TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Seattle
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Tel: (253)922-2310

TestAmerica Job ID: 580-77073-1
Client Project/Site: Portland Harbor Pre-Remedial Design

For:
AECOM
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Suite 1600
Seattle, Washington 98101

Attn: Karen Mixon

M. Elaine Walker

Authorized for release by:
6/20/2018 2:12:57 PM

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Job ID: 580-77073-1

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE
Client: AECOM
Project: Portland Harbor Pre-Remedial Design
Report Number: 580-77073-1

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

Twenty-eight samples were received on 5/4/2018 1:30 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, 0.7º C, 1.0º C, 2.3º C, 4.2º C and 5.7º 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.

Client requested analysis for Grain Size for the following samples: PDI-SG-S037-D (580-77073-8) and PDI-SG-S126-D (580-77073-26), but the containers were not provided and the analyses were not added. Per project requirements, Grain Size is not required for duplicate samples and the samples were not logged for Grain Size. A revised COC was provided.

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.

DIESEL AND MOTOR OIL RANGE ORGANICS - Rinse Blank

Samples PDI-RB-VV-180502-1700 (580-77073-27) and PDI-RB-VV-180502-1730 (580-77073-28) were analyzed for diesel and motor oil range organics in accordance with Method NWTPH-Dx. The samples were prepared on 05/08/2018 and analyzed on 05/10/2018.

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

METALS (ICPMS) - Rinse Blank

Samples PDI-RB-VV-180502-1700 (580-77073-27) and PDI-RB-VV-180502-1730 (580-77073-28) were analyzed for Metals (ICPMS) in accordance with 6020A_LL. The samples were prepared on 05/08/2018 and analyzed on 05/09/2018.

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

TOTAL MERCURY - Rinse Blank

Samples PDI-RB-VV-180502-1700 (580-77073-27) and PDI-RB-VV-180502-1730 (580-77073-28) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 05/21/2018.

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

Job ID: 580-77073-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

TOTAL ORGANIC CARBON

Samples PDI-SG-S239 (580-77073-1), PDI-SG-S236 (580-77073-2), PDI-SG-S242 (580-77073-3), PDI-SG-S233 (580-77073-4), PDI-SG-S037 (580-77073-5), PDI-SG-S038 (580-77073-6), PDI-SG-S039 (580-77073-7), PDI-SG-S037-D (580-77073-8), PDI-SG-S040 (580-77073-9), PDI-SG-S041 (580-77073-10), PDI-SG-S043 (580-77073-11), PDI-SG-S044 (580-77073-12), PDI-SG-S062 (580-77073-13), PDI-SG-S063 (580-77073-14), PDI-SG-S198 (580-77073-15), PDI-SG-S201 (580-77073-16), PDI-SG-S200 (580-77073-17), PDI-SG-S194 (580-77073-18), PDI-SG-S193 (580-77073-19), PDI-SG-S186 (580-77073-20), PDI-SG-S172 (580-77073-21), PDI-SG-S123 (580-77073-22), PDI-SG-S125 (580-77073-23), PDI-SG-S128 (580-77073-24), PDI-SG-S126 (580-77073-25) and PDI-SG-S126-D (580-77073-26) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 05/11/2018, 05/14/2018 and 05/15/2018.

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

TOTAL ORGANIC CARBON - Rinse Blank

Samples PDI-RB-VV-180502-1700 (580-77073-27) and PDI-RB-VV-180502-1730 (580-77073-28) were analyzed for total organic carbon in accordance with SM 5310B. The samples were analyzed on 05/08/2018.

Total Organic Carbon was detected in method blank MB 580-273361/20 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-S239 (580-77073-1), PDI-SG-S236 (580-77073-2), PDI-SG-S242 (580-77073-3), PDI-SG-S233 (580-77073-4), PDI-SG-S037 (580-77073-5), PDI-SG-S038 (580-77073-6), PDI-SG-S039 (580-77073-7), PDI-SG-S040 (580-77073-9), PDI-SG-S041 (580-77073-10), PDI-SG-S043 (580-77073-11), PDI-SG-S044 (580-77073-12), PDI-SG-S062 (580-77073-13), PDI-SG-S063 (580-77073-14), PDI-SG-S198 (580-77073-15), PDI-SG-S201 (580-77073-16), PDI-SG-S200 (580-77073-17), PDI-SG-S194 (580-77073-18), PDI-SG-S193 (580-77073-19), PDI-SG-S186 (580-77073-20), PDI-SG-S172 (580-77073-21), PDI-SG-S123 (580-77073-22), PDI-SG-S125 (580-77073-23), PDI-SG-S128 (580-77073-24) and PDI-SG-S126 (580-77073-25) were analyzed for grain size in accordance with D422. The samples were analyzed on 05/15/2018.

Coarse Sand exceeded the RPD limit for the duplicate of sample PDI-SG-S239DU (580-77073-1).

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

PERCENT SOLIDS

Samples PDI-SG-S239 (580-77073-1), PDI-SG-S236 (580-77073-2), PDI-SG-S242 (580-77073-3), PDI-SG-S233 (580-77073-4), PDI-SG-S037 (580-77073-5), PDI-SG-S038 (580-77073-6), PDI-SG-S039 (580-77073-7), PDI-SG-S037-D (580-77073-8), PDI-SG-S040 (580-77073-9), PDI-SG-S041 (580-77073-10), PDI-SG-S043 (580-77073-11), PDI-SG-S044 (580-77073-12), PDI-SG-S062 (580-77073-13), PDI-SG-S063 (580-77073-14), PDI-SG-S198 (580-77073-15), PDI-SG-S201 (580-77073-16), PDI-SG-S200 (580-77073-17), PDI-SG-S194 (580-77073-18), PDI-SG-S193 (580-77073-19), PDI-SG-S186 (580-77073-20), PDI-SG-S172 (580-77073-21), PDI-SG-S123 (580-77073-22), PDI-SG-S125 (580-77073-23), PDI-SG-S128 (580-77073-24), PDI-SG-S126 (580-77073-25) and PDI-SG-S126-D (580-77073-26) were analyzed for percent solids in accordance with ASTM D2216. The samples were analyzed on 05/07/2018.

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

TOTAL SOLIDS @ 70C

Samples PDI-SG-S239 (580-77073-1), PDI-SG-S236 (580-77073-2), PDI-SG-S242 (580-77073-3), PDI-SG-S233 (580-77073-4), PDI-SG-S037 (580-77073-5), PDI-SG-S038 (580-77073-6), PDI-SG-S039 (580-77073-7), PDI-SG-S037-D (580-77073-8), PDI-SG-S040 (580-77073-9), PDI-SG-S041 (580-77073-10), PDI-SG-S043 (580-77073-11), PDI-SG-S044 (580-77073-12), PDI-SG-S062 (580-77073-13), PDI-SG-S063 (580-77073-14), PDI-SG-S198 (580-77073-15), PDI-SG-S201 (580-77073-16), PDI-SG-S200 (580-77073-17), PDI-SG-S194 (580-77073-18), PDI-SG-S193 (580-77073-19), PDI-SG-S186 (580-77073-20), PDI-SG-S172 (580-77073-21), PDI-SG-S123 (580-77073-22), PDI-SG-S125 (580-77073-23), PDI-SG-S128 (580-77073-24), PDI-SG-S126 (580-77073-25) and PDI-SG-S126-D (580-77073-26) were analyzed for Solids @ 70C. The samples were analyzed on 05/15/2018 and 05/30/2018.

