

# 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: 580-79256-1

Analyses: Metals, Total Organic Carbon (TOC), Total Solids, and Grain Size

Validation Level: Stage 2A

AECOM Project

Number: 60566335, Task #2.12

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File Name: 580-79256-1 DVR

## SUMMARY

The data quality review of one surface sediment sample collected on July 11, 2018, has been completed. Samples were analyzed for metals by United States Environmental Protection Agency (EPA) Method 6020B (arsenic and manganese), TOC by United States Environmental Protection Agency (EPA) method 9060, total solids by American Society for Testing and Materials (ASTM) Method D-2216, moisture content at 70 degrees Celsius (°C), and/or grain size by ASTM Method D7928/D6913 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)* and *Annual Book of ASTM Standards*, ASTM, Philadelphia, Pennsylvania. 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 580-79256-1:

Sample ID	Laboratory ID
PDI-SG-B474	580-79256-1

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 document *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 below the EPA-recommended limits of greater than 0°C and less than or equal to 6°C at -2.9°C. Data were not qualified based on the low cooler temperature. The containers, except for grain size, for this sample were frozen after sample collection on July 13, 2018, until they were shipped to TA on August 1, 2018.

## METALS ANALYSES

Samples were analyzed for metals by EPA Method 6020B.

1. Holding Times – Acceptable



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2. Blanks – Acceptable

A rinsate blank was not submitted with this laboratory group. Associated rinsate blanks are reported under separate cover. Target compounds may have been detected in the rinsate blanks associated with these samples. 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) – Acceptable except as noted below:

An MS/MSD and PDS were performed on PDI-SG-B474. The percent recoveries for manganese in the MS (185%) and MSD (190%) exceeded the control limits of 80-120%. Because the sample concentration was greater than 4 times the spiking concentration, no data were qualified based on the MS/MSD results.

5. Laboratory Duplicate

A laboratory duplicate was performed using PDI-SG-B474. Results were comparable.

6. Serial Dilution

Metals by Method 6020B – A serial dilution was performed using PDI-SG-B474. Results were comparable.

7. Reporting Limits – Acceptable

## CONVENTIONAL ANALYSES

Samples were analyzed for TOC and total solids by the methods identified in the introduction to this report.

1. Holding Times – Acceptable except as noted below:

Total Solids by ASTM Method D-2216/Moisture Content at 70°C – The 7-day holding time indicated for total solids in the QAPP was exceeded for the samples in this laboratory group as the samples were held in freezer storage before shipping to TA. Total solids were analyzed within the time that other analyses were performed for samples in this laboratory group. No data qualifiers were assigned based on this holding time exceedance.

2. Blanks – Acceptable

A rinsate blank was not submitted with this laboratory group. Associated rinsate blanks are reported under separate cover. Target compounds may have been detected in the rinsate blanks associated with these samples. Data were not qualified based on rinsate blank results.

3. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable



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

TOC by Method 9060 – An MS/MSD was performed using PDI-SG-B474. Results were acceptable.

5. Laboratory Replicate – Acceptable

A laboratory duplicate and triplicate were performed using PDI-SG-B474. Results were comparable.

6. Reporting Limits – Acceptable

**GRAIN SIZE ANALYSES**

Samples were analyzed for grain size by the methods identified in the introduction to this report. The data were reviewed to confirm that the required grain size fractions identified in the QAPP were reported for each sample.

1. Laboratory Duplicate

The laboratory performed duplicate analysis at a rate of 1 per 20 samples per their internal requirements. A laboratory duplicate was not performed on the sample in this laboratory group.

**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 580-79256-1 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
No data qualifiers were assigned to results reported in 580-79256-1 based on this data validation.							