Aroclor-1232	Target	46	U	ug/kg	46	U	1.0	Yes	S3VEM
Aroclor-1242	Target	46	U	ug/kg	46	U	1.0	Yes	S3VEM
Aroclor-1248	Target	470		ug/kg	470	D	2.0	Yes	S3VEM
Aroclor-1254	Target	690		ug/kg	690	D	2.0	Yes	S3VEM
Aroclor-1260	Target	160		ug/kg	160		1.0	Yes	S3VEM
Aroclor-1262	Target	46	U	ug/kg	46	U	1.0	Yes	S3VEM
Aroclor-1268	Target	46	U	ug/kg	46	U	1.0	Yes	S3VEM

Case No: 46613	Contract: EPW14035	SDG No: BD6Q5	Lab Code: EQI
Sample Number: BD6S2	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 10/18/2016	Sample Time: 15:10:00
% Moisture :		% Solids : 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1221	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1232	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1242	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1248	Target	150		ug/kg	150		1.0	Yes	S3VEM
Aroclor-1254	Target	230		ug/kg	230		1.0	Yes	S3VEM
Aroclor-1260	Target	71		ug/kg	71		1.0	Yes	S3VEM
Aroclor-1262	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM
Aroclor-1268	Target	24	U	ug/kg	24	U	1.0	Yes	S3VEM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

EXECUTIVE NARRATIVE

Case No.: 46613
Site: Richardson Hill Road Landfill/Pond
Number of Samples: 2 (Tissue)
Analysis: PCB

SDG No.: BD6Q8
Laboratory: Shealy Environmental Services
Sampling dates: 10/18/16
Validation SOP: HW-37A (Rev 0)

QAPP:

Not available.

SUMMARY OF DEFINITIONS:
Critical: Results have an unacceptable level of uncertainty and should not be used for making decisions. Data have been qualified "R" rejected.
Major: A level of uncertainty exists that may not meet the data quality objectives for the project. A bias is likely to be present in the results. Data has been qualified "J" estimated. "J+" and "J-" represent likely direction of the bias.
Minor: The level of uncertainty is acceptable. No significant bias in the data was observed.

Critical Findings:
None

Major Findings:
None

Minor Findings:
None.

COMMENTS: Site Specific QAPP is not available for this site.

Reviewer Name(s): Israel Okwuonu

Approver's Signature: **Date: 04/04/17**

Name: Russell Arnone

Affiliation: USEPA/R2/HWSB/HWSS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
DESA/HWSB/HWSS
2890, Woodbridge Avenue, Edison, NJ 08837

Data Qualifier Definitions (National Functional Guidelines)			
Qualifier Symbol	Explanation		
	INORGANICS	ORGANICS	CHLORINATED DIOXIN/FURAN
U	The analyte was analyzed for, but was not detected above the level of the reported quantitation limit.	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method	The analyte was analyzed for but not detected. The value preceding the "U" may represent the adjusted Contract Required Quantitation Limit (see DLM02.X, Exhibit D, Section 1.2 and Table 2), or the sample specific estimated detection limit (EDL, see Method 8290A, Section 11.9.5).
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL.	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to an issue with the quality of the data generated because certain QC criteria were not met, or the concentration of the analyte was below the adjusted CRQL).
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.	
J-	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.	
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.	The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.	The analyte was not detected (see definition of "U" flag, above). The reported value should be considered approximate.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
N		The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".	
NJ		The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	
C		This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).	
X		This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.	

DATA ASSESSMENT

ANALYSIS: PCB

The current SOP HW-37A (Rev. 0) June 2015, USEPA Region II for the evaluation of PCB data generated through Statement of Work SOM02.2 has been applied. Data have been reviewed according to TDF specifications, the National Functional Guidelines Report and the CCS Semi-Automated Screening Results Report.

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". Use professional judgment to qualify the non-detects (sample quantitation limits), if the holding times are grossly exceeded. Qualifications were applied to the samples and analytes as shown below.

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 recovery were outside Table 5 of the SOP HW-37A (Rev. 0), qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

3. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD):**

MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD data 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.

Not applicable.

4. **Laboratory Control Samples (LCS):**

LCS data provides information on the accuracy of the analytical method and laboratory performance. If LCS recoveries fell outside of the acceptable limits, qualifications were applied to the associated samples and compounds as shown below.

No problems were found for this criterion.

5. 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. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects U. Qualifications were applied to the samples and analytes as shown below.

