TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
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Tel: (253)922-2310

TestAmerica Job ID: 580-78527-6
Client Project/Site: Portland Harbor Pre-Remedial Design

For:
AECOM
1111 Third Ave
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Attn: Amy Dahl

Authorized for release by:
7/27/2018 11:10:07 AM
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-78527-6

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE
Client: AECOM
Project: Portland Harbor Pre-Remedial Design
Report Number: 580-78527-6

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The twenty-four samples were received on 7/2/2018 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 0.1º C, 0.2º C, 0.6º C, 1.7º C, 2.3º C and 3.2º C.

A sample container was provided to be archived frozen at the TestAmerica Sacramento laboratory pending potential additional analyses.

This report contains results of all analyses performed by TestAmerica Seattle.

RECEIPT EXCEPTIONS

The following samples were activated for Manganese by 6020BLL analysis by the client on 7/10/2018: PDI-SG-B441 (580-78527-3), PDI-SG-B455 (580-78527-15), PDI-SG-B454 (580-78527-17), PDI-SG-B453 (580-78527-18), PDI-SG-B453-D (580-78527-19), and PDI-SG-B460 (580-78527-23). This analysis was not originally requested on the chain-of-custody (COC).

The following samples were canceled by the client on 7/13/18 for Manganese analysis only: PDI-SG-B453 (580-78527-18) and PDI-SG-B453-D (580-78527-19).

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

METALS (ICPMS)

Samples PDI-SG-B441 (580-78527-3), PDI-SG-B455 (580-78527-15), PDI-SG-B454 (580-78527-17), PDI-SG-B453 (580-78527-18), PDI-SG-B453-D (580-78527-19) and PDI-SG-B460 (580-78527-23) were analyzed for Metals (ICPMS) in accordance with 6020A_LL. The samples were prepared on 07/03/2018 and 07/05/2018 and analyzed on 07/05/2018 and 07/06/2018.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL ORGANIC CARBON

Samples PDI-SG-B441 (580-78527-3), PDI-SG-B455 (580-78527-15), PDI-SG-B454 (580-78527-17), PDI-SG-B453 (580-78527-18), PDI-SG-B453-D (580-78527-19) and PDI-SG-B460 (580-78527-23) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 07/06/2018.

Job ID: 580-78527-6 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Total Organic Carbon - Duplicates was detected in method blank MB 580-278318/3 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GRAIN SIZE

Samples PDI-SG-B434 (580-78527-1), PDI-SG-B435 (580-78527-2), PDI-SG-B441 (580-78527-3), PDI-SG-B442 (580-78527-4), PDI-SG-B439 (580-78527-5), PDI-SG-B440 (580-78527-6), PDI-SG-B445 (580-78527-7), PDI-SG-B446 (580-78527-8), PDI-SG-B447 (580-78527-9), PDI-SG-B449 (580-78527-10), PDI-SG-B443 (580-78527-11), PDI-SG-B444 (580-78527-12), PDI-SG-B448 (580-78527-13), PDI-SG-B451 (580-78527-14), PDI-SG-B455 (580-78527-15), PDI-SG-B450 (580-78527-16), PDI-SG-B454 (580-78527-17), PDI-SG-B453 (580-78527-18), PDI-SG-B452 (580-78527-20), PDI-SG-B457 (580-78527-21), PDI-SG-B459 (580-78527-22), PDI-SG-B460 (580-78527-23) and PDI-SG-B461 (580-78527-24) were analyzed for grain size in accordance with ASTM D7928/D6913. The samples were analyzed on 07/05/2018.

Coarse Sand exceeded the RPD limit for the duplicate of sample PDI-SG-B452DU (580-78527-20).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples PDI-SG-B441 (580-78527-3), PDI-SG-B455 (580-78527-15), PDI-SG-B454 (580-78527-17), PDI-SG-B453 (580-78527-18), PDI-SG-B453-D (580-78527-19) and PDI-SG-B460 (580-78527-23) were analyzed for percent solids in accordance with ASTM D2216. The samples were analyzed on 07/06/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL SOLIDS @ 70C

Samples PDI-SG-B441 (580-78527-3), PDI-SG-B455 (580-78527-15), PDI-SG-B454 (580-78527-17), PDI-SG-B453 (580-78527-18), PDI-SG-B453-D (580-78527-19) and PDI-SG-B460 (580-78527-23) were analyzed for Total Solids @ 70C. The samples were analyzed on 07/11/2018, 07/23/2018 and 07/25/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Geotechnical

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B434
Date Collected: 06/29/18 11:36
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-1
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	4.1				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	57.3				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.1				%			07/05/18 10:34	1
Silt	38.4				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B435
Date Collected: 06/29/18 13:43
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-2
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	4.1				%			07/05/18 10:34	1
Coarse Sand	0.1				%			07/05/18 10:34	1
Fine Sand	59.2				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.2				%			07/05/18 10:34	1
Silt	36.4				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B441
Date Collected: 06/29/18 15:20
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-3
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	7400	B	2000	44	mg/Kg			07/06/18 14:55	1
Total Solids	62.2		0.1	0.1	%			07/06/18 19:15	1
Total Solids @ 70°C	62	H	0.10	0.10	%			07/25/18 10:45	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	4.4				%			07/05/18 10:34	1
Coarse Sand	0.2				%			07/05/18 10:34	1
Fine Sand	60.9				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	6.4				%			07/05/18 10:34	1
Silt	28.1				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B441
Date Collected: 06/29/18 15:20
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-3
Matrix: Solid
Percent Solids: 62.2

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0		0.23	0.046	mg/Kg	☼	07/03/18 15:41	07/05/18 20:03	5
Cadmium	0.094	J	0.18	0.035	mg/Kg	☼	07/03/18 15:41	07/05/18 20:03	5
Copper	25		0.46	0.10	mg/Kg	☼	07/03/18 15:41	07/05/18 20:03	5
Lead	7.6		0.23	0.022	mg/Kg	☼	07/03/18 15:41	07/05/18 20:03	5
Zinc	75		2.3	0.74	mg/Kg	☼	07/03/18 15:41	07/05/18 20:03	5
Manganese	520		0.46	0.21	mg/Kg	☼	07/03/18 15:41	07/05/18 20:03	5

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B442
Date Collected: 06/29/18 16:22
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-4
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.7				%			07/05/18 10:34	1
Coarse Sand	0.1				%			07/05/18 10:34	1
Fine Sand	31.4				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.2				%			07/05/18 10:34	1
Silt	62.7				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B439
Date Collected: 06/29/18 11:51
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-5
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	13.1				%			07/05/18 10:34	1
Coarse Sand	0.2				%			07/05/18 10:34	1
Fine Sand	33.9				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.2				%			07/05/18 10:34	1
Silt	52.6				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B440
Date Collected: 06/29/18 14:12
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-6
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	12.7				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	31.7				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.3				%			07/05/18 10:34	1
Silt	55.3				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B445
Date Collected: 06/29/18 16:35
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-7
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.2				%			07/05/18 10:34	1
Coarse Sand	0.2				%			07/05/18 10:34	1
Fine Sand	70.3				%			07/05/18 10:34	1
Gravel	0.3				%			07/05/18 10:34	1
Medium Sand	0.4				%			07/05/18 10:34	1
Silt	23.7				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B446
Date Collected: 06/30/18 11:36
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-8
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	10.7				%			07/05/18 10:34	1
Coarse Sand	0.1				%			07/05/18 10:34	1
Fine Sand	23.5				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.2				%			07/05/18 10:34	1
Silt	65.5				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B447
Date Collected: 06/30/18 14:02
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-9
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.6				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	36.5				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.1				%			07/05/18 10:34	1
Silt	55.8				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B449
Date Collected: 06/30/18 15:38
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-10
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	8.3				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	40.7				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.1				%			07/05/18 10:34	1
Silt	51.0				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B443
Date Collected: 06/30/18 10:21
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-11
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.4				%			07/05/18 10:34	1
Coarse Sand	4.5				%			07/05/18 10:34	1
Fine Sand	29.6				%			07/05/18 10:34	1
Gravel	15.6				%			07/05/18 10:34	1
Medium Sand	5.7				%			07/05/18 10:34	1
Silt	37.3				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B444
Date Collected: 06/30/18 11:10
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-12
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	6.4				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	37.5				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.2				%			07/05/18 10:34	1
Silt	55.8				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B448
Date Collected: 06/30/18 12:08
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-13
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.4				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	56.0				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	1.2				%			07/05/18 10:34	1
Silt	35.3				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B451
Date Collected: 06/30/18 14:45
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-14
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	4.3				%			07/05/18 10:34	1
Coarse Sand	2.4				%			07/05/18 10:34	1
Fine Sand	57.3				%			07/05/18 10:34	1
Gravel	2.3				%			07/05/18 10:34	1
Medium Sand	16.9				%			07/05/18 10:34	1
Silt	16.8				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B455
Date Collected: 06/30/18 15:55
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-15
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	9600	B	2000	44	mg/Kg			07/06/18 15:00	1
Total Solids	59.7		0.1	0.1	%			07/06/18 19:15	1
Total Solids @ 70°C	61	H	0.10	0.10	%			07/25/18 10:45	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.3				%			07/05/18 10:34	1
Coarse Sand	0.2				%			07/05/18 10:34	1
Fine Sand	67.3				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	5.1				%			07/05/18 10:34	1
Silt	22.1				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B455
Date Collected: 06/30/18 15:55
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-15
Matrix: Solid
Percent Solids: 59.7

