

## Data Validation Report

Project: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling  
Portland Harbor Superfund Site  
Surface Sediment – Sediment Management Area

Laboratory: TestAmerica Laboratories, Incorporated, Seattle, WA

Laboratory Group: 580-78432-1

Analyses: 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: 580-78432-1 DVR

### SUMMARY

The data quality review of two surface sediment samples collected on June 2 and June 3, 2018, has been completed. Samples were analyzed for TOC by EPA Method 9060, total solids by American Society for Testing and Materials (ASTM) Method D-2216, moisture content at 70 degrees centigrade (70°C), and 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, American Society for Testing & Materials (ASTM), Philadelphia, Pennsylvania. The laboratory provided level 2 and level 4 data packages containing sample results, 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 580-78432-1:

Sample ID	Laboratory ID
PDI-SG-S072	580-78432-1
PDI-SG-S120	580-78432-2

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 temperatures were recorded. The coolers were received at temperatures below the EPA-recommended limits of greater than 0°C and less than or equal to 6°C at -2.7°C and -1.7°C. Data were not qualified based on the cooler temperatures. Both samples in this group were frozen at the field warehouse after sampling until they were shipped to TA on June 27, 2018.

### CONVENTIONAL ANALYSES

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

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1. Holding Times – Acceptable except as noted below:

Total Solids by ASTM Method D-2216 – 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 temporarily 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 the holding time exceedance.

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 temporarily 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 the holding time exceedance.

2. Blanks – Acceptable where applicable, except as noted below:

TOC by Method 9060 – TOC was detected in the method blank associated with analytical batch 278318 (198 mg/kg) at a concentration below the reporting limit but above the method detection limit (MDL). TOC was detected in PDI-SG-S120 at a concentration below the reporting limit and less than ten times the method blank detection; therefore, the result was qualified as not detected and flagged 'U' at the reporting limit based on the method blank detection.

Two rinsate blanks were collected on June 2 and June 3, 2018, were reported with laboratory groups 580-77770 (laboratory ID 580-77770-12 and 580-77770-13), and are applicable to the samples reported in this laboratory group. TOC was detected in 580-77770-12 (0.31 mg/L) and 580-77770-13 (0.50 mg/L) at concentrations below the reporting limits but above the 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) – Acceptable

TOC by Method 9060 – An MS/MSD was not performed using a sample from this laboratory group. Accuracy and precision were assessed using the LCS/LCSD.

5. Laboratory Replicate – Acceptable

TOC by Method 9060 – A laboratory duplicate and triplicate were not performed using a sample from this laboratory group. Precision was assessed using the LCS/LCSD.

Moisture Content at 70°C – A laboratory duplicate was not performed using a sample in this laboratory group. Precision was not assessed.

Total Solids by ASTM D-2216 – A laboratory duplicate was not performed using a sample in this laboratory group. Precision was not assessed.

6. Reporting Limits – Acceptable

TOC by SM 5310B – The result for TOC in PDI-SG-S120 was reported at a concentration between the reporting limit and the MDL and was initially flagged 'J' by the laboratory;



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however, the result for TOC in this sample was qualified as not detected based on the associated method blank result.

## **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. As indicated under sample receipt, the sample volume used for grain size analysis was frozen until shipped to TA. No data qualifiers were assigned to grain size results based on sample condition.

### **1. Laboratory Duplicate – Acceptable**

The laboratory performed duplicate analysis at a rate of 1 per 20 samples per their internal requirements. A laboratory duplicate was not performed using a sample from 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 580-78432-1 is 100%.

**Table 1**  
**QA/QC Data Summary Review**  
**Portland Harbor**  
**Surface Sediment - Sediment Management Area**  
**TestAmerica Laboratory Group: 580-78432-1**

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
PDI-SG-S120	580-78432-2	SW9060	Total Organic Carbon	1600 J	mg/kg	2000 U	bl

bl - laboratory blank contamination

J - estimated value

mg/kg - miligram per kilogram

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

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