A) Method blank contamination:

No problems were found for this criterion.

B) Field or rinse blank contamination:

Not applicable.

6. 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 all 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 opening CCV, or closing CCV that is used as an opening CCV for the next 12-hour period, if %D exceeds 25% for analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ".

For closing CCV, if %D exceeds 50% for all analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ". Qualifications were applied to the samples and analytes as shown below.

No problems were found for this criterion.

7. FIELD DUPLICATES:

Field duplicates were not clearly identified in the trip report.

8. COMPOUND IDENTIFICATION:

A) PCB Fraction:

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 concentration exceeds 10ng/ml in the final sample extract. Qualifications were applied to the samples and analytes as shown below.

Percent Differences	Qualifier
0% - 25%	No qualification
26% - 200%	Professional Judgment
101% - 200% (interference detected, either column)	JN
> 50% (pesticide value < CRQL, value raised to CRQL)	U
> 200%	R

The following samples were qualified for % difference on the two columns

BD6Q8

9. CONTRACT PROBLEMS NON-COMPLIANCE:

None.

10. FIELD DOCUMENTATION:

No problems were identified.

11. OTHER PROBLEMS:

None.

12. DILUTIONS, RE-EXTRACTIONS & RE-ANALYSIS:

Samples may be re-analyzed for dilution, re-extraction and for other QC reasons. In such cases, the best result values are used. See summary report and EDD for applicable samples and analytes.

Sample Summary Report

Case: 46613	Contract: EPW14035	SDG: BD6Q8	Lab Code: EQI

Sample Number: ABLK19	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1260	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM

Sample Summary Report

Case: 46613 **Contract: EPW14035** **SDG: BD6Q8** **Lab Code: EQI**

Sample Number: ALCS19	Method: Aroclors	Matrix: Soil	MA Number: 2672.0
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	12	J	ug/kg	12	J	1.0	YES	S3VEM
Aroclor-1221	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1232	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1242	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1248	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1254	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1260	Spike	14		ug/kg	14		1.0	YES	S3VEM
Aroclor-1262	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM
Aroclor-1268	Target	13	U	ug/kg	13	U	1.0	YES	S3VEM

Sample Summary Report

Case: 46613	Contract: EPW14035	SDG: BD6Q8	Lab Code: EQI

Sample Number: BD6Q8	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 11/18/2016	Sample Time: 15:10:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	23	U	ug/kg	23	U	1.0	YES	S3VEM
Aroclor-1221	Target	23	U	ug/kg	23	U	1.0	YES	S3VEM
Aroclor-1232	Target	23	U	ug/kg	23	U	1.0	YES	S3VEM
Aroclor-1242	Target	23	U	ug/kg	23	U	1.0	YES	S3VEM
Aroclor-1248	Target	22	J	ug/kg	22	JP	1.0	YES	S3VEM
Aroclor-1254	Target	43		ug/kg	43		1.0	YES	S3VEM
Aroclor-1260	Target	12	J	ug/kg	12	J	1.0	YES	S3VEM
Aroclor-1262	Target	23	U	ug/kg	23	U	1.0	YES	S3VEM
Aroclor-1268	Target	23	U	ug/kg	23	U	1.0	YES	S3VEM

Sample Summary Report

Case: 46613	Contract: EPW14035	SDG: BD6Q8	Lab Code: EQI

Sample Number: BD6S0	Method: Aroclors	Matrix: Tissue	MA Number: 2672.0
Sample Location: Herrick Creek	pH:	Sample Date: 11/18/2016	Sample Time: 15:10:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	46	U	ug/kg	46	U	1.0	YES	S3VEM
Aroclor-1221	Target	46	U	ug/kg	46	U	1.0	YES	S3VEM
Aroclor-1232	Target	46	U	ug/kg	46	U	1.0	YES	S3VEM
Aroclor-1242	Target	46	U	ug/kg	46	U	1.0	YES	S3VEM
Aroclor-1248	Target	360		ug/kg	360		1.0	YES	S3VEM
Aroclor-1254	Target	710		ug/kg	710	D	2.0	YES	S3VEM
Aroclor-1260	Target	140		ug/kg	140		1.0	YES	S3VEM
Aroclor-1262	Target	46	U	ug/kg	46	U	1.0	YES	S3VEM
Aroclor-1268	Target	46	U	ug/kg	46	U	1.0	YES	S3VEM

Sample Summary Report

Case: 46613	Contract: EPW14035	SDG: BD6Q8	Lab Code: EQI