AECOM
1111 3rd Ave
Suite 1600
Seattle, WA 98101
www.aecom.com

206 438 2700 tel
866 495 5288 fax

Data Validation Report

Project:	Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland Harbor Superfund Site Standard Reference Material
Laboratory:	TestAmerica Laboratories, Incorporated, Seattle, WA
Laboratory Group:	580-77187-1
Analyses/Method:	Polychlorinated Biphenyls (PCBs)
Validation Level:	Stage 4
AECOM Project Number:	60566335, Task #2.12
Prepared by:	Chelsey Cook/AECOM — Completed on: January 3, 2019
Reviewed by:	Jennifer Garner/AECOM — File Name: 580-77187-1 DVR

SUMMARY

The data quality review of one standard reference material received by TestAmerica Laboratories, Incorporated (TA) located in Tacoma, Washington on May 10, 2018, has been completed. The sample was analyzed for PCBs by United States Environmental Protection Agency (EPA) Method 8082A by TA. The analysis was performed in general accordance with the method specified in EPA's *Test Methods for Evaluating Solid Waste (SW-846)*. The laboratory provided level 2 and level 4 data packages containing sample results, and associated quality assurance (QA) and quality control (QC) data, preparation logs, and raw instrument outputs (where applicable). The following sample is associated with laboratory group 580-77187-1:

Sample ID	Laboratory ID
Puget Sound Sediment Reference Material	580-77187-1

Data validation is based on method performance criteria and QC criteria documented in the *Quality Assurance Project Plan (QAPP),* dated March 23, 2018, as amended. If data qualification was required, data were qualified based on the definitions and use of qualifying flags outlined in the EPA document *USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, January 2017. Data qualifiers assigned to results reported in this sample set are included in Table 1.

SAMPLE RECEIPT

The sample was received by TA in good condition.

ORGANIC ANALYSES

The sample was analyzed for PCBs by EPA Method 8082A.

1. Holding Times – Acceptable

2. Initial and Continuing Calibration Verifications – Acceptable except as noted below:

   The percent differences (%Ds) for one or more peaks in the following Aroclors were outside the control limits of ±20% in the continuing calibration verifications (CCV) described below:

Batch	Date/Time Analyzed	Analyte	Column 1 %D	Column 2 %D
274623	5/24/18 at 13:27	PCB-1232	ok	high
	5/24/18 at 14:02	PCB-1242	high	high
	5/24/18 at 14:20	PCB-1221	high	ok
	5/24/18 at 14:37	Decachlorobiphenyl (surrogate)	low	low
274756	5/29/18 at 9:35	PCB-1232	high	high
	5/29/18 at 9:53	PCB-1248	high	high
	5/29/18 at 10:11	PCB-1242	high	high
		PCB-1268	high	ok
	5/29/18 at 10:28	PCB-1221	high	high
		PCB-1254	high	high
	5/29/18 at 10:46	PCB-1016	high	high
		PCB-1260	high	ok
		Tetrachloro-m-xylene (surrogate)	ok	high

ok – acceptable response

The CCV analyzed in association with batch 274623 was associated with the method blank, laboratory control sample, and laboratory control sample duplicate only; therefore, no data were qualified based on the associated %Ds.

Aroclor 1232, Aroclor 1248, Aroclor 1242, Aroclor 1268, Aroclor 1221, Aroclor 1254, and Aroclor 1016 were reported as not detected in Puget Sound Sediment Reference Material; therefore, no data were qualified based on the elevated %Ds on one or more analytical columns. No data were qualified based on the surrogate, tetrachloro-m-xylene %D in the CCV associated with analytical batch 274756. The result for Aroclor 1260 was reported from Column 1 in Puget Sound Sediment Reference Material; therefore, the result for Aroclor 1260 was qualified as estimated and flagged 'J.'

3. Blanks – Acceptable

4. Surrogates – Acceptable

5. Internal Standards – Acceptable

6. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

   An MS/MSD was not performed using the sample reported in this laboratory group. Accuracy and precision were assessed using the LCS/LCSD.

8. Calculation Checks – Acceptable

   A calculation check was performed for sample results on one sample per calibration. The review confirmed the final results were correct as reported.

9. Reporting Limits and Chromatographic Review – Acceptable except as noted below:

   Chromatograms were reviewed to confirm target analytes were properly identified. The review confirmed target analytes were properly identified and reported by the laboratory.

10. Other Items of Note:

    The laboratory noted that this sample required a copper clean-up to reduce matrix interferences caused by sulfur.

    The laboratory assumed a percent solids of 100%. As the laboratory did not analyze percent solids, these results were not provided in the laboratory EDD.

    The laboratory noted that the sample contained more than one Aroclor with insufficient separation to quantify each individually. Aroclor 1260 was identified as the predominant PCB present; therefore, only Aroclor 1260 was reported as detected.

OVERALL ASSESSMENT OF DATA

The data reported in this laboratory group is considered usable for meeting project objectives. The completeness for laboratory group 580-77187-1 is 100%.

Table 1
QA/QC Data Summary Review
Portland Harbor
Puget Sound Sediment Reference Material
TestAmerica Laboratory Group: 580-77187-1

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
Puget Sound Sediment Reference Material	580-77187-1	SW8082A	PCB-1260	83	ug/kg	83 J	c

Notes:
c - calibration issue
J - estimated value
ug/kg - microgram per kilogram