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

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.
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: 580-77073-1

Client Sample ID: PDI-SG-S239
Date Collected: 05/02/18 09:25
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-1
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	36000		2000	44	mg/Kg			05/11/18 18:21	1
Total Solids	32.5		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	34		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	20.9				%			05/15/18 12:18	1
Coarse Sand	0.1				%			05/15/18 12:18	1
Fine Sand	14.3				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.9				%			05/15/18 12:18	1
Silt	63.7				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S236
Date Collected: 05/02/18 11:50
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-2
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	16000		2000	44	mg/Kg			05/14/18 14:49	1
Total Solids	44.2		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	46		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	11.4				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	38.2				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.5				%			05/15/18 12:18	1
Silt	49.8				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S242
Date Collected: 05/02/18 10:50
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-3
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	4300		2000	44	mg/Kg			05/11/18 18:27	1
Total Solids	66.4		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	75		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	1.8				%			05/15/18 12:18	1
Coarse Sand	1.0				%			05/15/18 12:18	1
Fine Sand	50.0				%			05/15/18 12:18	1
Gravel	0.8				%			05/15/18 12:18	1
Medium Sand	44.0				%			05/15/18 12:18	1
Silt	2.3				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S233
Date Collected: 05/02/18 13:35
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-4
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	28000		2000	44	mg/Kg			05/11/18 18:31	1
Total Solids	33.1		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	33		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	17.4				%			05/15/18 12:18	1
Coarse Sand	0.1				%			05/15/18 12:18	1
Fine Sand	14.0				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.6				%			05/15/18 12:18	1
Silt	67.8				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S037
Date Collected: 05/02/18 09:45
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-5
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	15000		2000	44	mg/Kg			05/11/18 18:37	1
Total Solids	53.7		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	54		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	4.3				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	62.1				%			05/15/18 12:18	1
Gravel	0.2				%			05/15/18 12:18	1
Medium Sand	7.7				%			05/15/18 12:18	1
Silt	25.7				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S038
Date Collected: 05/02/18 12:20
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-6
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	17000		2000	44	mg/Kg			05/11/18 18:43	1
Total Solids	54.0		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	57		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	8.7				%			05/15/18 12:18	1
Coarse Sand	0.1				%			05/15/18 12:18	1
Fine Sand	37.3				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.2				%			05/15/18 12:18	1
Silt	53.6				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S039
Date Collected: 05/02/18 11:20
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-7
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	19000		2000	44	mg/Kg			05/11/18 18:48	1
Total Solids	53.8		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	55		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	8.8				%			05/15/18 12:18	1
Coarse Sand	0.2				%			05/15/18 12:18	1
Fine Sand	41.9				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.6				%			05/15/18 12:18	1
Silt	48.5				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S037-D
Date Collected: 05/02/18 09:45
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-8
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	24000		2000	44	mg/Kg			05/14/18 15:13	1
Total Solids	55.5		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	56		0.10	0.10	%			05/30/18 14:31	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S040
Date Collected: 05/02/18 13:20
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-9
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	11000		2000	44	mg/Kg			05/14/18 15:19	1
Total Solids	53.2		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	56		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	6.1				%			05/15/18 12:18	1
Coarse Sand	0.7				%			05/15/18 12:18	1
Fine Sand	46.2				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	15.2				%			05/15/18 12:18	1
Silt	31.8				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S041
Date Collected: 05/02/18 14:15
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-10
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	20000		2000	44	mg/Kg			05/14/18 15:25	1
Total Solids	43.9		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	45		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	13.1				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	27.8				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.1				%			05/15/18 12:18	1
Silt	58.9				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S043
Date Collected: 05/02/18 15:00
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-11
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	21000		2000	44	mg/Kg			05/14/18 15:36	1
Total Solids	41.6		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	43		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	11.4				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	18.8				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.1				%			05/15/18 12:18	1
Silt	69.6				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S044
Date Collected: 05/02/18 15:45
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-12
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	22000		2000	44	mg/Kg			05/14/18 15:42	1
Total Solids	45.8		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	49		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.7				%			05/15/18 12:18	1
Coarse Sand	0.1				%			05/15/18 12:18	1
Fine Sand	31.2				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	3.1				%			05/15/18 12:18	1
Silt	57.9				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S062
Date Collected: 05/02/18 16:40
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-13
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	25000		2000	44	mg/Kg			05/14/18 15:48	1
Total Solids	39.7		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	42		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	15.4				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	17.4				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.1				%			05/15/18 12:18	1
Silt	67.1				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S063
Date Collected: 05/03/18 10:05
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-14
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	25000		2000	44	mg/Kg			05/14/18 15:53	1
Total Solids	38.9		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	40		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	15.9				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	10.1				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.1				%			05/15/18 12:18	1
Silt	73.9				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S198
Date Collected: 05/03/18 10:01
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-15
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	26000		2000	44	mg/Kg			05/14/18 15:59	1
Total Solids	34.5		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	37		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	21.9				%			05/15/18 12:18	1
Coarse Sand	0.2				%			05/15/18 12:18	1
Fine Sand	12.8				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.5				%			05/15/18 12:18	1
Silt	64.6				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S201
Date Collected: 05/03/18 11:36
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-16
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	21000		2000	44	mg/Kg			05/14/18 16:04	1
Total Solids	34.2		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	45		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	19.9				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	15.3				%			05/15/18 12:18	1
Gravel	5.2				%			05/15/18 12:18	1
Medium Sand	2.3				%			05/15/18 12:18	1
Silt	57.2				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S200
Date Collected: 05/03/18 12:38
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-17
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	21000		2000	44	mg/Kg			05/15/18 16:57	1
Total Solids	38.5		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	45		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	17.6				%			05/15/18 12:18	1
Coarse Sand	0.1				%			05/15/18 12:18	1
Fine Sand	19.8				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	3.9				%			05/15/18 12:18	1
Silt	58.6				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S194
Date Collected: 05/03/18 13:32
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-18
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	21000		2000	44	mg/Kg			05/14/18 16:10	1
Total Solids	35.2		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	38		0.10	0.10	%			05/15/18 12:18	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	17.9				%			05/15/18 12:18	1
Coarse Sand	0.0				%			05/15/18 12:18	1
Fine Sand	14.2				%			05/15/18 12:18	1
Gravel	0.0				%			05/15/18 12:18	1
Medium Sand	0.5				%			05/15/18 12:18	1
Silt	67.4				%			05/15/18 12:18	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S193
Date Collected: 05/03/18 14:33
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-19
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	24000		2000	44	mg/Kg			05/14/18 16:16	1
Total Solids	33.1		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	35		0.10	0.10	%			05/30/18 12:47	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	19.3				%			05/15/18 12:43	1
Coarse Sand	0.0				%			05/15/18 12:43	1
Fine Sand	9.9				%			05/15/18 12:43	1
Gravel	0.0				%			05/15/18 12:43	1
Medium Sand	0.3				%			05/15/18 12:43	1
Silt	70.5				%			05/15/18 12:43	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S186
Date Collected: 05/03/18 15:27
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-20
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	27000		2000	44	mg/Kg			05/15/18 17:21	1
Total Solids	36.2		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	40		0.10	0.10	%			05/30/18 12:47	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	13.5				%			05/15/18 12:43	1
Coarse Sand	0.2				%			05/15/18 12:43	1
Fine Sand	25.7				%			05/15/18 12:43	1
Gravel	0.0				%			05/15/18 12:43	1
Medium Sand	1.0				%			05/15/18 12:43	1
Silt	59.6				%			05/15/18 12:43	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S172
Date Collected: 05/03/18 17:13
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-21
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	10000		2000	44	mg/Kg			05/15/18 17:26	1
Total Solids	69.2		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	65		0.10	0.10	%			05/30/18 12:47	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.7				%			05/15/18 12:43	1
Coarse Sand	2.9				%			05/15/18 12:43	1
Fine Sand	34.3				%			05/15/18 12:43	1
Gravel	22.2				%			05/15/18 12:43	1
Medium Sand	18.5				%			05/15/18 12:43	1
Silt	14.5				%			05/15/18 12:43	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S123
Date Collected: 05/03/18 12:00
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-22
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	11000		2000	44	mg/Kg			05/15/18 17:31	1
Total Solids	60.8		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	63		0.10	0.10	%			05/30/18 12:47	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.0				%			05/15/18 12:43	1
Coarse Sand	1.0				%			05/15/18 12:43	1
Fine Sand	44.7				%			05/15/18 12:43	1
Gravel	0.0				%			05/15/18 12:43	1
Medium Sand	18.9				%			05/15/18 12:43	1
Silt	28.4				%			05/15/18 12:43	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S125
Date Collected: 05/03/18 13:40
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-23
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	31000		2000	44	mg/Kg			05/15/18 17:43	1
Total Solids	40.8		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	47		0.10	0.10	%			05/30/18 12:47	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	14.8				%			05/15/18 12:43	1
Coarse Sand	0.2				%			05/15/18 12:43	1
Fine Sand	14.4				%			05/15/18 12:43	1
Gravel	0.0				%			05/15/18 12:43	1
Medium Sand	1.3				%			05/15/18 12:43	1
Silt	69.4				%			05/15/18 12:43	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S128
Date Collected: 05/03/18 14:30
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-24
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	3400		2000	44	mg/Kg			05/15/18 17:48	1
Total Solids	72.1		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	73		0.10	0.10	%			05/30/18 12:47	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	3.8				%			05/15/18 12:43	1
Coarse Sand	1.6				%			05/15/18 12:43	1
Fine Sand	38.1				%			05/15/18 12:43	1
Gravel	0.0				%			05/15/18 12:43	1
Medium Sand	47.0				%			05/15/18 12:43	1
Silt	9.6				%			05/15/18 12:43	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S126
Date Collected: 05/03/18 15:30
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-25
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	35000		2000	44	mg/Kg			05/15/18 17:53	1
Total Solids	47.3		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	58		0.10	0.10	%			05/30/18 12:47	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	14.2				%			05/15/18 12:43	1
Coarse Sand	0.4				%			05/15/18 12:43	1
Fine Sand	24.2				%			05/15/18 12:43	1
Gravel	0.6				%			05/15/18 12:43	1
Medium Sand	1.5				%			05/15/18 12:43	1
Silt	59.2				%			05/15/18 12:43	1

