

Data Validation Report

Project: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
 Portland Harbor Superfund Site
 Surface Sediment – Downtown/Upriver

Laboratory: TestAmerica Laboratories, Incorporated, Seattle, WA

Laboratory Group: 580-78853-1

Analyses: Petroleum Hydrocarbons, Metals, Total Organic Carbon (TOC), Tributyltin, Polycyclic Aromatic Hydrocarbons (PAHs), and bis(2-Ethylhexyl)phthalate

Validation Level: Stage 2A

AECOM Project

Number: 60566335, Task #2.12

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File Name: 580-78853-1 DVR

SUMMARY

The data quality review of one rinsate blank collected on July 13, 2018, has been completed. Samples were analyzed for total petroleum hydrocarbons (TPHs, diesel-range and motor oil-range) by Washington State Department of Ecology (Ecology) Method NWTPH-Dx, metals by United States Environmental Protection Agency (EPA) Method 6020B (arsenic, cadmium, copper, lead, manganese, and zinc), mercury by EPA Method 7470A, TOC by Standard Method (SM) 5310B, tributyltin by Krone et al., PAHs by EPA Method 8270D modified by selected ion monitoring (SIM), and bis(2-ethylhexyl)phthalate by EPA Method 8270D by TestAmerica Laboratories, Incorporated (TA) located in Tacoma, Washington. The analyses were performed in general accordance with the methods specified in EPA's *Test Methods for Evaluating Solid Waste (SW-846)*, Ecology's *Analytical Methods for Petroleum Hydrocarbons*, June 1997, Standard Methods for the Examination of Water and Wastewater, and Krone CA et al., *A Method for Analysis of Butyltin Species and Measurement of Butyltins in Sediment and English Sole Livers from Puget Sound*, Marine Environmental Research, 1989. 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 sample is associated with laboratory group 580-78853-1:

Sample ID	Laboratory ID
PDI-RB-VV-180713	580-78853-1

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 this sample set are included in Table 1.

SAMPLE RECEIPT

Upon receipt by TA, the sample jar information was compared to the chain-of-custody (COC) and the cooler temperature was recorded. 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 rinsate blank was submitted with the incorrect sample ID, PDI-RB-VV-20180713. AECOM instructed TA to change the sample ID to PDI-RB-VV-180713 and revise the COC.



Data Validation Report
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Surface Sediment – Downtown/Upriver
TestAmerica Lab Group: 580-78853-1

ORGANIC ANALYSES

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

1. Holding Times – Acceptable
2. Blanks – Acceptable

General – One rinsate blank was submitted with this laboratory group. TPHs, tributyltin, PAHs, and bis(2-ethylhexyl)phthalate were not detected in this rinsate blank
3. Surrogates – Acceptable
4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable
5. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

General – MS/MSDs were not performed using the sample in this laboratory group. Accuracy and precision were assessed using the LCS/LCSDs.

6. Laboratory Duplicate

General – Laboratory duplicates were not performed on the sample in this laboratory group. Precision was assessed using the LCS/LCSDs.
7. Reporting Limits – Acceptable

METALS ANALYSES

Samples were analyzed for metals by the methods identified in the introduction to this report.

1. Holding Times – Acceptable
2. Blanks – Acceptable except as noted below:

General – One rinsate blank was submitted with this laboratory group. Lead (0.00027 mg/L), zinc (0.0042 mg/L), and manganese (0.0013 mg/L) were detected in this rinsate blank at concentrations below the reporting limits but above the method detection limits (MDLs). Data were not qualified based on rinsate blank results.
3. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable
4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) and Post-Digestion Spike (PDS, where applicable)

General – MS/MSDs were not performed on the sample in this laboratory group. Accuracy and precision were assessed using the LCS/LCSDs.



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Surface Sediment – Downtown/Upriver
TestAmerica Lab Group: 580-78853-1

5. Laboratory Duplicate

General – Laboratory duplicates were not performed using a sample in this laboratory group. Precision was assessed using the LCS/LCSDs.

6. Serial Dilution

Metals by Method 6020B – A serial dilution was not performed on the sample from this laboratory group. Precision was assessed using the LCS/LCSD.

7. Reporting Limits – Acceptable

Metals by Method 6020B – Analyte concentrations detected between the MDLs and the reporting limits are reported by the laboratory with 'J' flags. Laboratory 'J'-flagged results are considered estimated results. As the results are between the MDLs and the reporting limits, there is a greater level of uncertainty associated with the numerical results.

CONVENTIONAL ANALYSES

Samples were analyzed for TOC by SM 5310B.

1. Holding Times – Acceptable

2. Blanks – Acceptable except as noted below:

One rinsate blank was submitted with this laboratory group. TOC (0.54 mg/L) was detected in this rinsate blank at a concentration below the reporting limit but above the MDL. Data were not qualified based on rinsate blank results.

3. Laboratory Control Sample (LCS) – Acceptable

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

An MS/MSD was not performed using the sample from this laboratory group. Accuracy and precision were assessed using the LCS/LCSD.

5. Laboratory Replicate – Acceptable

A laboratory duplicate was not performed using the sample in this laboratory group. Precision was assessed using the LCS/LCSD.

6. Reporting Limits – Acceptable

TOC by Method 5310B – One or more results in multiple samples were reported at concentrations between the reporting limits and the MDLs and were flagged 'J' by the laboratory. As described above, laboratory 'J'-flagged results are considered estimated results.

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 580-78853-1 is 100%.

Table 1
QA/QC Data Summary Review
Portland Harbor
Surface Sediment - Downtown/Upriver
TestAmerica Laboratory Group: 580-78853-1

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
No data qualifiers were assigned to results reported in 580-78853-1 based on this data validation.							