

Data Validation Report

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

Laboratory: Analytical Resources, Incorporated, Tukwila, WA

Laboratory Group: 19A0436

Analyses: Pentachlorophenol (PCP), Total Organic Carbon (TOC), and Dissolved Organic Carbon (DOC)

Validation Level: Stage 4

AECOM Project

Number: 60566335, Task #2.12

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File Name: 19A0436 DVR

SUMMARY

The data quality review of three surface water samples and one rinsate blank collected on January 26 and January 27, 2019, has been completed. Samples were analyzed for PCP by United States Environmental Protection Agency (EPA) Method 8041A and TOC and DOC by Standard Method (SM) 5310B by Analytical Resources, Incorporated (ARI) located in Tukwila, Washington. The analysis was performed in general accordance with the method specified in EPA's *Test Methods for Evaluating Solid Waste (SW-846)* and *Standard Methods for the Examination of Water and Wastewater*. 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 19A0436:

Sample ID	Laboratory ID
PDI-WS-T06-1901	19A0436-01
PDI-WS-T07-1901	19A0436-02
PDI-RB-PP-190127	19A0436-03
PDI-WS-T07-1901-D (Field duplicate of PDI-WS-T07-1901)	19A0436-04

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 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 ARI, the sample jar information was compared to the chain-of-custody (COC) and the cooler temperatures were recorded. The coolers were received at temperatures within the EPA-recommended limits of greater than 0°C and less than or equal to 6°C. The sample identification indicated on the sample container for PDI-RB-PP-190127 did not match the identification indicated on the COC. ARI logged the sample using the identification indicated on the COC. The sample ID for PDI-WS-T07-1901-D was incorrect on the COC and AECOM requested that ARI revise it.



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ORGANIC ANALYSIS

Samples were analyzed for PCP by EPA Method 8041A.

1. Holding Times – Acceptable
2. Initial and Continuing Calibration Verifications – Acceptable
3. Blanks – Acceptable

One rinsate blank was reported with this laboratory group. PCP was not detected in this rinsate blank.
4. Surrogate – Acceptable
5. Laboratory Control Sample (LCS) – Acceptable
6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable

An MS/MSD was performed using PDI-WS-T06-1901. Results were acceptable.
7. Field Duplicate – Acceptable

A field duplicate was submitted for PDI-WS-T07-1901 and identified as PDI-WS-T07-1901-D. Results were comparable.
8. Calculation Checks – Acceptable

A calculation check was performed for sample results on one sample per calibration. The review confirmed the final results were correct as reported.
9. Reporting Limits and Chromatographic Review – Acceptable

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

CONVENTIONAL ANALYSES

Samples were analyzed for TOC and DOC by SM 5310B.

1. Holding Times – Acceptable
2. Initial and Continuing Calibrations – Acceptable
3. Blanks – Acceptable except as noted below:

TOC by SM 5310B – One rinsate blank was reported with this laboratory group. TOC (1.33 mg/L) was detected at a concentration greater than the reporting limit. TOC was detected in PDI-WS-T06-1901, PDI-WS-T07-1901, and PDI-WS-T07-1901-D at concentrations greater than the reporting limits but less than ten times the rinsate blank result; therefore, the results for TOC were qualified as estimated and flagged ‘J’ based on the rinsate blank result.



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4. Laboratory Control Sample (LCS) – Acceptable

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable

General – MS/MSDs for TOC and DOC were performed using PDI-WS-T06-1901. Results were acceptable.

6. Laboratory Duplicate – Acceptable

General – Laboratory duplicates for TOC and DOC were performed using PDI-WS-T06-1901. Results were comparable.

7. Field Duplicate – Acceptable

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

8. Calculation Checks – Acceptable

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

9. Reporting Limits – Acceptable

OVERALL ASSESSMENT OF DATA

The data reported in this laboratory group, as qualified, is considered usable for meeting project objectives. The completeness for laboratory group 19A0436 is 100%.

Table 1
QA/QC Data Summary Review
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Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-WS-T06-1901	19A0436-01	SM5310B	Total Organic Carbon	1.83	mg/L	1.83 J	be
PDI-WS-T07-1901	19A0436-02	SM5310B	Total Organic Carbon	2.16	mg/L	2.16 J	be
PDI-WS-T07-1901-D	19A0436-04	SM5310B	Total Organic Carbon	2.17	mg/L	2.17 J	be

Notes:

be - equipment blank contamination

J - estimated value

mg/L - milligram per liter