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S126-D
Date Collected: 05/03/18 15:33
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-26
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	32000		2000	44	mg/Kg			05/15/18 17:58	1
Total Solids	48.3		0.1	0.1	%			05/07/18 14:45	1
Total Solids @ 70°C	48		0.10	0.10	%			05/30/18 14:31	1

Client Sample ID: PDI-RB-VV-180502-1700

Date Collected: 05/02/18 17:00
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-27

Matrix: Water

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		05/08/18 13:17	05/10/18 21:55	1
Motor Oil (>C24-C36)	ND		0.35	0.097	mg/L		05/08/18 13:17	05/10/18 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*59*		*50 - 150*	*05/08/18 13:17*	*05/10/18 21:55*	*1*

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/08/18 09:56	05/09/18 11:53	1
Cadmium	ND		0.00040	0.00010	mg/L		05/08/18 09:56	05/09/18 11:53	1
Copper	ND		0.0020	0.00060	mg/L		05/08/18 09:56	05/09/18 11:53	1
Lead	**0.00033**	**J**	0.00080	0.00020	mg/L		05/08/18 09:56	05/09/18 11:53	1
Zinc	ND		0.0070	0.0019	mg/L		05/08/18 09:56	05/09/18 11:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		05/21/18 09:20	05/21/18 13:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**0.20**	**J B**	1.0	0.19	mg/L			05/08/18 15:41	1

Client Sample ID: PDI-RB-VV-180502-1730

Date Collected: 05/02/18 17:30
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-28

Matrix: Water

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.066	mg/L		05/08/18 13:17	05/10/18 22:23	1
Motor Oil (>C24-C36)	ND		0.35	0.097	mg/L		05/08/18 13:17	05/10/18 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*58*		*50 - 150*	*05/08/18 13:17*	*05/10/18 22:23*	*1*

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/08/18 09:56	05/09/18 11:57	1
Cadmium	ND		0.00040	0.00010	mg/L		05/08/18 09:56	05/09/18 11:57	1
Copper	ND		0.0020	0.00060	mg/L		05/08/18 09:56	05/09/18 11:57	1
Lead	ND		0.00080	0.00020	mg/L		05/08/18 09:56	05/09/18 11:57	1
Zinc	ND		0.0070	0.0019	mg/L		05/08/18 09:56	05/09/18 11:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		05/21/18 09:20	05/21/18 13:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	**0.29**	**J B**	1.0	0.19	mg/L			05/08/18 15:41	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-273265/1-A
Matrix: Water
Analysis Batch: 273484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 273265

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.065	mg/L		05/08/18 13:17	05/10/18 16:20	1
Motor Oil (>C24-C36)	ND		0.35	0.096	mg/L		05/08/18 13:17	05/10/18 16:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*50 - 150*	*05/08/18 13:17*	*05/10/18 16:20*	*1*