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.4		0.32	0.063	mg/Kg	☼	07/03/18 14:28	07/05/18 16:41	5
Cadmium	0.11	J	0.25	0.049	mg/Kg	☼	07/03/18 14:28	07/05/18 16:41	5
Copper	26		0.63	0.14	mg/Kg	☼	07/03/18 14:28	07/05/18 16:41	5
Lead	7.6		0.32	0.030	mg/Kg	☼	07/03/18 14:28	07/05/18 16:41	5
Zinc	73		3.2	1.0	mg/Kg	☼	07/03/18 14:28	07/05/18 16:41	5
Manganese	440		0.63	0.29	mg/Kg	☼	07/03/18 14:28	07/05/18 16:41	5

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B450
Date Collected: 07/01/18 10:30
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-16
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	9.5				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	44.7				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.1				%			07/05/18 10:34	1
Silt	45.8				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B454
Date Collected: 07/01/18 12:42
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-17
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	12000	B	2000	44	mg/Kg			07/06/18 15:05	1
Total Solids	58.2		0.1	0.1	%			07/06/18 19:15	1
Total Solids @ 70°C	56	H	0.10	0.10	%			07/25/18 10:45	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.8				%			07/05/18 10:34	1
Coarse Sand	0.0				%			07/05/18 10:34	1
Fine Sand	61.3				%			07/05/18 10:34	1
Gravel	0.0				%			07/05/18 10:34	1
Medium Sand	0.1				%			07/05/18 10:34	1
Silt	32.8				%			07/05/18 10:34	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B454
Date Collected: 07/01/18 12:42
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-17
Matrix: Solid
Percent Solids: 58.2

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.7		0.31	0.062	mg/Kg	☼	07/03/18 14:28	07/05/18 16:46	5
Cadmium	0.10	J	0.25	0.048	mg/Kg	☼	07/03/18 14:28	07/05/18 16:46	5
Copper	27		0.62	0.14	mg/Kg	☼	07/03/18 14:28	07/05/18 16:46	5
Lead	7.8		0.31	0.030	mg/Kg	☼	07/03/18 14:28	07/05/18 16:46	5
Zinc	77		3.1	0.99	mg/Kg	☼	07/03/18 14:28	07/05/18 16:46	5
Manganese	530		0.62	0.28	mg/Kg	☼	07/03/18 14:28	07/05/18 16:46	5

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B453
Date Collected: 07/01/18 11:41
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-18
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	24000	B	2000	44	mg/Kg			07/06/18 15:10	1
Total Solids	48.9		0.1	0.1	%			07/06/18 19:15	1
Total Solids @ 70°C	49	H	0.10	0.10	%			07/25/18 10:45	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	6.4				%			07/05/18 10:41	1
Coarse Sand	0.0				%			07/05/18 10:41	1
Fine Sand	52.8				%			07/05/18 10:41	1
Gravel	0.0				%			07/05/18 10:41	1
Medium Sand	0.4				%			07/05/18 10:41	1
Silt	40.5				%			07/05/18 10:41	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B453
Date Collected: 07/01/18 11:41
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-18
Matrix: Solid
Percent Solids: 48.9

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		0.34	0.067	mg/Kg	☼	07/03/18 15:41	07/05/18 20:07	5
Cadmium	0.13	J	0.27	0.052	mg/Kg	☼	07/03/18 15:41	07/05/18 20:07	5
Copper	34		0.67	0.15	mg/Kg	☼	07/03/18 15:41	07/05/18 20:07	5
Lead	8.4		0.34	0.032	mg/Kg	☼	07/03/18 15:41	07/05/18 20:07	5
Zinc	84		3.4	1.1	mg/Kg	☼	07/03/18 15:41	07/05/18 20:07	5

Client Sample ID: PDI-SG-B453-D
Date Collected: 07/01/18 11:41
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-19
Matrix: Solid
Percent Solids: 49.5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		0.35	0.069	mg/Kg	☼	07/03/18 15:41	07/05/18 20:12	5
Cadmium	0.14	J	0.28	0.054	mg/Kg	☼	07/03/18 15:41	07/05/18 20:12	5
Copper	34		0.69	0.15	mg/Kg	☼	07/03/18 15:41	07/05/18 20:12	5
Lead	8.5		0.35	0.033	mg/Kg	☼	07/03/18 15:41	07/05/18 20:12	5
Zinc	83		3.5	1.1	mg/Kg	☼	07/03/18 15:41	07/05/18 20:12	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	23000	B	2000	44	mg/Kg			07/06/18 15:16	1
Total Solids	49.5		0.1	0.1	%			07/06/18 19:15	1
Total Solids @ 70°C	49	H	0.10	0.10	%			07/23/18 14:23	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B452
Date Collected: 07/01/18 15:13
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-20
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	4.8				%			07/05/18 13:11	1
Coarse Sand	0.2				%			07/05/18 13:11	1
Fine Sand	43.8				%			07/05/18 13:11	1
Gravel	0.0				%			07/05/18 13:11	1
Medium Sand	2.7				%			07/05/18 13:11	1
Silt	48.5				%			07/05/18 13:11	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B457
Date Collected: 07/01/18 15:30
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-21
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	12.1				%			07/05/18 13:11	1
Coarse Sand	0.0				%			07/05/18 13:11	1
Fine Sand	43.5				%			07/05/18 13:11	1
Gravel	0.4				%			07/05/18 13:11	1
Medium Sand	0.3				%			07/05/18 13:11	1
Silt	43.6				%			07/05/18 13:11	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B459
Date Collected: 07/01/18 12:20
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-22
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.0				%			07/05/18 13:11	1
Coarse Sand	1.8				%			07/05/18 13:11	1
Fine Sand	32.8				%			07/05/18 13:11	1
Gravel	0.0				%			07/05/18 13:11	1
Medium Sand	3.8				%			07/05/18 13:11	1
Silt	56.7				%			07/05/18 13:11	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B460
Date Collected: 07/01/18 11:15
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-23
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	30000	B	2000	44	mg/Kg			07/06/18 15:21	1
Total Solids	43.8		0.1	0.1	%			07/06/18 19:15	1
Total Solids @ 70°C	43	H	0.10	0.10	%			07/11/18 08:04	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	9.7				%			07/05/18 13:11	1
Coarse Sand	0.0				%			07/05/18 13:11	1
Fine Sand	23.1				%			07/05/18 13:11	1
Gravel	0.0				%			07/05/18 13:11	1
Medium Sand	0.1				%			07/05/18 13:11	1
Silt	67.1				%			07/05/18 13:11	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B460
Date Collected: 07/01/18 11:15
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-23
Matrix: Solid
Percent Solids: 43.8

