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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:	580-77392-1
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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SUMMARY

The data quality review of 13 surface sediment samples collected on May 16 and May 17, 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 Methods 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 580-77392-1:

Sample ID	Laboratory ID
PDI-SG-S165	580-77392-1
PDI-SG-S166	580-77392-2
PDI-SG-S190	580-77392-3
PDI-SG-S196	580-77392-4
PDI-SG-S151	580-77392-5
PDI-SG-S153	580-77392-6
PDI-SG-S136	580-77392-7
PDI-SG-S137	580-77392-8
PDI-SG-S138	580-77392-9
PDI-SG-S139	580-77392-10
PDI-SG-S141	580-77392-11
PDI-SG-S146	580-77392-12
PDI-SG-S148	580-77392-13

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 within the EPA-recommended limits of greater than 0°C and less than or equal to 6°C. The lids for one or more sample containers submitted for PDI-SG-S190, PDI-SG-S153, PDI-SG-S139, and PDI-SG-S141 were received broken. The laboratory repaired or replaced the lids, as appropriate, upon receipt.

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 26-27 days due to an oversight by the laboratory. 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 275003 (351 mg/kg) at a concentration below the reporting limit but above the method detection limit (MDL). TOC was detected in the associated samples at concentrations above the reporting limits and greater than 10 times the method blank detection; therefore, data were not qualified based on this method blank detection.

   Two rinsate blanks were collected on May 17 and May 20, 2018, were reported with laboratory groups 580-77396 (laboratory IDs 580-77396-3) and 580-77430 (laboratory ID 580-77430-17), and are applicable to the samples reported in this laboratory group. TOC was detected in 580-77396-3 (0.23 mg/L) and 580-77430-17 (0.31 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 where applicable

   TOC by Method 9060 – An MS/MSD was performed using PDI-SG-S138. Results were acceptable.

5. Laboratory Replicate – Acceptable

   TOC by Method 9060 – A laboratory duplicate and triplicate was performed using PDI-SG-S138. Results were comparable.

   Total Solids by Method D2216 – A laboratory duplicate was performed using PDI-SG-S137. 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 – Acceptable

   The laboratory performed duplicate analysis at a rate of 1 per 20 samples per their internal requirements. A laboratory duplicate was not performed on 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 580-77392-1 is 100%.

Table 1
QA/QC Data Summary Review
Portland Harbor
Surface Sediment - Sediment Management Area
TestAmerica Laboratory Group: 580-77392-1

Sample ID	Laboratory ID	Method	Analyte	Laboratory Result	Units	Final Result	Reason Code
No data qualifiers were assigned to results reported in 580-77392-1 based on this data validation.							