Lab Sample ID: LCS 580-273265/2-A
Matrix: Water
Analysis Batch: 273484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 273265

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			2.00	1.26		mg/L		63	59 - 112		
Motor Oil (>C24-C36)			2.00	1.69		mg/L		84	64 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*77*		*50 - 150*

Lab Sample ID: LCSD 580-273265/3-A
Matrix: Water
Analysis Batch: 273484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 273265

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			2.00	1.38		mg/L		69	59 - 112	9	16
Motor Oil (>C24-C36)			2.00	1.79		mg/L		89	64 - 120	6	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*81*		*50 - 150*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-273217/21-A
Matrix: Water
Analysis Batch: 273571

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 273217

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		05/08/18 09:56	05/09/18 11:01	1
Cadmium	ND		0.00040	0.00010	mg/L		05/08/18 09:56	05/09/18 11:01	1
Copper	ND		0.0020	0.00060	mg/L		05/08/18 09:56	05/09/18 11:01	1
Lead	ND		0.00080	0.00020	mg/L		05/08/18 09:56	05/09/18 11:01	1
Zinc	ND		0.0070	0.0019	mg/L		05/08/18 09:56	05/09/18 11:01	1

Lab Sample ID: LCS 580-273217/22-A
Matrix: Water
Analysis Batch: 273571

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 273217

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			4.00	4.09		mg/L		102	80 - 120		

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

Lab Sample ID: LCS 580-273217/22-A
Matrix: Water
Analysis Batch: 273571

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 273217

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.100	0.104		mg/L		104	80 - 120
Copper	0.500	0.521		mg/L		104	80 - 120
Lead	1.00	0.971		mg/L		97	80 - 120
Zinc	4.00	3.97		mg/L		99	80 - 120

Lab Sample ID: LCSD 580-273217/23-A
Matrix: Water
Analysis Batch: 273571

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 273217

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.00	4.11		mg/L		103	80 - 120	0	20
Cadmium	0.100	0.106		mg/L		106	80 - 120	1	20
Copper	0.500	0.519		mg/L		104	80 - 120	0	20
Lead	1.00	0.977		mg/L		98	80 - 120	1	20
Zinc	4.00	3.98		mg/L		100	80 - 120	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-274251/20-A
Matrix: Water
Analysis Batch: 274298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 274251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		05/21/18 09:20	05/21/18 13:04	1

Lab Sample ID: LCS 580-274251/21-A
Matrix: Water
Analysis Batch: 274298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 274251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00218		mg/L		109	80 - 120

Lab Sample ID: LCSD 580-274251/22-A
Matrix: Water
Analysis Batch: 274298

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 274251

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00211		mg/L		105	80 - 120	3	20

Lab Sample ID: 580-77073-27 MS
Matrix: Water
Analysis Batch: 274298

Client Sample ID: PDI-RB-VV-180502-1700
Prep Type: Total/NA
Prep Batch: 274251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00200	0.00213		mg/L		106	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-77073-27 MSD
Matrix: Water
Analysis Batch: 274298

Client Sample ID: PDI-RB-VV-180502-1700
Prep Type: Total/NA
Prep Batch: 274251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00200	0.00206		mg/L		103	80 - 120	3	20

Lab Sample ID: 580-77073-27 DU
Matrix: Water
Analysis Batch: 274298

Client Sample ID: PDI-RB-VV-180502-1700
Prep Type: Total/NA
Prep Batch: 274251

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	ND		ND		mg/L		NC	20

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-273733/3
Matrix: Solid
Analysis Batch: 273733

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	ND		2000	44	mg/Kg			05/11/18 16:26	1

Lab Sample ID: LCS 580-273733/4
Matrix: Solid
Analysis Batch: 273733

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	4620	5320		mg/Kg		115	68 - 149

Lab Sample ID: LCSD 580-273733/5
Matrix: Solid
Analysis Batch: 273733

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	4620	4760		mg/Kg		103	68 - 149	11	32

Lab Sample ID: MB 580-273850/5
Matrix: Solid
Analysis Batch: 273850

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	ND		2000	44	mg/Kg			05/14/18 14:41	1

Lab Sample ID: LCS 580-273850/6
Matrix: Solid
Analysis Batch: 273850

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	4620	5240		mg/Kg		113	68 - 149

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: LCSD 580-273850/7
Matrix: Solid
Analysis Batch: 273850

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			4620	5290		mg/Kg		114	68 - 149	1	32

Lab Sample ID: 580-77073-2 MS
Matrix: Solid
Analysis Batch: 273850

Client Sample ID: PDI-SG-S236
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates	16000		120000	117000		mg/Kg		84	68 - 149		

Lab Sample ID: 580-77073-2 MSD
Matrix: Solid
Analysis Batch: 273850

Client Sample ID: PDI-SG-S236
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	16000		120000	127000		mg/Kg		93	68 - 149	8	32

Lab Sample ID: 580-77073-2 DU
Matrix: Solid
Analysis Batch: 273850

Client Sample ID: PDI-SG-S236
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	16000			15200		mg/Kg				3	50

Lab Sample ID: 580-77073-2 TRL
Matrix: Solid
Analysis Batch: 273850

Client Sample ID: PDI-SG-S236
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		TRL Result	TRL Qualifier	Unit	D			RSD	RSD Limit
Total Organic Carbon - Duplicates	16000			16100		mg/Kg				3	20

Lab Sample ID: MB 580-273919/3
Matrix: Solid
Analysis Batch: 273919

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	ND		2000	44	mg/Kg			05/15/18 16:49	1

Lab Sample ID: LCS 580-273919/4
Matrix: Solid
Analysis Batch: 273919

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			4620	5260		mg/Kg		114	68 - 149		

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: LCSD 580-273919/5
Matrix: Solid
Analysis Batch: 273919

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			4620	5300		mg/Kg		115	68 - 149	1	32

Lab Sample ID: 580-77073-17 MS
Matrix: Solid
Analysis Batch: 273919

Client Sample ID: PDI-SG-S200
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates	21000		120000	133000		mg/Kg		94	68 - 149		

Lab Sample ID: 580-77073-17 MSD
Matrix: Solid
Analysis Batch: 273919

Client Sample ID: PDI-SG-S200
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	21000		120000	121000		mg/Kg		83	68 - 149	10	32

Lab Sample ID: 580-77073-17 DU
Matrix: Solid
Analysis Batch: 273919

Client Sample ID: PDI-SG-S200
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	21000			21200		mg/Kg				2	50

Lab Sample ID: 580-77073-17 TRL
Matrix: Solid
Analysis Batch: 273919

Client Sample ID: PDI-SG-S200
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		TRL Result	TRL Qualifier	Unit	D			RSD	RSD Limit
Total Organic Carbon - Duplicates	21000			21000		mg/Kg				0.9	20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-77073-20 DU
Matrix: Solid
Analysis Batch: 273153

Client Sample ID: PDI-SG-S186
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	36.2			36.3		%				0.3	20

