

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: K1806497

Analyses/Method: Chlorinated Pesticides and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1806497 DVR

SUMMARY

The data quality review of 3 surface sediment samples collected on July 9, 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 K1806497:

Sample ID	Laboratory ID
PDI-SG-B475	K1806497-001
PDI-SG-B476	K1806497-002
PDI-SG-B477	K1806497-003

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 COC was incorrectly marked for polychlorinated biphenyl analysis for these samples. At the request of AECOM, the sample analysis was corrected to chlorinated pesticides and the COC was revised and re-submitted to ALS. The samples were received by the laboratory on July 11, 2018, and placed on frozen hold. Samples were authorized for analysis on August 16, 2018.

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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 45-63 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 except as noted below:

The percent differences (%Ds) for 2,4'-DDE (38.1%) and 4,4'-DDE (54.5%) exceeded the control limit of $\pm 25\%$ in the continuing calibration verification (CCV) analyzed on September 18, 2018. 2,4'-DDE was not detected in the associated samples; therefore, data were not qualified for this analyte based on the elevated CCV result. The results for 4,4'-DDE in PDI-SG-B475 and PDI-SG-B477 were 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 these samples. Data were not qualified based on rinsate blank results.

4. Surrogates – Acceptable

5. Internal Standards – Acceptable except as noted below:

The internal standard area count for pyrene-d10 exceeded the control limits of 50-200% (high) in PDI-SG-B477. Pyrene-d10 is associated with the labeled surrogate compound recoveries which were within control limits; therefore, data were not qualified based on this internal standard outlier.

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

The percent recovery for 2,4'-DDD (126%) in the LCS extracted on September 6, 2018, was outside the control limits of 73-122%. 2,4'-DDD was reported as not detected in the associated samples; therefore, data were not qualified based on this elevated LCS result.

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

MS/MSDs were performed using PDI-SG-B457 (laboratory group K1806207, discussed under separate cover) and PDI-SG-B478 (laboratory group K1808219, 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 reports.



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8. Reporting Limits – Acceptable except as noted below:

The reporting limits for the chlorinated pesticides reported as not detected in these sediment samples were elevated due to the moisture content and/or extraction volume used due to matrix interference. The reporting limits and method detection limits (MDLs) for dieldrin exceeded the cleanup level in all sediment samples reported in laboratory group K1806497.

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 K1806497 is 100%.

Table 1
QA/QC Data Summary Review
Portland Harbor
Surface Sediment - Downtown/Upriver Reaches
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Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-SG-B475	K1806497-001	CWA1699M	4,4'-DDE	1.1	ug/kg	1.1 J	c
PDI-SG-B477	K1806497-003	CWA1699M	4,4'-DDE	0.93	ug/kg	0.93 J	c

Notes:

c - calibration issue

J - estimated value

ug/kg - microgram per kilogram