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.9		0.44	0.088	mg/Kg	☼	07/05/18 14:39	07/06/18 12:39	5
Cadmium	0.14	J	0.35	0.067	mg/Kg	☼	07/05/18 14:39	07/06/18 12:39	5
Copper	39		0.88	0.19	mg/Kg	☼	07/05/18 14:39	07/06/18 12:39	5
Lead	9.1		0.44	0.042	mg/Kg	☼	07/05/18 14:39	07/06/18 12:39	5
Zinc	86		4.4	1.4	mg/Kg	☼	07/05/18 14:39	07/06/18 12:39	5
Manganese	930		0.88	0.40	mg/Kg	☼	07/05/18 14:39	07/06/18 12:39	5

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B461
Date Collected: 07/01/18 10:00
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-24
Matrix: Solid

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.3				%			07/05/18 13:11	1
Coarse Sand	0.1				%			07/05/18 13:11	1
Fine Sand	46.1				%			07/05/18 13:11	1
Gravel	0.0				%			07/05/18 13:11	1
Medium Sand	0.3				%			07/05/18 13:11	1
Silt	48.2				%			07/05/18 13:11	1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-278069/22-A
Matrix: Solid
Analysis Batch: 278226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278069

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		07/03/18 14:28	07/05/18 15:34	5
Cadmium	ND		0.20	0.039	mg/Kg		07/03/18 14:28	07/05/18 15:34	5
Copper	ND		0.50	0.11	mg/Kg		07/03/18 14:28	07/05/18 15:34	5
Lead	ND		0.25	0.024	mg/Kg		07/03/18 14:28	07/05/18 15:34	5
Zinc	ND		2.5	0.81	mg/Kg		07/03/18 14:28	07/05/18 15:34	5
Manganese	ND		0.50	0.23	mg/Kg		07/03/18 14:28	07/05/18 15:34	5

Lab Sample ID: LCS 580-278069/23-A
Matrix: Solid
Analysis Batch: 278226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278069

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	191		mg/Kg		95	80 - 120
Cadmium	5.00	5.00		mg/Kg		100	80 - 120
Copper	25.0	25.0		mg/Kg		100	80 - 120
Lead	50.0	46.6		mg/Kg		93	80 - 120
Zinc	200	188		mg/Kg		94	80 - 120
Manganese	50.0	47.1		mg/Kg		94	80 - 120

Lab Sample ID: LCSD 580-278069/24-A
Matrix: Solid
Analysis Batch: 278226

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 278069

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	192		mg/Kg		96	80 - 120	0	20
Cadmium	5.00	4.98		mg/Kg		100	80 - 120	0	20
Copper	25.0	24.4		mg/Kg		98	80 - 120	2	20
Lead	50.0	47.1		mg/Kg		94	80 - 120	1	20
Zinc	200	187		mg/Kg		94	80 - 120	0	20
Manganese	50.0	47.7		mg/Kg		95	80 - 120	1	20

Lab Sample ID: MB 580-278085/22-A
Matrix: Solid
Analysis Batch: 278226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278085

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		07/03/18 15:41	07/05/18 18:09	5
Cadmium	ND		0.20	0.039	mg/Kg		07/03/18 15:41	07/05/18 18:09	5
Copper	ND		0.50	0.11	mg/Kg		07/03/18 15:41	07/05/18 18:09	5
Lead	ND		0.25	0.024	mg/Kg		07/03/18 15:41	07/05/18 18:09	5
Zinc	ND		2.5	0.81	mg/Kg		07/03/18 15:41	07/05/18 18:09	5
Manganese	ND		0.50	0.23	mg/Kg		07/03/18 15:41	07/05/18 18:09	5

Lab Sample ID: LCS 580-278085/23-A
Matrix: Solid
Analysis Batch: 278226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278085

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	191		mg/Kg		96	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-278085/23-A
Matrix: Solid
Analysis Batch: 278226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278085

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	5.00	4.77		mg/Kg		95	80 - 120
Copper	25.0	24.7		mg/Kg		99	80 - 120
Lead	50.0	46.6		mg/Kg		93	80 - 120
Zinc	200	185		mg/Kg		93	80 - 120
Manganese	50.0	46.9		mg/Kg		94	80 - 120

Lab Sample ID: LCSD 580-278085/24-A
Matrix: Solid
Analysis Batch: 278226

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 278085

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	193		mg/Kg		96	80 - 120	1	20
Cadmium	5.00	4.79		mg/Kg		96	80 - 120	0	20
Copper	25.0	24.7		mg/Kg		99	80 - 120	0	20
Lead	50.0	46.1		mg/Kg		92	80 - 120	1	20
Zinc	200	187		mg/Kg		94	80 - 120	1	20
Manganese	50.0	47.8		mg/Kg		96	80 - 120	2	20

Lab Sample ID: MB 580-278186/22-A
Matrix: Solid
Analysis Batch: 278394

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278186

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		07/05/18 14:39	07/06/18 10:29	5
Cadmium	ND		0.20	0.039	mg/Kg		07/05/18 14:39	07/06/18 10:29	5
Copper	ND		0.50	0.11	mg/Kg		07/05/18 14:39	07/06/18 10:29	5
Lead	ND		0.25	0.024	mg/Kg		07/05/18 14:39	07/06/18 10:29	5
Zinc	ND		2.5	0.81	mg/Kg		07/05/18 14:39	07/06/18 10:29	5
Manganese	ND		0.50	0.23	mg/Kg		07/05/18 14:39	07/06/18 10:29	5

Lab Sample ID: LCS 580-278186/23-A
Matrix: Solid
Analysis Batch: 278394

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278186

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	201		mg/Kg		100	80 - 120
Cadmium	5.00	5.38		mg/Kg		108	80 - 120
Copper	25.0	26.0		mg/Kg		104	80 - 120
Lead	50.0	49.6		mg/Kg		99	80 - 120
Zinc	200	196		mg/Kg		98	80 - 120
Manganese	50.0	48.1		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 580-278186/24-A
Matrix: Solid
Analysis Batch: 278394

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 278186

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	200		mg/Kg		100	80 - 120	0	20
Cadmium	5.00	5.16		mg/Kg		103	80 - 120	4	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-278186/24-A
Matrix: Solid
Analysis Batch: 278394

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 278186

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper			25.0	25.8		mg/Kg		103	80 - 120	1	20
Lead			50.0	50.1		mg/Kg		100	80 - 120	1	20
Zinc			200	203		mg/Kg		102	80 - 120	4	20
Manganese			50.0	49.1		mg/Kg		98	80 - 120	2	20

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-278318/3
Matrix: Solid
Analysis Batch: 278318

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	198	J	2000	44	mg/Kg			07/06/18 14:11	1

Lab Sample ID: LCS 580-278318/4
Matrix: Solid
Analysis Batch: 278318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			4270	4690		mg/Kg		110	68 - 149		

Lab Sample ID: LCSD 580-278318/5
Matrix: Solid
Analysis Batch: 278318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates			4270	4540		mg/Kg		106	68 - 149	3	32

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-78527-23 DU
Matrix: Solid
Analysis Batch: 278331

Client Sample ID: PDI-SG-B460
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	43.8			43.6		%				0.5	20

Method: D7928/D6913 - ASTM D7928/D6913

Lab Sample ID: 580-78527-1 DU
Matrix: Solid
Analysis Batch: 278145

Client Sample ID: PDI-SG-B434
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay	4.1			4.2		%				2	20
Coarse Sand	0.0			0.0		%				NC	20
Fine Sand	57.3			53.6		%				7	20