Method: Moisture 70C - Percent Moisture, 70 C

Lab Sample ID: 580-77073-1 DU
Matrix: Solid
Analysis Batch: 274985

Client Sample ID: PDI-SG-S239
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids @ 70°C	34			34		%				0.6	20

Lab Sample ID: 580-77073-19 DU
Matrix: Solid
Analysis Batch: 274985

Client Sample ID: PDI-SG-S193
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids @ 70°C	35			35		%				2	20

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 580-273361/20
Matrix: Water
Analysis Batch: 273361

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	0.335	J	1.0	0.19	mg/L			05/08/18 15:41	1

Lab Sample ID: LCS 580-273361/21
Matrix: Water
Analysis Batch: 273361

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			10.0	9.39		mg/L		94	85 - 115		

Method: D7928/D6913 - ASTM D7928/D6913

Lab Sample ID: 580-77073-1 DU
Matrix: Solid
Analysis Batch: 273866

Client Sample ID: PDI-SG-S239
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay	20.9			20.9		%				0	20
Coarse Sand	0.1			0.0	F3	%				200	20
Fine Sand	14.3			14.1		%				1	20
Gravel	0.0			0.0		%				NC	20
Medium Sand	0.9			1.0		%				11	20
Silt	63.7			64.0		%				0.5	20

Lab Sample ID: 580-77073-19 DU
Matrix: Solid
Analysis Batch: 273867

Client Sample ID: PDI-SG-S193
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay	19.3			20.2		%				5	20
Coarse Sand	0.0			0.0		%				NC	20
Fine Sand	9.9			9.2		%				7	20
Gravel	0.0			0.0		%				NC	20
Medium Sand	0.3			0.3		%				0	20

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

TestAmerica Job ID: 580-77073-1

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

Lab Sample ID: 580-77073-19 DU
Matrix: Solid
Analysis Batch: 273867

Client Sample ID: PDI-SG-S193
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Silt	70.5			70.3		%				0.3	20

Lab Chronicle

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S239
Date Collected: 05/02/18 09:25
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273733	05/11/18 18:21	MP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S236
Date Collected: 05/02/18 11:50
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 14:49	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S242
Date Collected: 05/02/18 10:50
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273733	05/11/18 18:27	MP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S233
Date Collected: 05/02/18 13:35
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273733	05/11/18 18:31	MP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S037
Date Collected: 05/02/18 09:45
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273733	05/11/18 18:37	MP	TAL SEA

Client Sample ID: PDI-SG-S037
Date Collected: 05/02/18 09:45
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S038
Date Collected: 05/02/18 12:20
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273733	05/11/18 18:43	MP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S039
Date Collected: 05/02/18 11:20
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273733	05/11/18 18:48	MP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S037-D
Date Collected: 05/02/18 09:45
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:13	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	275000	05/30/18 14:31	BAH	TAL SEA

Client Sample ID: PDI-SG-S040
Date Collected: 05/02/18 13:20
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:19	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S040
Date Collected: 05/02/18 13:20
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S041
Date Collected: 05/02/18 14:15
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:25	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S043
Date Collected: 05/02/18 15:00
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:36	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S044
Date Collected: 05/02/18 15:45
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:42	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S062
Date Collected: 05/02/18 16:40
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:48	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Lab Chronicle

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-SG-S063
Date Collected: 05/03/18 10:05
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:53	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S198
Date Collected: 05/03/18 10:01
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 15:59	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S201
Date Collected: 05/03/18 11:36
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 16:04	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S200
Date Collected: 05/03/18 12:38
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 16:57	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S194
Date Collected: 05/03/18 13:32
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 16:10	SPP	TAL SEA

Client Sample ID: PDI-SG-S194
Date Collected: 05/03/18 13:32
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/15/18 12:18	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273866	05/15/18 12:18	HJM	TAL SEA

Client Sample ID: PDI-SG-S193
Date Collected: 05/03/18 14:33
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273850	05/14/18 16:16	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/30/18 12:47	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273867	05/15/18 12:43	HJM	TAL SEA

Client Sample ID: PDI-SG-S186
Date Collected: 05/03/18 15:27
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 17:21	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/30/18 12:47	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273867	05/15/18 12:43	HJM	TAL SEA

Client Sample ID: PDI-SG-S172
Date Collected: 05/03/18 17:13
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 17:26	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/30/18 12:47	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273867	05/15/18 12:43	HJM	TAL SEA

Client Sample ID: PDI-SG-S123
Date Collected: 05/03/18 12:00
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 17:31	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA

Client Sample ID: PDI-SG-S123
Date Collected: 05/03/18 12:00
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture 70C		1	274985	05/30/18 12:47	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273867	05/15/18 12:43	HJM	TAL SEA

Client Sample ID: PDI-SG-S125
Date Collected: 05/03/18 13:40
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 17:43	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/30/18 12:47	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273867	05/15/18 12:43	HJM	TAL SEA

Client Sample ID: PDI-SG-S128
Date Collected: 05/03/18 14:30
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 17:48	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/30/18 12:47	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273867	05/15/18 12:43	HJM	TAL SEA

Client Sample ID: PDI-SG-S126
Date Collected: 05/03/18 15:30
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 17:53	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	274985	05/30/18 12:47	HJM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	273867	05/15/18 12:43	HJM	TAL SEA

Client Sample ID: PDI-SG-S126-D
Date Collected: 05/03/18 15:33
Date Received: 05/04/18 13:30

Lab Sample ID: 580-77073-26
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	273919	05/15/18 17:58	SPP	TAL SEA
Total/NA	Analysis	D 2216		1	273153	05/07/18 14:45	TTN	TAL SEA
Total/NA	Analysis	Moisture 70C		1	275000	05/30/18 14:31	BAH	TAL SEA

Lab Chronicle

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

TestAmerica Job ID: 580-77073-1

Client Sample ID: PDI-RB-VV-180502-1700

Lab Sample ID: 580-77073-27

Date Collected: 05/02/18 17:00

Matrix: Water

Date Received: 05/04/18 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			273265	05/08/18 13:17	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	273484	05/10/18 21:55	W1T	TAL SEA
Total Recoverable	Prep	3005A			273217	05/08/18 09:56	ASJ	TAL SEA
Total Recoverable	Analysis	6020B		1	273571	05/09/18 11:53	FCW	TAL SEA
Total/NA	Prep	7470A			274251	05/21/18 09:20	ASJ	TAL SEA
Total/NA	Analysis	7470A		1	274298	05/21/18 13:11	FCW	TAL SEA
Total/NA	Analysis	SM 5310B		1	273361	05/08/18 15:41	MP	TAL SEA

