

## 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: K1805972

Analyses/Method: Chlorinated Pesticides and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1805972 DVR

### SUMMARY

The data quality review of 6 surface sediment samples collected on June 22 and June 24, 2018, has been completed. 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 are associated with laboratory group K1805972:

Sample ID	Laboratory ID
PDI-SG-S168	K1805972-001
PDI-SG-S171	K1805972-002
PDI-SG-S174	K1805972-003
PDI-SG-S182	K1805972-004
PDI-SG-S183	K1805972-005
PDI-SG-S191	K1805972-006

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 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 -0.4°C. The laboratory did not indicate that the samples

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were frozen and all sample containers were intact; therefore, data were not qualified based on the low cooler temperature.

## ORGANIC ANALYSIS

Samples were analyzed for chlorinated pesticides by EPA Method 1699-modified

1. Holding Times – Acceptable except as noted below:

The samples reported in this laboratory group were extracted between 11 and 13 days past the method-recommended holding time of 14 days. Per ALS-Kelso protocol, the samples were frozen in archive until extraction and the samples were thawed for less than 14 days; therefore, the samples were not extracted outside the holding time.

The extracts for PDI-SG-S182 and PDI-SG-S191 were re-analyzed for 4,4'-DDT seven days past the analytical holding time of 40 days. The results for 4,4'-DDT in PDI-SG-S182 and PDI-SG-S191 were qualified as estimated and flagged 'J' or 'UJ' based on this holding time exceedance.

2. Initial and Continuing Calibration Verifications – Acceptable

3. Blanks – Acceptable except as noted below:

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

4. Surrogates – Acceptable

5. Internal Standards – Acceptable

6. Laboratory Control Sample (LCS) – Acceptable except as noted below:

The percent recovery for 4,4'-DDE (64%) was below the control limits of 66-132% in the LCS extracted on July 19, 2018. The results for 4,4'-DDE in all samples reported in this laboratory group were qualified as estimated and flagged 'J' based on this LCS result.

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

An MS/MSD was performed using PDI-SG-S059 (laboratory group K1805717, discussed under separate cover). Results were acceptable.

8. Reporting Limits – Acceptable except as noted below:

One or more results were flagged 'J' by the laboratory to indicate the reported concentrations were above the method detection limits (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.



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

## **CONVENTIONAL ANALYSIS**

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

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

A laboratory duplicate was performed using PDI-SG-S191. 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 K1805972 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
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Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-SG-S168	K1805972-001	CWA1699M	4,4'-DDE	1.6	ug/kg	1.6 J	I
PDI-SG-S171	K1805972-002	CWA1699M	4,4'-DDE	1.8	ug/kg	1.8 J	I
PDI-SG-S174	K1805972-003	CWA1699M	4,4'-DDE	2.0	ug/kg	2.0 J	I
PDI-SG-S182	K1805972-004	CWA1699M	4,4'-DDE	4.6	ug/kg	4.6 J	I
PDI-SG-S182	K1805972-004	CWA1699M	4,4'-DDT	1.6 U	ug/kg	1.6 UJ	h
PDI-SG-S183	K1805972-005	CWA1699M	4,4'-DDE	3.6	ug/kg	3.6 J	I
PDI-SG-S191	K1805972-006	CWA1699M	4,4'-DDE	11	ug/kg	11 J	I
PDI-SG-S191	K1805972-006	CWA1699M	4,4'-DDT	22	ug/kg	22 J	h

**Notes:**

h - holding time exceedance

J - estimated value

I - laboratory control sample recovery

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

ug/kg - microgram per kilogram