

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: 580-77000-1

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

Validation Level: Stage 4

AECOM Project

Number: 60566335, Task #2.12

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File Name: 580-77000-1 DVR

SUMMARY

The data quality review of 12 surface sediment samples collected on April 30 and May 1, 2018, has been completed. Samples were analyzed for 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 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 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 580-77000-1:

Sample ID	Laboratory ID
PDI-SG-S211	580-77000-1
PDI-SG-S213	580-77000-2
PDI-SG-S220	580-77000-3
PDI-SG-S215	580-77000-4
PDI-SG-S241	580-77000-5
PDI-SG-S235	580-77000-6
PDI-SG-S238	580-77000-7
PDI-SG-S223	580-77000-8
PDI-SG-S225	580-77000-9
PDI-SG-S231	580-77000-10
PDI-SG-S230	580-77000-11
PDI-SG-S234	580-77000-12

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 Inorganic Superfund Methods Data Review*, January 2017. Data qualifiers assigned to this sample set are included in Table 1.



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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 within the EPA-recommended limits of greater than 0°C and less than or equal to 6°C. No discrepancies with sample identification were noted by TA.

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:

Moisture Content at 70°C – The 7-day holding time indicated for total solids in the QAPP was exceeded for all samples in this laboratory group by 22-23 days due to an oversight by the laboratory. No data qualifiers were assigned based on the holding time exceedance.

2. Initial and Continuing Calibrations – Acceptable where applicable

3. Blanks – Acceptable where applicable except as noted below:

TOC by Method 9060 – TOC was detected in the method blank associated with analytical batch 273725 (72.2 mg/kg) at a concentration below the reporting limit but above the method detection limit (MDL). TOC was detected in the samples at concentrations above the reporting limits and greater than ten times the associated method blank detection; therefore, TOC was not qualified based on the method blank detection.

Two rinsate blanks were collected on May 2, 2018, were reported with TA laboratory group 580-77073 (laboratory IDs 580-77073-27 and 580-77073-28), and are applicable to the samples reported in this laboratory group. TOC was detected in both rinsate blanks but the results were qualified as not detected based on the associated method blank detection. Data were not qualified based on rinsate blank detections.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable where applicable.

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

TOC by Method 9060 – An MS/MSD was not performed on a sample reported in this laboratory group. Precision and accuracy were assessed using the LCS/LCSD.

6. Laboratory Replicate – Acceptable

TOC by Method 9060 – Laboratory duplicates and triplicates were not performed on a sample from this laboratory report. Precision and accuracy were assessed using the LCS/LCSD.

Total Solids by ASTM Method D-2216 – A laboratory duplicate was not performed on a sample from this laboratory report. Precision was not assessed.

Moisture Content at 70°C – A laboratory duplicate was performed using PDI-SG-S231. Results were comparable.



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7. Calculation Checks – Acceptable

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

8. 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. The raw data was reviewed to confirm that the reported grain size fractions were correct based on the particle size data.

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 performed using PDI-SG-S231. Results were comparable.

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 580-77000-1 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
No data qualifiers were assigned to results reported in 580-77000-1 based on this data validation.							