

Data Validation Report

Project: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
 Portland Harbor Superfund Site
 Surface Sediment – Downtown/Upriver Reaches

Laboratory: ALS Environmental, Kelso, WA

Laboratory Group: K1809371

Analyses/Method: Chlorinated Pesticides and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1809371 DVR

SUMMARY

The data quality review of 4 surface sediment samples collected between July 27 and August 17, 2018, has been completed. The samples were analyzed for chlorinated pesticides by EPA Method 1699-modified (GC/MS/MS) and total solids by EPA Method 160.3-modified at ALS Environmental (ALS) located in Kelso, Washington. The analyses were performed in general accordance with the methods specified in EPA's *Method 1699: Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS*, December 2007 (modified by ALS SOP SVM-PESTMS2) and *Methods for Chemical Analysis of Water and Wastes*, March 1983. 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 samples were associated with laboratory group K1809371:

Sample ID	Laboratory ID
PDI-SG-B436	K1809371-001
PDI-SG-B474	K1809371-002
PDI-SG-B480	K1809371-003
PDI-SG-B481	K1809371-004

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 documents *USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, January 2017, and *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review*, January 2017. Data qualifiers assigned to results reported in this sample set are included in Table 1.

SAMPLE RECEIPT

Upon receipt by ALS, the sample jar information was compared to the chain-of-custody (COC) and the cooler temperature was recorded. No discrepancies related to sample identification were noted by ALS. The cooler was received at a temperature below the EPA-recommended limits of greater than 0°C and less than or equal to 6°C at 0.0°C. No data were qualified based on the low cooler temperature.

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Surface Sediment – Downtown/Upriver Reaches

ALS Lab Group: K1809371

The samples were collected between July 27 and August 17, 2018 and were held frozen in the AECOM storage facility freezer until shipment to ALS-Kelso. The samples were received by the laboratory on September 27, 2018, and placed on frozen hold. Samples PDI-SG-B436 and PDI-SG-B481 were authorized for analysis on October 9, 2018. Sample PDI-SG-S474 was authorized for analysis on October 23, 2018, and the results were reported under separate cover (K1810367). Sample PDI-SG-B480 was not authorized for analysis.

ORGANIC ANALYSIS

The samples were analyzed for chlorinated pesticides by EPA Method 1699-modified.

1. Holding Times – Acceptable

The samples were extracted 42 (PDI-SG-B436) and 62 (PDI-SG-B481) days past the method-recommended holding time of 14 days. As described above, the samples were frozen in archive until extraction and were thawed for less than 14 days; therefore, the samples were not extracted outside the holding time.

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

The percent differences (%Ds) for 2,4'-DDD (-30.4%), 4,4'-DDE (-37.9%), and dieldrin (-29.7%) were below the control limit of $\pm 25\%$ in the continuing calibration verification (CCV) analyzed on October 24, 2018. The results for 2,4'-DDD, 4,4'-DDE, and dieldrin in PDI-SG-B436 and PDI-SG-B481 were qualified as estimated and flagged 'J' or 'UJ' based on these CCV results.

3. Blanks – Acceptable

A rinsate blank was not submitted with this laboratory group. The associated rinsate blank was reported under separate cover. Target compounds may have been detected in the rinsate blank associated with these samples. Sediment data were not qualified based on rinsate blank results.

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 performed using a sample from a project unrelated to the Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling program. Data in this laboratory group were not qualified based on these MS/MSD results.

8. Reporting Limits – Acceptable except as noted below:

The reporting limits for the chlorinated pesticides reported as not detected in these sediment samples were elevated due to the moisture content and/or lower extraction volume used due to matrix interference. The reporting limits and MDLs for dieldrin exceeded the cleanup level in all sediment samples reported in laboratory group K1809371.



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CONVENTIONAL ANALYSIS

The samples were analyzed for total solids by EPA Method 160.3-modified.

1. Holding Times

Samples PDI-SG-B436 and PDI-SG-B481 were frozen and held in archive at the AECOM storage facility immediately after collection. The frozen samples were submitted to ALS on September 27, 2018, and the total solids analyses were performed on October 3, 2018, 41 (PDI-SG-B481) and 61 (PDI-SG-B436) days past the 7-day holding time indicated for total solids in the QAPP. No data qualifiers were assigned based on the holding time exceedance.

2. Laboratory Duplicate – Acceptable

Laboratory duplicates were performed using two samples from projects unrelated to the Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling program. Results were comparable.

3. Reporting Limits – Acceptable

OVERALL ASSESSMENT OF DATA

The data reported in this laboratory group is considered usable for meeting project objectives. The completeness for laboratory group K1809371 is 100%.

Table 1
QA/QC Data Summary Review
Portland Harbor
Surface Sediment - Downtown/Upriver Reaches
ALS Kelso Laboratory Group: K1809371

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-SG-B436	K1809371-001	CWA1699M	2,4-DDD	0.37 U	ug/kg	0.37 UJ	c
PDI-SG-B436	K1809371-001	CWA1699M	4,4'-DDE	1.0	ug/kg	1.0 J	c
PDI-SG-B436	K1809371-001	CWA1699M	Dieldrin	0.74 U	ug/kg	0.74 UJ	c
PDI-SG-B481	K1809371-004	CWA1699M	2,4-DDD	0.34 U	ug/kg	0.34 UJ	c
PDI-SG-B481	K1809371-004	CWA1699M	4,4'-DDE	0.63	ug/kg	0.63 J	c
PDI-SG-B481	K1809371-004	CWA1699M	Dieldrin	0.68 U	ug/kg	0.68 UJ	c

Notes:

c - calibration issue

J - estimated value

U - Compound was analyzed for, but not detected above the value shown.

ug/kg - microgram per kilogram