

# 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: K1810002

Analyses/Method: Chlorinated Pesticides and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1810002 DVR

## SUMMARY

The data quality review of 2 surface sediment samples collected on July 13, 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 K1810002:

| Sample ID   | Laboratory ID                          |
|-------------|--|
| PDI-SG-B483 | Logged Under Separate Cover (K1806651) |
| PDI-SG-S266 | K1810002-001                           |

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. 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. Sample PDI-SG-S266 was recorded on the COC as PDI-SG-B487. At the request of AECOM, ALS-Kelso revised the COC to correctly identify and log the sample as PDI-SG-S266.

The samples were received by the laboratory on July 16, 2018, and placed on frozen hold. Sample PDI-SG-B483 was authorized for analysis on August 16, 2018, and is reported under separate cover (K1806651). Sample PDI-SG-S266 was authorized for analysis on October 11, 2018.

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## ORGANIC ANALYSIS

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

1. Holding Times – Acceptable

Sample PDI-SG-S266 was extracted 76 days past the method-recommended holding time of 14 days. As described above, the sample was frozen in archive until extraction and was thawed for less than 14 days; therefore, the sample was 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-S266 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 result for 4,4'-DDD in PDI-SG-S266 was flagged 'J' by the laboratory 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 chlorinated pesticides reported as not detected in this sediment sample was elevated due to the moisture content and/or lower extraction volume used due to matrix interference. The reporting limit and MDL for dieldrin exceeded the cleanup level in the sediment sample reported in laboratory group K1810002.



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**CONVENTIONAL ANALYSIS**

The sample was analyzed for total solids by EPA Method 160.3-modified.

1. Holding Times

Sample PDI-SG-S266 was frozen and held in archive at ALS-Kelso upon receipt. Sample analysis was authorized on October 11, 2018. Total solids analysis was performed on October 12, 2018, 84 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 PDI-SG-S266 and a sample from a project 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 K1810002 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
**Surface Sediment - Downtown/Upriver Reaches**  
**ALS Kelso Laboratory Group: K1810002**

| Sample ID   | Laboratory ID | Method   | Analyte  | Laboratory Result | Units | Final Result | Reason Code |
|-------------|---------------|----------|----------|-------------------|-------|--------------|-------------|
| PDI-SG-S266 | K1810002-001  | CWA1699M | 2,4-DDD  | 0.35 U            | ug/kg | 0.35 UJ      | c           |
| PDI-SG-S266 | K1810002-001  | CWA1699M | 4,4'-DDE | 0.42              | ug/kg | 0.42 J       | c           |
| PDI-SG-S266 | K1810002-001  | CWA1699M | Dieldrin | 0.70 U            | ug/kg | 0.70 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