

# 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: K1807099

Analyses/Method: Chlorinated Pesticides and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1807099 DVR

## SUMMARY

The data quality review of 6 surface sediment samples collected on July 27 and July 28, 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 K1807099:

Sample ID	Laboratory ID
PDI-SG-B485	K1807099-001
PDI-SG-B484	K1807099-002
PDI-SG-B482	K1807099-003
PDI-SG-B487	K1807099-004
PDI-SG-B488	K1807099-005
PDI-SG-B486	K1807099-006

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 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

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than 0°C and less than or equal to 6°C. The samples were received by the laboratory on July 30, 2018, and placed on frozen hold. Samples were authorized for analysis on August 16, 2018.

## ORGANIC ANALYSIS

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

1. Holding Times – Acceptable

The samples in this laboratory group were extracted 18-19 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

3. Blanks – Acceptable except as noted below:

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. Data were not qualified based on rinsate blank results.

4. Surrogates – Acceptable except as noted below:

The percent recoveries for the surrogates 4,4'-DDD-d4 (125%) and endrin-13C12 (158%) in PDI-SG-B488 exceeded the control limits of 5-120% and 20-157%, respectively. The results for 2,4'-DDD, 2,4'-DDE, 4,4'-DDD, 4,4'-DDE, and dieldrin in PDI-SG-B488 were qualified as estimated and flagged 'J' or 'JJ' based on these surrogate recoveries.

5. Internal Standards – Acceptable except as noted below:

The internal standard area counts for pyrene-d10 were outside the control limits of 50-200% (high) in all sediment samples reported in this laboratory group, as well as the associated laboratory control sample, matrix spike, and matrix spike duplicate. Pyrene-d10 is associated with the labelled surrogate compound recoveries which were within control limits with the exception of PDI-SG-B488. PDI-SG-B488 was qualified based on surrogate outliers as described in Section 4. Data were not qualified based on these internal standard outliers.

6. Laboratory Control Sample (LCS) – Acceptable

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

An MS/MSD was performed using PDI-SG-B463 (laboratory group K1806305, 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 – 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 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 K1807099.

**CONVENTIONAL ANALYSIS**

The 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 two samples from projects unrelated to the Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling project. 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 K1807099 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
**Surface Sediment - Downtown/Upriver Reaches**  
**ALS Kelso Laboratory Group: K1807099**

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-SG-B488	K1807099-005	CWA1699M	2,4-DDD	0.32 U	ug/kg	0.32 UJ	s
PDI-SG-B488	K1807099-005	CWA1699M	2,4-DDE	0.32 U	ug/kg	0.32 UJ	s
PDI-SG-B488	K1807099-005	CWA1699M	4,4'-DDD	0.27 J	ug/kg	0.27 J	s
PDI-SG-B488	K1807099-005	CWA1699M	4,4'-DDE	0.35	ug/kg	0.35 J	s
PDI-SG-B488	K1807099-005	CWA1699M	Dieldrin	0.63 U	ug/kg	0.63 UJ	s

**Notes:**

J - estimated value

s - surrogate recovery

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

ug/kg - microgram per kilogram