

# 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: K1807859

Analyses/Method: Chlorinated Pesticides and Total Solids

Validation Level: Stage 2A

AECOM Project

Number: 60566335 Task #2.12

Prepared by: Lucy Panteleeff/AECOM

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Reviewed by: Jennifer Garner/AECOM

File Name: K1807859 DVR

## SUMMARY

The data quality review of 3 surface sediment samples collected on August 16, 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 K1807859:

Sample ID	Laboratory ID
PDI-SG-B437	K1807859-001
PDI-SG-B437-D (Duplicate of PDI-SG-B437)	K1807859-002
PDI-SG-B438	K1807859-003

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.

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**ORGANIC ANALYSIS**

The samples were 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. 2,4'-DDT was not detected in the associated samples; therefore, data were not qualified based on this CCV result.

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
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%

The chlorinated pesticides listed in the table above were reported as not detected in the associated samples; therefore, data were not qualified based on these elevated LCS/LCSD results.

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

An MS/MSD was performed using PDI-SG-B438. The following percent recoveries were outside the control limits:

Analyte	MS	MSD	Control limit
alpha-Chlordane	158%	159%	31-156%
cis-Nonachlor	ok	152%	27-144%
trans-Nonachlor	159%	167%	35-153%

ok - acceptable

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### Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling

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The chlorinated pesticides noted in the above table were either reported as not detected in PDI-SG-B438 or two of the three quality control parameters (MS, MSD, and/or relative percent difference [RPD]) were acceptable; therefore, no data were qualified based on these MS/MSD results.

8. Field Duplicate – Acceptable except as noted below:

A field duplicate was submitted for PDI-SG-B437 and identified as PDI-SG-B437-D. The RPD for 4,4'-DDT was not calculable. The results for 4,4'-DDT in PDI-SG-B437 and PDI-SG-B437-D were less than five times the reporting limits; therefore, data were not qualified based on the field duplicate RPD.

9. 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 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.

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 MDLs for dieldrin exceeded the cleanup level in all sediment samples reported in laboratory group K1807859.

## CONVENTIONAL ANALYSIS

The samples were 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. Results were comparable.

3. Field Duplicate – Acceptable

A field duplicate was submitted for PDI-SG-B437 and identified as PDI-SG-B437-D. Results were comparable.

4. 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 K1807859 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
No data qualifiers were assigned to results reported in K1807859 based on this data validation.							