

## Data Validation Report

Project: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling  
Portland Harbor Superfund Site  
Surface Sediment – Sediment Management Area

Laboratory: ALS Environmental, Kelso, WA

Laboratory Group: K1803977

Analyses/Method: Chlorinated Pesticides, Polycyclic Aromatic Hydrocarbons (PAHs), and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1803977 DVR

### SUMMARY

The data quality review of 2 surface sediment samples collected on April 29, 2018, has been completed. Samples were analyzed for chlorinated pesticides by EPA Method 1699-modified (GC/MS/MS), PAHs by EPA Method 8270D modified by selected ion monitoring (SIM), 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 *Test Methods for Evaluating Solid Waste (SW-846)*, *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 are associated with laboratory group K1803977:

Sample ID	Laboratory ID
PDI-SG-S208	K1803977-001
PDI-SG-S216	K1803977-002

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 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 temperatures were recorded. No discrepancies related to sample identification were noted by ALS. One cooler was received at a temperature above the EPA-recommended limits of greater than 0°C and less than or equal to 6°C at 7.2°C. Data were not qualified based on the elevated cooler temperature.

**Data Validation Report****Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling****Surface Sediment – Sediment Management Area****ALS Lab Group: K1803977****ORGANIC ANALYSES**

Samples were analyzed for chlorinated pesticides and PAHs by the methods identified in the introduction to this report.

1. Holding Times – Acceptable except as noted below:

Chlorinated Pesticides by EPA Method 1699-modified – The extracts for PD1-SG-S208 and PD1-SG-S216 were analyzed 4-5 days past the analytical holding time of 40 days. The results for all pesticides in these samples were qualified as estimated and flagged 'J' based on the holding time exceedance.

2. Initial and Continuing Calibration Verifications – Acceptable

3. Blanks – Acceptable except as noted below:

General – A rinsate blank was collected on April 29, 2018, was reported with laboratory group K1803975 (ID K1803975-035), and is applicable to the samples collected in this laboratory group. The following analytes were detected in the rinsate blank at concentrations between the method detection limits (MDLs) and the reporting limits:

Analysis	Analyte	Result
Chlorinated Pesticides	cis-Nonachlor	0.19 ng/L
PAHs	Naphthalene	0.0037 ug/L
	2-Methylnaphthalene	0.0017 ug/L
	Phenanthrene	0.0026 ug/L

The result for phenanthrene was qualified as not detected based on the associated method blank in K1803975-035. Data were not qualified based on rinsate blank detections.

4. Surrogates – Acceptable
5. Internal Standards – Acceptable
6. Laboratory Control Sample (LCS) – Acceptable except as noted below:

Chlorinated Pesticides by EPA Method 1699-modified – The percent recovery for 4,4'-DDD (129%) exceeded the control limits of 74-117% in the LCS extracted on May 2, 2018. The results for 4,4'-DDD in the samples associated with this LCS were qualified as estimated based on holding time exceedance as described in Section 1; therefore, no further qualifications based on the elevated LCS result were necessary.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable except as noted below:

Chlorinated Pesticides by EPA Method 1699-modified – An MS/MSD was performed using PDI-SG-B247-BL1 (laboratory group K1803759, discussed under separate cover). Results were acceptable.



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PAHs by EPA Method 8270D-SIM – An MS/MSD was performed using PDI-SG-B288-BL1 (laboratory group K1803850, discussed under separate cover). Data in this laboratory group were not qualified based on these MS/MSD results. Qualification, if any, is discussed in the associated data validation report.

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

Chlorinated Pesticides by EPA Method 1699-modified – One or more results were flagged 'J' by the laboratory to indicate the reported concentrations were above the MDLs but below the reporting limits. Laboratory 'J'-flagged results are considered estimated. As the result is between the MDL and the reporting limit, there is a greater level of uncertainty associated with the numerical result.

The reporting limits for one or more pesticides reported as not detected in multiple samples were elevated due to the moisture content and/or dilution due to matrix interference. The elevated reporting limits and MDLs do not exceed the cleanup level.

## CONVENTIONAL ANALYSES

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

1. Holding Times – Acceptable
2. Laboratory Duplicate – Acceptable

Laboratory duplicates were performed using PDI-SG-B321-BL1 and PDI-SG-B276-BL1 (laboratory group K1803942, discussed under separate cover). 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 K1803977 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
**Surface Sediment - Sediment Management Area**  
**ALS Kelso Laboratory Group: K1803977**

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-SG-S208	K1803977-001	CWA1699M	2,4'-DDD	0.64 J	ug/kg	0.64 J	h
PDI-SG-S208	K1803977-001	CWA1699M	2,4'-DDE	0.74 U	ug/kg	0.74 UJ	h
PDI-SG-S208	K1803977-001	CWA1699M	2,4'-DDT	0.74 U	ug/kg	0.74 UJ	h
PDI-SG-S208	K1803977-001	CWA1699M	4,4'-DDD	2.1	ug/kg	2.1 J	h
PDI-SG-S208	K1803977-001	CWA1699M	4,4'-DDE	3.8	ug/kg	3.8 J	h
PDI-SG-S208	K1803977-001	CWA1699M	4,4'-DDT	0.52 J	ug/kg	0.52 J	h
PDI-SG-S216	K1803977-002	CWA1699M	2,4'-DDD	0.63 J	ug/kg	0.63 J	h
PDI-SG-S216	K1803977-002	CWA1699M	2,4'-DDE	0.67 U	ug/kg	0.67 UJ	h
PDI-SG-S216	K1803977-002	CWA1699M	2,4'-DDT	0.67 U	ug/kg	0.67 UJ	h
PDI-SG-S216	K1803977-002	CWA1699M	4,4'-DDD	1.7	ug/kg	1.7 J	h
PDI-SG-S216	K1803977-002	CWA1699M	4,4'-DDE	4.3	ug/kg	4.3 J	h
PDI-SG-S216	K1803977-002	CWA1699M	4,4'-DDT	0.65 J	ug/kg	0.65 J	h

h - holding time exceedance

J - estimated value

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

ug/kg - microgram per kilogram