

# Data Validation Report

Project: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling  
 Portland Harbor Superfund Site  
 Surface Water – February 2019

Laboratory: ALS Environmental, Kelso, WA

Laboratory Group: K1901569

Analyses/Method: Tributyltin and bis(2-Ethylhexyl)phthalate

Validation Level: Stage 4

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1901569 DVR

## SUMMARY

The data quality review of 5 surface water samples collected from February 17 to February 18, 2019, has been completed. The samples were analyzed for tributyltin by Unger et al. and low-level bis(2-ethylhexyl)phthalate by EPA Method 8270D 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)* and Unger, MA et al., *Determination of Butyltins in Natural Waters by Flame Photometric Detection of Hexane Derivatives and Mass Spectrometric Confirmation, Chemosphere, 1886, 16(4):461-470*. 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 K1901569:

Sample ID	Laboratory ID
PDI-WS-T01-1902	K1901569-001
PDI-WS-T02-1902	K1901569-002
PDI-WS-T03-1902	K1901569-003
PDI-WS-T04-1902	K1901569-004
PDI-WS-T05-1902	K1901569-005

Data validation is based on method performance criteria and QC criteria documented in the final *Quality Assurance Project Plan (QAPP)*, dated December 19, 2018. If data qualification was required, data were qualified based on the definitions and use of qualifying flags outlined in the EPA document *USEPA National Functional Guidelines for Organic 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 temperatures were recorded. No discrepancies related to sample identification were noted by ALS and coolers were received at temperatures between the EPA-recommended limits of greater than 0°C and less than or equal to 6°C.

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## ORGANIC ANALYSES

Samples were analyzed for tributyltin and bis(2-ethylhexyl)phthalate by the methods identified in the introduction of this report.

1. Holding Times – Acceptable
2. Initial and Continuing Calibration Verifications/Instrument Performance Checks – Acceptable
3. Blanks – Acceptable

General – One rinsate blank reported with laboratory group K1900786 is applicable to the samples collected in this laboratory group. bis(2-Ethylhexyl)phthalate (0.19 ug/L) was detected in the rinsate blank at a concentration between the method detection limit (MDL) and the reporting limit. bis(2-Ethylhexyl)phthalate was detected in PDI-WS-T01-1902 at a concentration between the reporting limit and the MDL; therefore, the result for bis(2-ethylhexyl)phthalate in this sample was qualified as not detected and flagged 'U' at the reporting limits.

4. Surrogates – Acceptable
5. Internal Standards – Acceptable (where applicable)
6. Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable
7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable

Tributyltin by Unger et al. – An MS/MSD was performed using PDI-WS-T03-1902. Results were acceptable.

bis(2-Ethylhexyl)phthalate by EPA 8270D – An MS/MSD was not performed using a sample reported in this laboratory group. Precision and accuracy were assessed using the LCS/LCSD results.

8. Calculation Checks – Acceptable
9. Reporting Limits and Chromatographic Review – Acceptable

A calculation check was performed for sample results on one sample per calibration. The review confirmed the final results were correct as reported.

General – Chromatograms/spectra were reviewed to confirm target analytes were properly identified. The review confirmed target analytes were properly identified and reported by the laboratory.

bis(2-ethylhexyl)phthalate by EPA 8270D – The result for bis(2-ethylhexyl)phthalate in PDI-WS-T01-1902 was flagged 'J' by the laboratory to indicate the reported concentration was between the method detection limit (MDL) and the reporting limit. The 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.



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### **OVERALL ASSESSMENT OF DATA**

The data reported in this laboratory group, as reported, is considered usable for meeting project objectives. The completeness for laboratory group K1901569 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
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Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-WS-T01-1902	K1901569-001	SW8270D	Bis(2-ethylhexyl)phthalate	0.24 J	ug/L	1.0 U	be