

# Data Validation Report

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

Laboratory: ALS Environmental, Kelso, WA

Laboratory Group: K1900786

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

Validation Level: Stage 2

AECOM Project

Number: 60566335 Task #2.12

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File Name: K1900786 DVR

## SUMMARY

The data quality review of 3 surface water samples and one rinsate blank collected on January 26 and January 27, 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 K1900786:

| Sample ID  | Laboratory ID |
|--|---------------|
| PDI-RB-PP-190127 (rinsate blank)                 | K1900786-001  |
| PDI-WS-T06-1901                                  | K1900786-002  |
| PDI-WS-T07-1901                                  | K1900786-003  |
| PDI-WS-T07-1901-D (Duplicate of PDI-WS-T07-1901) | K1900786-004  |

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 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. The laboratory noted that one temperature blank was received at a temperature greater than 6°C at 7.4°C. Data were not qualified based on temperature blank exceedance. The laboratory noted that 4 out of 12 bottles submitted for PDI-WS-T06-1901 had limited volume. Sufficient volume was available in the alternate bottles submitted allowing all analyses to be completed.



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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. Blanks – Acceptable except as noted below:

General – One rinsate blank was reported with this laboratory group and 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-T06-1901, PDI-WS-T07-1901, and PDI-WS-T07-1901-D at concentrations between the reporting limits and the MDLs; therefore, the results for bis(2-ethylhexyl)phthalate in these samples were qualified as not detected and flagged 'U' at the reporting limits.

3. Surrogates – Acceptable
4. Laboratory Control Sample (LCS) – Acceptable
5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable

General – MS/MSDs were performed using PDI-WS-T06-1901 for all surface water analyses. Results were acceptable.

6. Field Duplicate – Acceptable

A field duplicate was submitted for PDI-WS-T07-1901 and identified as PDI-WS-T07-1901-D. Results were comparable.

7. Reporting Limits – Acceptable

**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 K1900786 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
**Surface Water - January 2019**  
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| Sample ID         | Laboratory ID | Method  | Analyte                    | Laboratory Result | Units | Final Result | Reason Code |
|-------------------|---------------|---------|----------------------------|-------------------|-------|--------------|-------------|
| PDI-WS-T06-1901   | K1900786-002  | SW8270D | bis(2-Ethylhexyl)phthalate | 0.19 J            | ug/L  | 1.1 U        | bf          |
| PDI-WS-T07-1901   | K1900786-003  | SW8270D | bis(2-Ethylhexyl)phthalate | 0.37 J            | ug/L  | 0.95 U       | bf          |
| PDI-WS-T07-1901-D | K1900786-004  | SW8270D | bis(2-Ethylhexyl)phthalate | 0.25 J            | ug/L  | 0.95 U       | bf          |

**Notes:**

bf - field blank contamination

J - estimated value

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

ug/L - microgram per liter

Note: Line items where the laboratory result contains a "J" and the final result contains a "U" with a data validation reason code "bf" indicate that the final result is reported as not detected ("U" flag) at the reporting limit.