Method: D7928/D6913 - ASTM D7928/D6913 (Continued)

Lab Sample ID: 580-78527-1 DU
Matrix: Solid
Analysis Batch: 278145

Client Sample ID: PDI-SG-B434
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gravel	0.0			0.0		%				NC	20
Medium Sand	0.1			0.1		%				0	20
Silt	38.4			42.1		%				9	20

Lab Sample ID: 580-78527-20 DU
Matrix: Solid
Analysis Batch: 278174

Client Sample ID: PDI-SG-B452
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay	4.8			4.8		%				0	20
Coarse Sand	0.2			1.0	F3	%				133	20
Fine Sand	43.8			51.1		%				15	20
Gravel	0.0			0.0		%				NC	20
Medium Sand	2.7			3.0		%				11	20
Silt	48.5			40.2		%				19	20

Client Sample ID: PDI-SG-B434
Date Collected: 06/29/18 11:36
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B435
Date Collected: 06/29/18 13:43
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B441
Date Collected: 06/29/18 15:20
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	278318	07/06/18 14:55	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	278331	07/06/18 19:15	BAH	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280000	07/25/18 10:45	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B441
Date Collected: 06/29/18 15:20
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-3
Matrix: Solid
Percent Solids: 62.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			278085	07/03/18 15:41	CJB	TAL SEA
Total/NA	Analysis	6020B		5	278226	07/05/18 20:03	FCW	TAL SEA

Client Sample ID: PDI-SG-B442
Date Collected: 06/29/18 16:22
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B439
Date Collected: 06/29/18 11:51
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B440
Date Collected: 06/29/18 14:12
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B445
Date Collected: 06/29/18 16:35
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B446
Date Collected: 06/30/18 11:36
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B447
Date Collected: 06/30/18 14:02
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B449
Date Collected: 06/30/18 15:38
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B443
Date Collected: 06/30/18 10:21
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B444
Date Collected: 06/30/18 11:10
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B448
Date Collected: 06/30/18 12:08
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B451
Date Collected: 06/30/18 14:45
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B455
Date Collected: 06/30/18 15:55
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	278318	07/06/18 15:00	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	278331	07/06/18 19:15	BAH	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280000	07/25/18 10:45	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B455
Date Collected: 06/30/18 15:55
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-15
Matrix: Solid
Percent Solids: 59.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			278069	07/03/18 14:28	CJB	TAL SEA
Total/NA	Analysis	6020B		5	278226	07/05/18 16:41	FCW	TAL SEA

Client Sample ID: PDI-SG-B450
Date Collected: 07/01/18 10:30
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B454
Date Collected: 07/01/18 12:42
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	278318	07/06/18 15:05	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	278331	07/06/18 19:15	BAH	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280000	07/25/18 10:45	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:34	KAB	TAL SEA

Client Sample ID: PDI-SG-B454
Date Collected: 07/01/18 12:42
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-17
Matrix: Solid
Percent Solids: 58.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			278069	07/03/18 14:28	CJB	TAL SEA
Total/NA	Analysis	6020B		5	278226	07/05/18 16:46	FCW	TAL SEA

Client Sample ID: PDI-SG-B453
Date Collected: 07/01/18 11:41
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	278318	07/06/18 15:10	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	278331	07/06/18 19:15	BAH	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280000	07/25/18 10:45	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	278145	07/05/18 10:41	KAB	TAL SEA

Client Sample ID: PDI-SG-B453
Date Collected: 07/01/18 11:41
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-18
Matrix: Solid
Percent Solids: 48.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			278085	07/03/18 15:41	CJB	TAL SEA
Total/NA	Analysis	6020B		5	278226	07/05/18 20:07	FCW	TAL SEA

Client Sample ID: PDI-SG-B453-D
Date Collected: 07/01/18 11:41
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	278318	07/06/18 15:16	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	278331	07/06/18 19:15	BAH	TAL SEA
Total/NA	Analysis	Moisture 70C		1	279816	07/23/18 14:23	HJM	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B453-D
Lab Sample ID: 580-78527-19
Date Collected: 07/01/18 11:41
Matrix: Solid
Date Received: 07/02/18 14:30
Percent Solids: 49.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			278085	07/03/18 15:41	CJB	TAL SEA
Total/NA	Analysis	6020B		5	278226	07/05/18 20:12	FCW	TAL SEA

Client Sample ID: PDI-SG-B452
Lab Sample ID: 580-78527-20
Date Collected: 07/01/18 15:13
Matrix: Solid
Date Received: 07/02/18 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278174	07/05/18 13:11	KAB	TAL SEA

Client Sample ID: PDI-SG-B457
Lab Sample ID: 580-78527-21
Date Collected: 07/01/18 15:30
Matrix: Solid
Date Received: 07/02/18 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278174	07/05/18 13:11	KAB	TAL SEA

Client Sample ID: PDI-SG-B459
Lab Sample ID: 580-78527-22
Date Collected: 07/01/18 12:20
Matrix: Solid
Date Received: 07/02/18 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278174	07/05/18 13:11	KAB	TAL SEA

Client Sample ID: PDI-SG-B460
Lab Sample ID: 580-78527-23
Date Collected: 07/01/18 11:15
Matrix: Solid
Date Received: 07/02/18 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	278318	07/06/18 15:21	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	278331	07/06/18 19:15	BAH	TAL SEA
Total/NA	Analysis	Moisture 70C		1	279454	07/11/18 08:04	A1K	TAL SEA
Total/NA	Analysis	D7928/D6913		1	278174	07/05/18 13:11	KAB	TAL SEA

Client Sample ID: PDI-SG-B460
Lab Sample ID: 580-78527-23
Date Collected: 07/01/18 11:15
Matrix: Solid
Date Received: 07/02/18 14:30
Percent Solids: 43.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			278186	07/05/18 14:39	CJB	TAL SEA
Total/NA	Analysis	6020B		5	278394	07/06/18 12:39	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

Client Sample ID: PDI-SG-B461
Date Collected: 07/01/18 10:00
Date Received: 07/02/18 14:30

Lab Sample ID: 580-78527-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	278174	07/05/18 13:11	KAB	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: AECOM
TestAmerica Job ID: 580-78527-6
Project/Site: Portland Harbor Pre-Remedial Design

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-19
ANAB	DoD ELAP		L2236	01-19-19
ANAB	ISO/IEC 17025		L2236	01-19-19
California	State Program	9	2901	11-05-18
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

Sample Summary

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-6

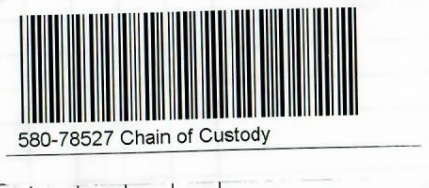
Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-78527-1	PDI-SG-B434	Solid	06/29/18 11:36	07/02/18 14:30
580-78527-2	PDI-SG-B435	Solid	06/29/18 13:43	07/02/18 14:30
580-78527-3	PDI-SG-B441	Solid	06/29/18 15:20	07/02/18 14:30
580-78527-4	PDI-SG-B442	Solid	06/29/18 16:22	07/02/18 14:30
580-78527-5	PDI-SG-B439	Solid	06/29/18 11:51	07/02/18 14:30
580-78527-6	PDI-SG-B440	Solid	06/29/18 14:12	07/02/18 14:30
580-78527-7	PDI-SG-B445	Solid	06/29/18 16:35	07/02/18 14:30
580-78527-8	PDI-SG-B446	Solid	06/30/18 11:36	07/02/18 14:30
580-78527-9	PDI-SG-B447	Solid	06/30/18 14:02	07/02/18 14:30
580-78527-10	PDI-SG-B449	Solid	06/30/18 15:38	07/02/18 14:30
580-78527-11	PDI-SG-B443	Solid	06/30/18 10:21	07/02/18 14:30
580-78527-12	PDI-SG-B444	Solid	06/30/18 11:10	07/02/18 14:30
580-78527-13	PDI-SG-B448	Solid	06/30/18 12:08	07/02/18 14:30
580-78527-14	PDI-SG-B451	Solid	06/30/18 14:45	07/02/18 14:30
580-78527-15	PDI-SG-B455	Solid	06/30/18 15:55	07/02/18 14:30
580-78527-16	PDI-SG-B450	Solid	07/01/18 10:30	07/02/18 14:30
580-78527-17	PDI-SG-B454	Solid	07/01/18 12:42	07/02/18 14:30
580-78527-18	PDI-SG-B453	Solid	07/01/18 11:41	07/02/18 14:30
580-78527-19	PDI-SG-B453-D	Solid	07/01/18 11:41	07/02/18 14:30
580-78527-20	PDI-SG-B452	Solid	07/01/18 15:13	07/02/18 14:30
580-78527-21	PDI-SG-B457	Solid	07/01/18 15:30	07/02/18 14:30
580-78527-22	PDI-SG-B459	Solid	07/01/18 12:20	07/02/18 14:30
580-78527-23	PDI-SG-B460	Solid	07/01/18 11:15	07/02/18 14:30
580-78527-24	PDI-SG-B461	Solid	07/01/18 10:00	07/02/18 14:30