Client Sample ID: PDI-RB-VV-180502-1730

Lab Sample ID: 580-77073-28

Date Collected: 05/02/18 17:30

Matrix: Water

Date Received: 05/04/18 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			273265	05/08/18 13:17	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	273484	05/10/18 22:23	W1T	TAL SEA
Total Recoverable	Prep	3005A			273217	05/08/18 09:56	ASJ	TAL SEA
Total Recoverable	Analysis	6020B		1	273571	05/09/18 11:57	FCW	TAL SEA
Total/NA	Prep	7470A			274251	05/21/18 09:20	ASJ	TAL SEA
Total/NA	Analysis	7470A		1	274298	05/21/18 13:20	FCW	TAL SEA
Total/NA	Analysis	SM 5310B		1	273361	05/08/18 15:41	MP	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: 580-77073-1
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	10-31-18
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: 580-77073-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-77073-1	PDI-SG-S239	Solid	05/02/18 09:25	05/04/18 13:30
580-77073-2	PDI-SG-S236	Solid	05/02/18 11:50	05/04/18 13:30
580-77073-3	PDI-SG-S242	Solid	05/02/18 10:50	05/04/18 13:30
580-77073-4	PDI-SG-S233	Solid	05/02/18 13:35	05/04/18 13:30
580-77073-5	PDI-SG-S037	Solid	05/02/18 09:45	05/04/18 13:30
580-77073-6	PDI-SG-S038	Solid	05/02/18 12:20	05/04/18 13:30
580-77073-7	PDI-SG-S039	Solid	05/02/18 11:20	05/04/18 13:30
580-77073-8	PDI-SG-S037-D	Solid	05/02/18 09:45	05/04/18 13:30
580-77073-9	PDI-SG-S040	Solid	05/02/18 13:20	05/04/18 13:30
580-77073-10	PDI-SG-S041	Solid	05/02/18 14:15	05/04/18 13:30
580-77073-11	PDI-SG-S043	Solid	05/02/18 15:00	05/04/18 13:30
580-77073-12	PDI-SG-S044	Solid	05/02/18 15:45	05/04/18 13:30
580-77073-13	PDI-SG-S062	Solid	05/02/18 16:40	05/04/18 13:30
580-77073-14	PDI-SG-S063	Solid	05/03/18 10:05	05/04/18 13:30
580-77073-15	PDI-SG-S198	Solid	05/03/18 10:01	05/04/18 13:30
580-77073-16	PDI-SG-S201	Solid	05/03/18 11:36	05/04/18 13:30
580-77073-17	PDI-SG-S200	Solid	05/03/18 12:38	05/04/18 13:30
580-77073-18	PDI-SG-S194	Solid	05/03/18 13:32	05/04/18 13:30
580-77073-19	PDI-SG-S193	Solid	05/03/18 14:33	05/04/18 13:30
580-77073-20	PDI-SG-S186	Solid	05/03/18 15:27	05/04/18 13:30
580-77073-21	PDI-SG-S172	Solid	05/03/18 17:13	05/04/18 13:30
580-77073-22	PDI-SG-S123	Solid	05/03/18 12:00	05/04/18 13:30
580-77073-23	PDI-SG-S125	Solid	05/03/18 13:40	05/04/18 13:30
580-77073-24	PDI-SG-S128	Solid	05/03/18 14:30	05/04/18 13:30
580-77073-25	PDI-SG-S126	Solid	05/03/18 15:30	05/04/18 13:30
580-77073-26	PDI-SG-S126-D	Solid	05/03/18 15:33	05/04/18 13:30
580-77073-27	PDI-RB-VV-180502-1700	Water	05/02/18 17:00	05/04/18 13:30
580-77073-28	PDI-RB-VV-180502-1730	Water	05/02/18 17:30	05/04/18 13:30

Walker, M Elaine

From: Cook, Chelsey <Chelsey.Cook@aecom.com>
Sent: Tuesday, May 08, 2018 9:06 AM
To: Presley, Kim; Walker, M Elaine
Cc: Dahl, Amy
Subject: RE: TestAmerica sample confirmation files from 580-77073-1 Portland Harbor Pre-Remedial Design

External Email

Hi Elaine,

Sample PDI-SG-S037 has an incorrect sample time of 12:45 am. The correct sample time is 9:45 am.
Kim was correct that the duplicate samples do not need to be logged for grain size – could you please cross out that analysis on the COC, initial, date, and "per AECOM".

When edits are made please send a revised acknowledgment.

Thanks!

Chelsey Cook
Staff Chemist
D 1-206-438-2010
chelsey.cook@aecom.com

AECOM
1111 3rd Avenue, Suite 1600
Seattle, WA 98101, USA
T +206-438-2700
www.aecom.com

From: Presley, Kim [mailto:kim.presley@testamericainc.com]
Sent: Friday, May 04, 2018 4:06 PM
To: Dahl, Amy; Cook, Chelsey; Mixon, Karen
Subject: TestAmerica sample confirmation files from 580-77073-1 Portland Harbor Pre-Remedial Design

Hello,

Grain Size analysis was requested for the following samples: PDI-SG-S037-D (580-77073-8) and PDI-SG-S126-D (580-77073-26). This analysis is not typically run on these samples. Please confirm.

Attached please find the sample confirmation files for job 580-77073-1; Portland Harbor Pre-Remedial Design

Please feel free to contact me or your PM Elaine Walker if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

KIM A PRESLEY
Project Manager Assistant

TestAmerica Seattle
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 253.922.2310
www.testamericainc.com

Reference: [242006]
Attachments: 2

Revised 5/8/18 - mew

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-SMA	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010** **Analysis Turnaround Time** Calendar (C) or Work Days (W) _____ [x] 21 days [ ] Other _____	**Site Contact: Jennifer Ray / Michaela McCoog** **Laboratory Contact: Elaine-Walker**	**Date: 5/04/18** **Carrier: Courier**	**COC No: 1** _1_ of _3_ page(s)

580-77073 Chain of Custody

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C	Sample Specific Notes:
PDI-SG-S239	5/2/2018	9:25	SS		MT	5		x	x	x	x	x	
PDI-SG-S236	5/2/2018	11:50	SS	MS/MSD	MT	9		x	x	x	x	x	
PDI-SG-S242	5/2/2018	10:50	SS		MT	5		x	x	x	x	x	
PDI-SG-S233	5/2/2018	13:35	SS		MT	5		x	x	x	x	x	
PDI-SG-S037	5/2/2018	9:45	SS		AP	5		x	x	x	x	x	
PDI-SG-S038	5/2/2018	12:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S039	5/2/2018	11:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S037-D	5/2/2018	9:45	SS		AP	4		x	x	mew 5/8/18	x	x	Per AECOM
PDI-SG-S040	5/2/2018	13:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S041	5/2/2018	14:15	SS		AP	5		x	x	x	x	x	
PDI-SG-S043	5/2/2018	15:00	SS		AP	5		x	x	x	x	x	
PDI-SG-S044	5/2/2018	15:45	SS		AP	5		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 [X] Disposal By Lab [X] Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Separate reports for each lab
SMA Study samples - Log in seperately from SS Study samples

5.7, 1.0, 0.7, 0.1, 2.3, 4.2

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by: Michael McCoog	AECOM	5-4-18 1255	Received by: Jessica Mya	M.E.	5/4/18 1255
Relinquished by: Jessica Mya	M.E.	5/4/18 1330	Received by:	TAPOR	5/4/18 1330
Relinquished by:	TAPOR	5/4/18 1700	Received by: Tracy Hales	TAsea	5-5-18 1000

IRS = 0.7/0.6 w/c.s.

