

Data Validation Report

Project: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
 Portland Harbor Superfund Site
 Porewater

Laboratory: TestAmerica Laboratories, Incorporated, Seattle, WA

Laboratory Groups: 580-80576-1

Analyses: Metals and Bromide

Validation Level: Stage 2A

AECOM Project

Number: 60566335, Task #2.12

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File Name: 580-80576-1 DVR

SUMMARY

The data quality review of ten porewater samples collected between September 22 and September 24, 2018, has been completed. Samples were analyzed for arsenic and manganese by EPA Method 6020B and bromide by EPA Method 300.0 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 *Methods for Chemical Analysis of Water and Wastes*, March 1983, respectively. 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 580-80576-1:

Sample ID	Laboratory ID
PDI-WP-B468	580-80576-1
PDI-WP-B476	580-80576-2
PDI-WP-B441	580-80576-3
PDI-WP-B483	580-80576-4
PDI-WP-B483-D (field duplicate of PDI-WP-B483-D)	580-80576-5
PDI-WP-S266	580-80576-6
PDI-WP-B454	580-80576-7
PDI-WP-B455	580-80576-8
PDI-WP-B466	580-80576-9
PDI-WP-B472	580-80576-10

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 within the EPA-recommended limits of greater than 0°C and less than or equal to 6°C. The sample identifications



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(IDs) for PDI-WP-B483 and PDI-WP-B483-D were incorrectly recorded on the COC as PDI-WP-B468 and PDI-WP-B468-D. At the request of AECOM, the sample IDs were changed and the correct IDs were reported.

METALS ANALYSIS

Samples were analyzed for metals by EPA Method 6020B.

1. Holding Times – Acceptable
2. Blanks – Acceptable
3. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable
4. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

An MS/MSD was not performed using a sample from this laboratory group. Accuracy was assessed using the LCS/LCSD recoveries.

5. Laboratory Duplicate

A laboratory duplicate was not performed using a sample from this laboratory group. Precision was assessed using the LCS/LCSD relative percent differences.

6. Field Duplicate – Acceptable

A field duplicate was collected for PDI-WP-B483 and identified as PDI-WP-B483-D. Results were comparable.

7. Reporting Limits – Acceptable

The result for arsenic in PDI-WP-B472 was flagged 'J' by the laboratory to indicate a concentration less than the laboratory reporting limit, but above the method detection limit (MDL). Laboratory 'J'-flagged results are considered estimated. As the result is between the MDL and the reporting limit, there is a greater level of uncertainty associated with the numerical result.

CONVENTIONAL ANALYSIS

Samples were analyzed for bromide by EPA Method 300.0.

1. Holding Times – Acceptable
2. Blanks – Acceptable
3. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) – Acceptable
4. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

An MS/MSD was performed using PDI-WP-B468. The percent recoveries for bromide in the MS (16%) and the MSD (18%) were below the control limits of 90-110%. The concentration



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for bromide in PDI-WP-B468 was more than four times the spike concentration; therefore, no data were qualified based on the MS/MSD recoveries.

5. Field Duplicate

A field duplicate was collected for PDI-WP-B483 and identified as PDI-WP-B483-D. Results were comparable.

6. Reporting Limits – Acceptable

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 580-80576-1 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 580-80576-1 based on this data validation.							