SURFACE SEDIMENT
CHAIN OF CUSTODY

7/2/2018 COC No: 1 of 3 pages

TestAmerica-Seattle	Project Contact: Amy Dahl / Chelsey Cook
5755-8th-Street-East	Tel: (206) 438-2261 / (206) 438-2010
Tacoma, WA 98424-1317	Site Contact: Jennifer Ray
Ph: 253-922-2310 Fax: 253-922-5047	Laboratory Contact: Elaine-Walker
Client Contact	Carrier: Courier
AECOM	Analysis Turnaround Time
1111 3rd Ave Suite 1600	Calendar (C) or Work Days (W) _____
Seattle, WA 98101	☐ 21 days
Phone: (206) 438-2700 Fax: 1+(866) 495-5288	☒ Other _ASAP_____
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	
Portland, OR	
Project #: 60566335 Study: Surface Sediment	
Sample Type: D/U	

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL, Kron/Unger	Sample Specific Notes:
PDI-SG-B434	6/29/2018	11:36	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B435	6/29/2018	13:43	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B441	6/29/2018	15:20	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B442	6/29/2018	16:22	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B439	6/29/2018	11:51	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B440	6/29/2018	14:12	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B445	6/29/2018	16:35	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B446	6/30/2018	11:36	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B447	6/30/2018	14:02	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B449	6/30/2018	15:38	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B443	6/30/2018	10:21	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B444	6/30/2018	15:20	SS		MT	7		H	H	H	x	H	H	H	



Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

6,01,07,23,02,30,2

Relinquished by:	Company: AECOM	Date/Time: 7/2/18 1257	Received by:	Company: M-E-	Date/Time: 7/2/18 1257
Relinquished by:	Company: M-E-	Date/Time: 7/2/18 1430	Received by:	Company: TAPOR	Date/Time: 7/2/18 1430
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

SURFACE SEDIMENT
CHAIN OF CUSTODY

7/2/2018 COC No: 1 — 2 of 3 pages

TestAmerica-Seattle	Project Contact: Amy Dahl / Chelsey Cook
5755-8th-Street-East	Tel: (206) 438-2261 / (206) 438-2010
Tacoma, WA 98424-1317	Site Contact: Jennifer Ray
Ph: 253-922-2310 Fax: 253-922-5047	Laboratory Contact: Elaine-Walker
Client Contact	Carrier: Courier
AECOM	Analysis Turnaround Time
1111 3rd Ave Suite 1600	Calendar (C) or Work Days (W) _____
Seattle, WA 98101	☐ 21 days
Phone: (206) 438-2700 Fax: 1+(866) 495-5288	☒ Other _ASAP_____
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	
Portland, OR	
Project #: 60566335 Study: Surface Sediment	
Sample Type: D/U	

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL, Krom/Unger	Atterberg Limits ASTM D4318	Sample Specific Notes:
PDI-SG-B448	6/30/2018	12:08	SS		MT	7		H	H	H	x	H	H	H		
PDI-SG-B451	6/30/2018	14:45	SS		AC	7		H	H	H	x	H	H	H		
PDI-SG-B455	6/30/2018	15:55	SS		AC	7		H	H	H	x	H	H	H		
PDI-SG-B450	7/1/2018	10:30	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B454	7/1/2018	1242 1245	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B453	7/1/2018	11:41	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B453-D	7/1/2018	11:41	SS		SH	6		H	H	H		H	H	H		
PDI-SG-B452	7/1/2018	15:13	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B457	7/1/2018	15:30	SS	MS/MSD	AC	13		H	H	H	x	H	H	H		
PDI-SG-B459	7/1/2018	12:20	SS		AC	8		H	H	H	x	H	H	H	H	
PDI-SG-B460	7/1/2018	11:15	SS		MT	8		H	H	H	x	H	H	H	H	
PDI-SG-B461	7/1/2018	10:00	SS		MT	8		H	H	H	x	H	H	H	H	

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

Relinquished by:	Company: AECOM	Date/Time: 7/2/18 1257	Received by:	Company: M-E.	Date/Time: 7/2/18 1257
Relinquished by:	Company: M-E-	Date/Time: 7/2/18 1430	Received by:	Company: TAPOR	Date/Time: 7/2/18 1430
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

7/27/2018

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 **Ph: 253-922-2310** **Fax: 253-922-5047**	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010**	**Site Contact: Jennifer Ray** **Laboratory Contact: Elaine-Walker**	**7/2/2018** **Carrier: Courier**	COC No: 1 3 of 3 pages
Client Contact AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Surface Sediment Sample Type: D/U	**Analysis Turnaround Time** Calendar (C) or Work Days (W) ☐ 21 days ☒ Other _ASAP_____			

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL, Krom/Unger	Atterberg Limits ASTM D4318	WQ-PCB Congeners 1668A	WQ-PCDD/Fs 1613B	WQ-TPH Diesel NWTH-Dx	WQ-Metals, Hg 6020B, 7470	WQ-TOC SM5310B	WQ PAHs, 8270 SIM	WQ-BEHP 8270D-LL	WQ-TBT Krone/Unger	Sample Specific Notes:
PDI-SG-B461-D	7/1/2018	10:00	SS		AC	6		H	H	H		H	H	H										
PDI-SG-RB-20180630	6/30/18	17:15	W		AC	14										X	X	X	X	X	X	X	X	

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

Relinquished by:	Company: AECOM	Date/Time: 7/2/18 1257	Received by:	Company: M.E.	Date/Time: 7/2/18 1257
Relinquished by:	Company: M.E.	Date/Time: 7/2/18 1430	Received by:	Company: TAPOA	Date/Time: 7/2/18 1430
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 **Ph: 253-922-2310 Fax: 253-922-5047**	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010** **Analysis Turnaround Time** Calendar (C) or Work Days (W) _____ ☐ 21 days ☒ Other _ASAP_____	**Site Contact: Jennifer Ray** **Laboratory Contact: Elaine-Walker** **Carrier: Courier**

Client Contact
AECOM
1111 3rd Ave Suite 1600
Seattle, WA 98101
Phone: (206) 438-2700 Fax: 1+(866) 495-5288
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
Portland, OR
Project #: 60566335 Study: **Surface Sediment**
Sample Type: D/U

