

# Data Validation Report

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

Laboratory: ALS Environmental, Kelso, WA

Laboratory Group: K1807861

Analyses/Method: Chlorinated Pesticides and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1807861 DVR

## SUMMARY

The data quality review of 1 surface sediment sample collected on August 16, 2018, has been completed. The sample was 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 sample was associated with laboratory group K1807861:

| Sample ID       | Laboratory ID |
|-----------------|---------------|
| PDI-SG-B307-BL1 | K1807861-001  |

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 and the cooler was received at a temperature within the EPA-recommended limits of greater than 0°C and less than or equal to 6°C. The sample collection date was inadvertently recorded as August 17, 2018, on the COC. At the request of AECOM, the sample date was changed to August 16, 2018.

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**ORGANIC ANALYSIS**

The sample was analyzed for chlorinated pesticides by EPA Method 1699-modified.

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

The percent difference (%D) for 2,4'-DDT (30.2%) exceeded the control limit of  $\pm 25\%$  in the continuing calibration verification (CCV) analyzed on September 6, 2018. The result for 2,4'-DDT in PDI-SG-B307-BL1 was qualified as estimated and flagged 'J' based on this CCV result.

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 this sample. 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 recoveries for the following analytes in the LCS extracted on August 22, 2018, were outside the control limits:

| Analyte         | LCS  | Control limit |
|-----------------|------|---------------|
| 2,4'-DDT        | 124% | 77-118%       |
| alpha-Chlordane | 176% | 74-130%       |
| cis-Nonachlor   | 196% | 69-134%       |
| gamma-Chlordane | 177% | 76-128%       |
| trans-Nonachlor | 175% | 76-124%       |

cis-Nonachlor, gamma-chlordane, and trans-nonachlor were not detected in the associated sample; therefore, data were not qualified for these analytes based on these LCS results. The result for 2,4'-DDT was qualified based on the associated CCV result as described in Section 2; therefore, no further qualification based on this LCS result was necessary. The result for alpha-chlordane in PDI-SG-B307-BL1 was qualified as estimated and flagged 'J' based on this LCS result.

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

An MS/MSD was performed using PDI-SG-B438 (laboratory group K1807859, 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.

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8. Reporting Limits – Acceptable except as noted below:

The result for alpha-chlordane was flagged 'J' by the laboratory in PDI-SG-B307-BL1 to indicate the reported concentration was above the method detection limit (MDL) but below the reporting limit. A laboratory 'J'-flagged result is 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 the pesticides reported as not detected in PDI-SG-B307-BL1 were elevated due to moisture content and sample volume used due to matrix interference. The reporting limit and MDL for dieldrin exceeded the cleanup level in this sample.

**CONVENTIONAL ANALYSIS**

The sample was 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-B438 (laboratory group K1807859, 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 K1807861 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
**Surface Sediment - Stratified Random**  
**ALS Kelso Laboratory Group: K1807861**

| Sample ID       | Laboratory ID | Method   | Analyte         | Laboratory Result | Units | Final Result | Reason Code |
|-----------------|---------------|----------|-----------------|-------------------|-------|--------------|-------------|
| PDI-SG-B307-BL1 | K1807861-001  | CWA1699M | 2,4-DDT         | 0.41              | ug/kg | 0.41 J       | c           |
| PDI-SG-B307-BL1 | K1807861-001  | CWA1699M | alpha-Chlordane | 0.22 J            | ug/kg | 0.22 J       | l           |

**Notes:**

c - calibration issue

J - estimated value

l - laboratory control sample recovery

ug/kg - microgram per kilogram