

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: K1805744

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: K1805744 DVR

SUMMARY

The data quality review of 2 surface sediment samples collected on May 29 and May 30, 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 K1805744:

Sample ID	Laboratory ID
PDI-SG-S011	K1805744-001
PDI-SG-S089	K1805744-002

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 below the EPA-recommended limits of greater than 0°C and less than or equal to 6°C at -1.0°C. The laboratory did not indicate that the samples were frozen and all sample containers were intact; therefore, data were not qualified based on the low cooler temperature. Both of the samples reported in this laboratory group were frozen at the AECOM warehouse immediately after sample collection on May 29 and May 30, 2018, until they were shipped to ALS on June 15, 2018.

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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:

General – The samples in this laboratory group were extracted 36-41 days past the method-recommended holding time of 14 days. The samples were frozen immediately after sample collection and stored in archive in the AECOM warehouse before shipment to ALS. Per ALS-Kelso protocol, 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:

General – 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:

Chlorinated Pesticides by EPA Method 1699-modified – 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 PDI-SG-S011 and PDI-SG-S089 were qualified as estimated flagged 'J' based on this LCS result.

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-S059 (laboratory group K1805717, discussed under separate cover). Results were acceptable.

PAHs by EPA Method 8270D-SIM – An MS/MSD was performed using PDI-SG-B404-BL1 (laboratory group K1805714, 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:

Chlorinated Pesticides by EPA Method 1699-modified – The reporting limits for one or more pesticides reported as not detected in these samples were elevated due to dilution due to matrix interference. The elevated reporting limits and method detection limits (MDLs) do not exceed the cleanup level.



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The result for 2,4'-DDD in PDI-SG-S011 was flagged 'J' by the laboratory to indicate the reported concentration was above the MDL but below the reporting limit. 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.

CONVENTIONAL ANALYSIS

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

1. Holding Times – Acceptable except as noted below:

Samples PDI-SG-S011 and PDI-SG-S089 were frozen and held in archive at the AECOM storage facility immediately after collection. The frozen samples were submitted to ALS on June 15, 2018, and the total solids analyses were performed on June 15, 2018, 9-10 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

A laboratory duplicate was not performed in association with this analysis. Accuracy was not assessed.

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 K1805744 is 100%.

Table 1
QA/QC Data Summary Review
Portland Harbor
Surface Sediment - Sediment Management Area
ALS Kelso Laboratory Group: K1805744

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-SG-S011	K1805744-001	CWA1699M	4,4'-DDE	0.75	ug/kg	0.75 J	I
PDI-SG-S089	K1805744-002	CWA1699M	4,4'-DDE	0.68	ug/kg	0.68 J	I

Notes:

J - estimated value

I - laboratory control sample recovery

ug/kg - microgram per kilogram