7/2/2018 COC No: 1 of 3 pages

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury, NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL, Kron/Unger	Sample Specific Notes:
PDI-SG-B434	6/29/2018	11:36	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B435	6/29/2018	13:43	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B441	6/29/2018	15:20	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B442	6/29/2018	16:22	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B439	6/29/2018	11:51	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B440	6/29/2018	14:12	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B445	6/29/2018	16:35	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B446	6/30/2018	11:36	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B447	6/30/2018	14:02	SS		SH	7		H	H	H	x	H	H	H	
PDI-SG-B449	6/30/2018	15:38	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B443	6/30/2018	10:21	SS		MT	7		H	H	H	x	H	H	H	
PDI-SG-B444	6/30/2018	13:20	SS		MT	7		H	H	H	x	H	H	H	

580-78527 Chain of Custody

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For **12** Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

.6,10,107,23,02,302

	Company	Date/Time		Company	Date/Time
Relinquished by:	AECOM	7/2/18	1257	Received by: M-E-	7/2/18 1257
Relinquished by:	M-E-	7/2/18	1430	Received by: TAPOR	7/2/18 1430
Relinquished by:	TAPOR	7/2/18	1800	Received by: TASEA	7-3-18 0945

IR5 0.3/0.3
1.8/1.8
1.4/1.4/27/2018

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 **Ph: 253-922-2310 Fax: 253-922-5047**	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010**	**Site Contact: Jennifer Ray** **Laboratory Contact: Elaine-Walker**	**7/2/2018** COC No: 1 **Carrier: Courier** 2 of 3 pages

Client Contact	Analysis Turnaround Time
AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: **Surface Sediment** Sample Type: **D/U**	Calendar (C) or Work Days (W) ☐ 21 days ☒ Other ASAP

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL Kron/Unger	Atterberg Limits ASTM D4318	Sample Specific Notes:
PDI-SG-B448	6/30/2018	12:08	SS		MT	7		H	H	H	x	H	H	H		
PDI-SG-B451	6/30/2018	14:45	SS		AC	7		H	H	H	x	H	H	H		
PDI-SG-B455	6/30/2018	15:55	SS		AC	7		H	H	H	x	H	H	H		
PDI-SG-B450	7/1/2018	10:30	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B454	7/1/2018	1327	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B453	7/1/2018	11:41	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B453-D	7/1/2018	11:41	SS		SH	6		H	H	H		H	H	H		
PDI-SG-B452	7/1/2018	15:13	SS		SH	7		H	H	H	x	H	H	H		
PDI-SG-B457	7/1/2018	15:30	SS	MS/MSD	AC	13		H	H	H	x	H	H	H		
PDI-SG-B459	7/1/2018	12:20	SS		AC	8		H	H	H	x	H	H	H	H	
PDI-SG-B460	7/1/2018	11:15	SS		MT	8		H	H	H	x	H	H	H	H	
PDI-SG-B461	7/1/2018	10:00	SS		MT	8		H	H	H	x	H	H	H	H	

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For **12** Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

Relinquished by:	Company: Aecom	Date/Time: 7/2/18 1257	Received by:	Company: M-E.	Date/Time: 7/2/18 1257
Relinquished by:	Company: M-E.	Date/Time: 7/2/18 1430	Received by:	Company: TAPOR	Date/Time: 7/2/18 1430
Relinquished by:	Company: TAPOR	Date/Time: 7/2/18 1800	Received by:	Company: TAGEO	Date/Time: 7-3-18 0945

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 **Ph: 253-922-2310 Fax: 253-922-5047**	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010**	**Site Contact: Jennifer Ray** **Laboratory Contact: Elaine-Walker**	**7/2/2018** **Carrier: Courier**	COC No: 1 3 of 3 pages

Client Contact	Analysis Turnaround Time
AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Surface Sediment Sample Type: D/U	Calendar (C) or Work Days (W) _____ ☐ 21 days ☒ Other ASAP_____

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury, NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL, Kron/Unger	Atterberg Limits ASTM D4318	WQ-PCB Congeners 1668A	WQ-PCDD/Fs 1613B	WQ-TPH Diesel NWTH-Dx	WQ-Metals, Hg 6020B, 7470	WQ-TOC SM5310B	WQ-PAHs 8270 SIM	WQ-BEHP 8270-LL	WQ-TBT Kamo/Unger	Sample Specific Notes:
PDI-SG-B461-D	7/1/2018	10:00	SS		AC	6		H	H	H		H	H	H										
PDI-SG-RB-20180630	6/30/18	17:15	W		AC	14										X	X	X	X	X	X	X	X	

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:

Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.

Separate reports for each lab.

Relinquished by:	Company: AECOM	Date/Time: 7/2/18 1257	Received by:	Company: M.E.	Date/Time: 7/2/18 1257
Relinquished by:	Company: M.E.	Date/Time: 7/2/18 1430	Received by:	Company: TAPOR	Date/Time: 7/2/18 1430
Relinquished by:	Company: TAPOR	Date/Time: 7/2/18 1800	Received by:	Company: TASEC	Date/Time: 7-3-18 0945

Revised 785277

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424-1317
Ph: 253-922-2310 Fax: 253-922-5047

Client Contact
AECOM
1111 3rd Ave Suite 1600
Seattle, WA 98101
Phone: (206) 438-2700 Fax: 1+(866) 495-5288
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
Portland, OR
Project #: 60566335 Study: Surface Sediment
Sample Type: DMU

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2810
Analysis Turnaround Time
Calendar (C) or Work Days (W)
☐ 21 days
☒ Other_ASAP

Site Contact: Jennifer Ray
Laboratory Contact: Elaine Walker
Carrier: Courier
7/2/2018 COC No: 1
1 of 3 pages

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Filtered	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (160.3 & TOC)	Archive Archive -20 C	PAHs, SVOCs, Pesticides, 8270 [illegible]					Sample Specific Notes
PDI-SG-B434	6/29/2018	11:58	SS		MT	7		H	H	H	x	H	H	H					
PDI-SG-B433	6/29/2018	13:03	SS		MT	7		H	H	H	x	H	H	H					
PDI-SG-B441	6/29/2018	15:20	SS		MT	7		H	H	(H)	(x)	(H)	H	H					
PDI-SG-B442	6/29/2018	16:22	SS		MT	7		H	H	H	x	H	H	H					
PDI-SG-B439	6/29/2018	11:51	SS		SH	7		H	H	H	x	H	H	H					
PDI-SG-B440	6/29/2018	14:12	SS		SH	7		H	H	H	x	H	H	H					
PDI-SG-B445	6/29/2018	16:35	SS		SH	7		H	H	H	x	H	H	H					
PDI-SG-B446	6/30/2018	11:56	SS		SH	7		H	H	H	x	H	H	H					
PDI-SG-B447	6/30/2018	14:02	SS		SH	7		H	H	H	x	H	H	H					
PDI-SG-B449	6/30/2018	15:38	SS		MT	7		H	H	H	x	H	H	H					
PDI-SG-B443	6/30/2018	16:21	SS		MT	7		H	H	H	x	H	H	H					
PDI-SG-B444	6/30/2018	12:50 [illegible]	SS		MT	7		H	H	H	x	H	H	H					

Container Type: WMG=Wide Mouth Glass Jar, Poly/HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column
Preservation: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal
☐ Return To Client ☒ Disposal by Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

① ANALYZE SAMPLE PDI-SG-B441 FOR METALS (6020B), TOC (9060, 10x G TOC) AND GRAIN SIZE (ASTM D7928/D6913) ON RUSH TAT.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	AECOM	7/2/18 / 1257	[signature]	M.E.	7/2/18 1257
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: K. Keesler	TA	7/2/18

COC 1414
Samples 1435

TestAmerica-Seattle
5755 8th Street East
Tacoma, WA 98424-1317
Ph: 253-922-2310 Fax: 253-922-5047

Client Contact
AECOM
1111 3rd Ave Suite 1600
Seattle, WA 98101
Phone: (206) 438-2700 Fax: 1+(866) 495-5288
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
Portland, OR
Project #: 60566335 Study: Surface Sediment
Sample Type: D/O

SURFACE SEDIMENT
CHAIN OF CUSTODY

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2818
Analysis Turnaround Time
Calendar (C) or Work Days (W)
☐ 21 days
☒ Other_ASAP__________