6/20/2018

Revised 5/8/18 - mew

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	Project Contact: Amy Dahl / Chelsey Cook
AECOM	Tel: (206) 438-2261 / (206) 438-2010
1111 3rd Ave Suite 1600	Analysis Turnaround Time
Seattle, WA 98101	Calendar (C) or Work Days (W) _____
Phone: (206) 438-2700 Fax: 1+(866) 495-5288	[x] 21 days
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	[ ] Other _____
Portland, OR	
Project #: 60566335 Study: Surface Sediment-SMA	

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine-Walker

Date: 5/04/18
Carrier: Courier

COC No: 1
2 of 3 page(s)

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C	Sample Specific Notes:
PDI-SG-S062	5/2/2018	16:40	SS		AP	5		x	x	x	x	x	
PDI-SG-S063	5/3/2018	10:05	SS		AM	5		x	x	x	x	x	
PDI-SG-S198	5/3/2018	10:01	SS		TP	5		x	x	x	x	x	
PDI-SG-S201	5/3/2018	11:36	SS		TP	5		x	x	x	x	x	
PDI-SG-S200	5/3/2018	12:38	SS	MS/MSD	TP	9		x	x	x	x	x	
PDI-SG-S194	5/3/2018	13:32	SS		TP	5		x	x	x	x	x	
PDI-SG-S193	5/3/2018	14:33	SS		TP	5		x	x	x	x	x	
PDI-SG-S186	5/3/2018	15:27	SS		TP	5		x	x	x	x	x	
PDI-SG-S172	5/3/2018	17:13	SS		TP	5		x	x	x	x	x	
PDI-SG-S123	5/3/2018	12:00	SS		AM	5		x	x	x	x	x	
PDI-SG-S125	5/3/2018	13:40	SS		AM	5		x	x	x	x	x	
PDI-SG-S128	5/3/2018	14:30	SS		AM	5		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 [X] Disposal By Lab [X] Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Separate reports for each lab
SMA Study samples - Log in seperately from SS Study samples

	Company	Date/Time	Received by:	Company	Date/Time
Relinquished by:	AECOM	5-4-18 1255		M.E.	5/4/18 1255
Relinquished by:	M.E.	5/4/18 1330		TABOR	5/4/18 1330
Relinquished by:	TABOR	5/4/18 1700		TASea	5.5.18 1000

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6/20/2018

Revised 5/8/18- mew

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) _____ [x] 21 days [ ] Other _____	**Site Contact: Jennifer Ray / Michaela McCoog** **Laboratory Contact: Elaine-Walker**	**Date: 5/04/18** **Carrier: Courier**	COC No: 1 3 of 3 page(s)
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-SMA				

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C	WQ - PCB Congeners 1668A	WQ - PCDD/Fs 1613B	WQ - TPH Diesel NWTPH-Dx	WQ - Metals, Mercury 6020B, 7470	WQ - Total Organic Carbon SM5310B	Sample Specific Notes:
PDI-SG-S126	5/3/2018	15:30	SS		AM	5		x	x	x	x	x						
PDI-SG-S126-D	5/3/2018	15:33	SS		AM	5		x	x	new 05/08/18	x	x						Per AECOM
PDI-RB-VV-180502-1700	5/2/18	1700		RB	AM	8							x	x	x	x	x	
PDI-RB-VV-180502-1730	5/2/18	1730		RB	AP	8							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 [X] Disposal By Lab [X] Archive For 12 Months

Special Instructions/QC Requirements & Comments:

Separate reports for each lab

SMA Study samples - Log in seperately from SS Study samples

	Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
1	Michaela McCoog	AECOM	5-4-18 1255	Jennifer Ray	M.E.	5/4/18 1255
2	Jennifer Ray	M.E.	5/4/18 1330		TAPOR	5/4/18 1330
3		TAPOR	5/4/18 1700		TAsea	5.5.18 1000

SURFACE SEDIMENT
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580-77073 Chain of Custody

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C	Sample Specific Notes:
PDI-SG-S239	5/2/2018	9:25	SS		MT	5		x	x	x	x	x	
PDI-SG-S236	5/2/2018	11:50	SS	MS/MSD	MT	9		x	x	x	x	x	
PDI-SG-S242	5/2/2018	10:50	SS		MT	5		x	x	x	x	x	
PDI-SG-S233	5/2/2018	13:35	SS		MT	5		x	x	x	x	x	
PDI-SG-S037	5/2/2018	9:45	SS		AP	5		x	x	x	x	x	
PDI-SG-S038	5/2/2018	12:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S039	5/2/2018	11:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S037-D	5/2/2018	9:45	SS		AP	4		x	x	x	x	x	
PDI-SG-S040	5/2/2018	13:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S041	5/2/2018	14:15	SS		AP	5		x	x	x	x	x	
PDI-SG-S043	5/2/2018	15:00	SS		AP	5		x	x	x	x	x	
PDI-SG-S044	5/2/2018	15:45	SS		AP	5		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* [X] *Disposal By Lab* [X] *Archive For 12 Months*

Special Instructions/QC Requirements & Comments:
Separate reports for each lab
SMA Study samples - Log in seperately from SS Study samples

5.7, 1.0, 0.7, 0.1, 2.3, 4.2

Relinquished by: Michael McCoog	Company: AECOM	Date/Time: 5-4-18 1255	Received by: Jessica Nye	Company: M.E.	Date/Time: 5/4/18 1255
Relinquished by: Jessica Nye	Company: M.E.	Date/Time: 5/4/18 1330	Received by:	Company: TAL	Date/Time: 5/4/18 1330
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

6/20/2018

TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 Ph: 253-922-2310 Fax: 253-922-5047	**SURFACE SEDIMENT CHAIN OF CUSTODY**			
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-SMA	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010** **Analysis Turnaround Time** Calendar (C) or Work Days (W) _____ [x] 21 days [ ] Other _____	**Site Contact: Jennifer Ray / Michaela McCoog** **Laboratory Contact: Elaine-Walker**	**Date: 5/04/18** **Carrier: Courier**	COC No: 1 __2__ of __3__ page(s)