Site Contact: Jennifer Ray
Laboratory Contact: Elaine Walker
Carrier: Courier
7/2/2018 COC No: 1
2 of 3 pages

	Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Filtered	PCB Congeners 1668A	PCB Aroclors 8082	Total Metals, Metals, Mercury 6020, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 2540 (9060 & TOC)	Archive Archive -20 C	PAHs, SIM, Tributyltin, 8270-SIM, 8270, LL, Krone/Unger	Atterberg Limits ASTM D4318
-	PDI-SG-B448	6/30/2018	12:08	SS		MT	7		H	H	H	x	H	H	H	
-	PDI-SG-B451	6/30/2018	14:45	SS		AC	7		H	H	H	x	H	H	H	
-	PDI-SG-B455	6/30/2018	15:55	SS		AC	7		H	H	(H)	(x)	(H)	H	H	
-	PDI-SG-B450	7/1/2018	10:30	SS		SH	7		H	H	H	x	H	H	H	
-	PDI-SG-B454	7/1/2018	[illegible]	SS		SH	7		H	H	(H)	(x)	(H)	H	H	
-	PDI-SG-B453	7/1/2018	11:41	SS		SH	7		H	H	(H)	(x)	(H)	H	H	
-	PDI-SG-B453-D	7/1/2018	11:41	SS		SH	6		H	H	(H)		(H)	H	H	
-	PDI-SG-B452	7/1/2018	15:13	SS		SH	7		H	H	H	x	H	H	H	
-	PDI-SG-B457	7/1/2018	15:30	SS	MS/MSD	AC	13		H	H	H	x	H	H	H	
-	PDI-SG-B459	7/1/2018	12:30	SS		AC	8		H	H	H	x	H	H	H	H
-	PDI-SG-B460	7/1/2018	11:15	SS		MT	8		H	H	(H)	(x)	(H)	H	H	H
-	PDI-SG-B461	7/1/2018	10:00	SS		MT	9		H	H	H	x	H	H	H	H

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Fraction: D = Dissolved, PART = Particulate, T = Total (unfiltered)

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

○ ANALYZE SAMPLES PDI-SG-B455, PDI-SG-B453, PDI-SG-454, PDI-SG-B460, AND PDI-SG-453-D FOR METALS (6020), TOC (9060, 104-TOC), AND GRAIN SIZE (ASTM D7928/D6913) ON RUSH TAT.
NO GRAIN SIZE → PDI-SG-453-D

Relinquished by: [signature]	Company: PEDM	Date/Time: 7/2/18/1257	Received by: [signature]	Company: TA-E	Date/Time: 7/2/18 1257
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

 7/27/2018

TestAmerica-Seattle
5755 8th Street East
Tacoma, WA 98424-1317
Ph: 253-922-2310 Fax: 253-922-5047

Client Contact
AECOM
1111 3rd Ave Suite 1600
Seattle, WA 98101
Phone: (206) 438-2700 Fax: 1+(866) 495-5288
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling
Portland, OR
Project #: 60566335 Study: Surface Sediment
Sample Type: D/U

SURFACE SEDIMENT
CHAIN OF CUSTODY

Project Contacts Amy Dahl / Chelsey Cook
Tel: (206) 438-2361 / (206) 438-2810
Analysis Turnaround Time
Calendar (C) or Work Days (W)
☐ 21 days
☒ Other_ASAP________

Site Contact: Jennifer Ray
Laboratory Contact: Elaine Walker
Carrier: Courier
7/2/2018 COC No: 1
3 of 3 pages

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Freezer	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain Size ASTM D422/D4464/SM2	Total organic carbon, Total solids 9060 (TOC & TSC)	Archive -20 C	PAHs, SVOCs, Tributyltin, 8270-SIM, 8270, LL Krone/Unger	Atterberg Limits ASTM D4318	WQ-PCB Congeners 1668A	WQ-PCDD/Fs 1613B	WQ-TPH Diesel NWTPH-Dx	WQ-Metals, Hg 6020, 7470	WQ-TOC SM5310B	WQ-PAHs 8270 SIM	WQ-BEHP 8270D-LL	WQ-TBT Krone/Unger	Sample Specific Notes:
PDI-SG-B461-D	7/1/2018	10:00	SS		AC	6		H	H	H		H	H	H										
~~PDI-SS-RB-~~ PDI-RB-180630	6/30/18	17:15	W		AC	14																		
Per Aecom 7/22/18 ***																X	X	X	X	X	X	X	X	

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Freezer: B = Blastfreezer, PRT = Freezer, T = Trail (Ice/Blast)

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction.
Separate reports for each lab.

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by: [signature]	AECOM	7/2/18/1257	Received by: [signature]	TA-S.	7/2/18 1257
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

*** Changed Sample ID to: PDI-RB-180630
Per Aecom 7/22/18 (EW)

*** Added MN to RB sample
Per Aecom 7/22/18 (EW)

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-78527-6

Login Number: 78527
List Number: 1
Creator: Rogers, Angeline D

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Sacramento

Sa

Job:___ 580-78527 Field Sheet

Tracking # 442367506436 SO / PO / FO / UPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Notes:

rec'd 1/25 (x2)
no COC - Archive

Cracked jar for #5

Therm. ID: - AK-2 / AK-3 / AK-5 / AK-6 / HACCP / Other____

Ice ✓ Wet ✓ Gel ____ Other ____

Cooler Custody Seal: Seal

Sample Custody Seal: —

Cooler ID: 2 of 3

Temp: Observed 5.8

From: Temp Blank ☐ Sample ☑

NCM Filed: Yes ☑ No ☐

	Yes	No	NA
Perchlorate has headspace?	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Cooler compromised/tampered with?	☐	☑	☐
Samples compromised/tampered with?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Sample containers have legible labels?	☑	☐	☐
Containers are not broken or leaking?	☑	☑	☐
Sample date/times are provided.	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Multiphasic samples are not present?	☐	☐	☑
Sample temp OK?	☑	☐	☐
Sample out of temp?	☐	☑	☐

Initials: ___ Date: 7-7-18 Time ____

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

FZEF

ISD

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Sacramento
Sample Receiving Notes

Job: _____

Tracking # 442736750 6447 SO / PO / FO / UPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Notes: _____

Therm. ID: AK-2 / AK-3 / AK-5 / AK-6 / HACCP / Other _____

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: Seal

Sample Custody Seal: —

Cooler ID: 3073

Temp: Observed 5.2

From: Temp Blank ☐ Sample ☑

NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace?	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Cooler compromised/tampered with?	☐	☑	☐
Samples compromised/tampered with?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Sample containers have legible labels?	☑	☐	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided.	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Multiphasic samples are not present?	☐	☐	☑
Sample temp OK?	☑	☐	☐
Sample out of temp?	☑	☐	☐

Initials: CA Date: 7-7-18 Time _____

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Presley, Kim

From: Dahl, Amy <amy.dahl@aecom.com>
Sent: Friday, July 13, 2018 1:25 PM
To: Presley, Kim; Allen, Kristine
Cc: Cook, Chelsey; Mixon, Karen; Walker, M Elaine; Ray, Jennifer
Subject: RE: cancel Mn and rush on two samples

Categories: Red category

-External Email-

Thanks Kim.

Please go ahead and invoice us for rush and include in the rush report, but please cancel/do not report the manganese for 580-78527-18 and 580-78527-19.

Thank you,

PRIVILEGED AND CONFIDENTIAL / JOINT DEFENSE COMMUNICATION / ATTORNEY CLIENT WORK PRODUCT

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aecom.com

From: Presley, Kim [mailto:Kim.Presley@testamericainc.com]
Sent: Friday, July 13, 2018 1:06 PM
To: Dahl, Amy; Allen, Kristine
Cc: Cook, Chelsey; Mixon, Karen; Walker, M Elaine; Ray, Jennifer
Subject: RE: cancel Mn and rush on two samples

Hi Amy,

We have already completed analysis on the TOC and metals and the grain size is just waiting for the final step in the analytical process.
We can put these on hold but will still need to invoice these as complete.

Let me know what you would like to do.

KIM A PRESLEY
Project Management Assistant

TestAmerica

5755 8th Street East
Tacoma, WA 98424
Tel: 253.922.2310
www.testamericainc.com

From: Dahl, Amy [mailto:amy.dahl@aecom.com]
Sent: Friday, July 13, 2018 10:57 AM
To: Presley, Kim; Allen, Kristine
Cc: Cook, Chelsey; Mixon, Karen; Walker, M Elaine; Ray, Jennifer
Subject: cancel Mn and rush on two samples
Importance: High

-External Email-

Hi Kim and Kris,

Is it too late to cancel the manganese and rush for samples 580-78527-18 and 580-78527-19? They would still need rush grain size and hold other analysis like the other D/U samples.

I was just informed that this sample (and associated dup) is no longer on the list.

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From: Dahl, Amy
Sent: Tuesday, July 10, 2018 5:30 PM
To: Presley, Kim; Walker, M Elaine; Ray, Jennifer
Cc: Cook, Chelsey; Mixon, Karen; Allen, Kristine
Subject: RE: need to add Mn to rush metals samples

There's also one sample in SDG 580-78604-6 (sample 580-78604-8) that needs Mn added.

That's correct Elaine. The Mn is to be added to the select samples that need rush rush for metals, TOC, TS, grain size.

Amy Dahl, PhD
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From: Presley, Kim [mailto:Kim.Presley@testamericainc.com]
Sent: Tuesday, July 10, 2018 5:27 PM
To: Walker, M Elaine; Dahl, Amy; Ray, Jennifer
Cc: Cook, Chelsey; Mixon, Karen; Allen, Kristine
Subject: RE: need to add Mn to rush metals samples

I just confirmed that these are all the -6 jobs for 580-78527. They are at lab complete so I will need to have the lab take them back to batched to add then see if the QC passed to report them.
I will do this 1st thing in the am.

KIM A PRESLEY
Project Management Assistant

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From: Walker, M Elaine
Sent: Tuesday, July 10, 2018 5:25 PM
To: 'Dahl, Amy'; Ray, Jennifer; Presley, Kim
Cc: Cook, Chelsey; Mixon, Karen; Allen, Kristine
Subject: RE: need to add Mn to rush metals samples

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Hi Amy,

I am confirming receipt of your email and I included Kris Allen in the contacts. Kim will be getting this added to the rush samples below.

Are these the rush-rush ones?

Thanks,

M. ELAINE WALKER
Project Manager

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Tel 253.248.4972 | Fax 253.922.5047
www.testamericainc.com

From: Dahl, Amy [mailto:amy.dahl@aecom.com]
Sent: Tuesday, July 10, 2018 5:20 PM
To: Ray, Jennifer; Presley, Kim; Walker, M Elaine
Cc: Cook, Chelsey; Mixon, Karen
Subject: need to add Mn to rush metals samples
Importance: High

-External Email-

Karen pointed out that we need to add manganese on those rush samples for metals and TOC.

Can you please add manganese to the following samples in house and to future samples submitted for rush metals/TOC:

580-78527-3 PDI-SG-B441
580-78527-15 PDI-SG-B455
580-78527-17 PDI-SG-B454
580-78527-18 PDI-SG-B453
580-78527-19 PDI-SG-B453-D
580-78527-23 PDI-SG-B460
580-78604-8 PDI-SG-B466

Elaine and Jennifer, please confirm receipt of this message.

Thank you,

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amy.dahl@aecom.com

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aecom.com

From: Ray, Jennifer
Sent: Tuesday, July 03, 2018 12:12 PM
To: Presley, Kim; Walker, M Elaine; Dahl, Amy; Cook, Chelsey
Subject: RE: another rush request

Kim-
You are correct there is no rush Dx. Please note that it is only Metals (6020B) included in the rush revison as well, mercury should not be included. Yes we still need the other grain size analyses performed, however, these 5 requested on the revised COC take precedence (see Amy's email at the start of the chain below). Let me know if you have other questions.
Thanks,

Jennifer Ray, EIT
Environmental Engineering, Environment, Portland
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M +1-971-373-1622
jennifer.ray@aecom.com

PRIVILEGED AND CONFIDENTIAL/JOINT DEFENSE COMMUNICATION/ATTORNEY WORK PRODUCT

From: Presley, Kim [mailto:Kim.Presley@testamericainc.com]
Sent: Tuesday, July 03, 2018 12:04 PM
To: Walker, M Elaine; Dahl, Amy; Ray, Jennifer; Cook, Chelsey
Subject: RE: another rush request

Jennifer,

Please confirm

No Dx are needed on the rush samples. Just Metals, Grainsize and TOC. (no GS for B453-D).

Also- the COC indicates all Grain Size on all samples to be rushed. Do we need to run any other grain size than the 5 you have circled on the revised COC?

KIM A PRESLEY
Project Management Assistant

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SHIPPING ALERT: Independence Day, Wednesday July 4th 2018

For the upcoming Independence Day holiday (observed Wednesday, July 4th) FedEx and UPS will not have scheduled service on Wednesday July 4th.

If you have BOD samples or any short hold samples arriving over the weekend or being delivered Monday July 2rd or Tuesday July 3rd we ask that you contact your Project Manager in advance to ensure your samples meet all holding time criteria.

We are thankful for your business and hope that you have a wonderful and safe holiday!

From: Walker, M Elaine
Sent: Tuesday, July 03, 2018 12:00 PM
To: Presley, Kim
Subject: FW: another rush request

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Project Manager

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From: Ray, Jennifer [mailto:jennifer.ray@aecom.com]
Sent: Monday, July 02, 2018 2:14 PM
To: Walker, M Elaine
Cc: Dahl, Amy; Cook, Chelsey; Mixon, Karen
Subject: RE: another rush request

-External Email-

Elaine-
Attached is the revised COC for the rush requests on samples submitted today. Please let me know if you have questions.
Thanks,

Jennifer Ray, EIT
Environmental Engineering, Environment, Portland
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M +1-971-373-1622
jennifer.ray@aecom.com

PRIVILEGED AND CONFIDENTIAL/JOINT DEFENSE COMMUNICATION/ATTORNEY WORK PRODUCT

From: Dahl, Amy
Sent: Monday, July 02, 2018 1:26 PM
To: Walker, M Elaine <Elaine.Walker@testamericainc.com> (Elaine.Walker@testamericainc.com)
Cc: Cook, Chelsey; Ray, Jennifer; Mixon, Karen
Subject: another rush request
Importance: High

PRIVILEGED AND CONFIDENTIAL / JOINT DEFENSE COMMUNICATION / ATTORNEY CLIENT WORK PRODUCT

Hi Elaine, we have about 15 sediment samples that require rush analysis for metals, TOC, and grain size (standard TAT for PCB congeners, dioxin/furans, TPH, and mercury).

6 of them were picked up today and Jennifer will be submitting revised COCs shortly to add the rush analytes and samples. The other 9 samples will be arriving over the next few weeks. We will clearly mark the samples and analytes requiring rush TAT on the COCs.

What turn around can you commit to for the rush analytes? How will you report them if they are mixed with other samples on hold?

These rush analyses take precedence over the other grain size rush we are submitting right now.

Thank you,

Amy Dahl, PhD
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Importance: High

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580-78527-18 PDI-SG-B453
580-78527-19 PDI-SG-B453-D
580-78527-23 PDI-SG-B460
580-78604-8 PDI-SG-B466

Elaine and Jennifer, please confirm receipt of this message.

Thank you,

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Project Manager

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Cc: Cook, Chelsey; Ray, Jennifer; Mixon, Karen
Subject: another rush request
Importance: High

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