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C												Sample Specific Notes:
PDI-SG-S062	5/2/2018	16:40	SS		AP	5		x	x	x	x	x												
PDI-SG-S063	5/3/2018	10:05	SS		AM	5		x	x	x	x	x												
PDI-SG-S198	5/3/2018	10:01	SS		TP	5		x	x	x	x	x												
PDI-SG-S201	5/3/2018	11:36	SS		TP	5		x	x	x	x	x												
PDI-SG-S200	5/3/2018	12:38	SS	MS/MSD	TP	9		x	x	x	x	x												
PDI-SG-S194	5/3/2018	13:32	SS		TP	5		x	x	x	x	x												
PDI-SG-S193	5/3/2018	14:33	SS		TP	5		x	x	x	x	x												
PDI-SG-S186	5/3/2018	15:27	SS		TP	5		x	x	x	x	x												
PDI-SG-S172	5/3/2018	17:13	SS		TP	5		x	x	x	x	x												
PDI-SG-S123	5/3/2018	12:00	SS		AM	5		x	x	x	x	x												
PDI-SG-S125	5/3/2018	13:40	SS		AM	5		x	x	x	x	x												
PDI-SG-S128	5/3/2018	14:30	SS		AM	5		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

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Sample Disposal
[ ] Return To Client [X] Disposal By Lab [X] Archive For **12** Months

Special Instructions/QC Requirements & Comments:
Separate reports for each lab
SMA Study samples - Log in seperately from SS Study samples

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michael Ting	AECOM	5-4-18 1255	Jessica Nye	M. E.	5/4/18 1255
Jessica Nye	M. E.	5/4/18 1330		TAPOR	5/4/18 1330
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) _____ [x] 21 days [ ] Other _____	**Site Contact: Jennifer Ray / Michaela McCoog** **Laboratory Contact: Elaine-Walker**	**Date: 5/04/18** **Carrier: Courier**	COC No: 1 3 of 3 page(s)
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-SMA				

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Archive Archive -20 C	WQ - PCB Congeners 1668A	WQ - PCDD/Fs 1613B	WQ - TPH Diesel NWTPH-Dx	WQ - Metals, Mercury 6020B, 7470	WQ - Total Organic Carbon SM5310B	Sample Specific Notes:
PDI-SG-S126	5/3/2018	15:30	SS		AM	5		x	x	x	x	x						
PDI-SG-S126-D	5/3/2018	15:33	SS		AM	5		x	x	x	x	x						
PDI-RB-VV-180502-1700	5/2/18	1700		RB	AM	8							X	X	X	X	X	
PDI-RB-VV-180502-1730	5/2/18	1730		RB	AP	8							X	X	X	X	X	

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

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Sample Disposal

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	Company:	Date/Time:		Company:	Date/Time:
Relinquished by: Michael McCoog	AECOM	5-4-18 1255	Received by: Jennifer Ray	M.E.	5/4/18 1255
Relinquished by: Jennifer Ray	M.E.	5/4/18 1330	Received by:	TAL OR	5/4/18 1330
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Revised 5/8/18 - mew

SURFACE SEDIMENT CHAIN OF CUSTODY

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580-77073 Chain of Custody

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PDI-SG-S233	5/2/2018	13:35	SS		MT	5		x	x	x	x	x	
PDI-SG-S037	5/2/2018	9:45	SS		AP	5		x	x	x	x	x	
PDI-SG-S038	5/2/2018	12:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S039	5/2/2018	11:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S037-D	5/2/2018	9:45	SS		AP	4		x	x mew 5/8/18	x	x	x	Per AECOM
PDI-SG-S040	5/2/2018	13:20	SS		AP	5		x	x	x	x	x	
PDI-SG-S041	5/2/2018	14:15	SS		AP	5		x	x	x	x	x	
PDI-SG-S043	5/2/2018	15:00	SS		AP	5		x	x	x	x	x	
PDI-SG-S044	5/2/2018	15:45	SS		AP	5		x	x	x	x	x	

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5-7, 1.0, 0.7, 0.1, 2.3, 4.2

Relinquished by: Michaela McCoog	Company: AECOM	Date/Time: 5-4-18 1255	Received by: Jessica Mayo	Company: M.E.	Date/Time: 5/4/18 1255
Relinquished by: Jessica Mayo	Company: M.E.	Date/Time: 5/4/18 1330	Received by:	Company: TAPOR	Date/Time: 5/4/18 1330
Relinquished by:	Company: TAPOR	Date/Time: 5/4/18 1700	Received by: Terry Hulbert	Company: TAberg	Date/Time: 5-5-18 1000

IRS = 0.7/0.6 w.c.s.

Revised 5/8/18 - mew

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PDI-SG-S198	5/3/2018	10:01	SS		TP	5		x	x	x	x	x	
PDI-SG-S201	5/3/2018	11:36	SS		TP	5		x	x	x	x	x	
PDI-SG-S200	5/3/2018	12:38	SS	MS/MSD	TP	9		x	x	x	x	x	
PDI-SG-S194	5/3/2018	13:32	SS		TP	5		x	x	x	x	x	
PDI-SG-S193	5/3/2018	14:33	SS		TP	5		x	x	x	x	x	
PDI-SG-S186	5/3/2018	15:27	SS		TP	5		x	x	x	x	x	
PDI-SG-S172	5/3/2018	17:13	SS		TP	5		x	x	x	x	x	
PDI-SG-S123	5/3/2018	12:00	SS		AM	5		x	x	x	x	x	
PDI-SG-S125	5/3/2018	13:40	SS		AM	5		x	x	x	x	x	
PDI-SG-S128	5/3/2018	14:30	SS		AM	5		x	x	x	x	x	

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

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Relinquished by: Michael Ray	Company: AECOM	Date/Time: 5-4-18 1255	Received by: Jessica Nye	Company: M. E.	Date/Time: 5/4/18 1255
Relinquished by: Jessica Nye	Company: M. E.	Date/Time: 5/4/18 1330	Received by:	Company: TAL PDR	Date/Time: 5/4/18 1330
Relinquished by:	Company: TAL PDR	Date/Time: 5/4/18 1700	Received by: Kenny Hobbs	Company: TASea	Date/Time: 5-5-18 1000

Revised 5/8/18- mew

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 / Michaela McCoog** Laboratory Contact: Elaine-Walker	**Date: 5/04/18** Carrier: Courier	COC No: 1 3 of 3 page(s)
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PDI-RB-VV-180502-1700	5/2/18	1700		RB	AM	8							x	x	x	x	x	
PDI-RB-VV-180502-1730	5/2/18	1730		RB	AP	8							x	x	x	x	x	

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Relinquished by: Michaela McCoog	Company: AECOM	Date/Time: 5-4-18 1255	Received by: Jennifer Ray	Company: M.E.	Date/Time: 5/4/18 1255
Relinquished by: Jennifer Ray	Company: M.E.	Date/Time: 5/4/18 1330	Received by:	Company: TAPOR	Date/Time: 5/4/18 1330
Relinquished by:	Company: TAPOR	Date/Time: 5/4/18 1700	Received by:	Company: TAsea	Date/Time: 5.5.18 1000

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-77073-1

Login Number: 77073
List Number: 1
Creator: O'Connell, Jason I

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.	False	Refer to Job Narrative for details.
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	