

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-79257-4

Client Project/Site: Portland Harbor Pre-Remedial Design
Revision: 1

For:

AECOM
1111 Third Ave
Suite 1600
Seattle, Washington 98101

Attn: Amy Dahl

M. Elaine Walker

Authorized for release by:
1/4/2019 10:06:56 AM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

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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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Case Narrative

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

TestAmerica Job ID: 580-79257-4

Job ID: 580-79257-4

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE

Client: AECOM

Project: Portland Harbor Pre-Remedial Design

Report Number: 580-79257-4

REVISION 1: JANUARY 4, 2019

This revision was required because the Atterberg Limits calculation for sample PDI-SC-S038-2to3.4 (580-79257-16) was not performed using whole numbers for the Plasticity Limit.

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 samples were received on 8/1/2018 2:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.5° C, 5.1° C and 5.2° C.

This report contains results for Atterberg Limits, performed by TestAmerica Burlington.

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.

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

Samples PDI-SC-S038-2to3.4 (580-79257-16) and PDI-SC-S038-5.4to7.2 (580-79257-18) were analyzed for Liquid Limit, Plastic Limit and Plasticity Index of Soils in accordance with ASTM D4318. The samples were analyzed on 08/03/2018.

The following sample is not amenable to Liquid Limits, Plastic Limits, and Plasticity Index determination due to the physical properties of the sample: PDI-SC-S038-5.4to7.2 (580-79257-18). Values of zero, zero, and NP have been reported respectively for each determination.

No additional 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: 580-79257-4

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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 Sample Results

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

TestAmerica Job ID: 580-79257-4

Client Sample ID: PDI-SC-S038-2to3.4

Lab Sample ID: 580-79257-16

Date Collected: 07/31/18 12:50

Matrix: Solid

Date Received: 08/01/18 14:10

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	54				NONE			08/03/18 17:53	1
Plastic Limit	39				NONE			08/03/18 17:53	1
Plasticity Index	15				NONE			08/03/18 17:53	1

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Client Sample Results

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

TestAmerica Job ID: 580-79257-4

Client Sample ID: PDI-SC-S038-5.4to7.2

Lab Sample ID: 580-79257-18

Date Collected: 07/31/18 13:00

Matrix: Solid

Date Received: 08/01/18 14:10

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	0				NONE			08/03/18 17:53	1
Plastic Limit	0				NONE			08/03/18 17:53	1
Plasticity Index	NP				NONE			08/03/18 17:53	1

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Lab Chronicle

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

TestAmerica Job ID: 580-79257-4

Client Sample ID: PDI-SC-S038-2to3.4

Date Collected: 07/31/18 12:50

Date Received: 08/01/18 14:10

Lab Sample ID: 580-79257-16

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D4318		1	132505	08/03/18 17:53	MAP	TAL BUR

Client Sample ID: PDI-SC-S038-5.4to7.2

Date Collected: 07/31/18 13:00

Date Received: 08/01/18 14:10

Lab Sample ID: 580-79257-18

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D4318		1	132505	08/03/18 17:53	MAP	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: AECOM

TestAmerica Job ID: 580-79257-4

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	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Nevada	State Program	9	WA000502019-1	07-31-19
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

Laboratory: TestAmerica Burlington

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
ANAB	DoD ELAP		L2336	02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-19 *
Florida	NELAP	4	E87467	06-30-19
Maine	State Program	1	VT00008	04-17-19
Minnesota	NELAP	5	050-999-436	12-31-18 *
New Hampshire	NELAP	1	2006	12-18-18 *
New Jersey	NELAP	2	VT972	06-30-19
New York	NELAP	2	10391	04-01-19
Pennsylvania	NELAP	3	68-00489	04-30-19
Rhode Island	State Program	1	LAO00298	12-30-18 *
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-18 *
Virginia	NELAP	3	460209	12-14-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

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

TestAmerica Job ID: 580-79257-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-79257-16	PDI-SC-S038-2to3.4	Solid	07/31/18 12:50	08/01/18 14:10
580-79257-18	PDI-SC-S038-5.4to7.2	Solid	07/31/18 13:00	08/01/18 14:10

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**SUBSURFACE SEDIMENT
CHAIN OF CUSTODY**

COC No. 1 of 2 pages

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction				Sample Specific Notes:
							PCDFs 1613B	Archive	Grain size ASTM D7928/D6913	PCB Aroclors, PAHs, Total Organic Carbon, Total Solids 8082A, 8270D-SIM, 9060, 1603, Afterberg Limits ASTM D4318	
PDI-SC-S062 - 0 to 2	7/31/2018	15:30	SC		ED	4	X	X	X	X	
PDI-SC-S062 - 2 to 4	7/31/2018	15:35	SC		ED	4	X	X	X	X	
PDI-SC-S062 - 4 to 6	7/31/2018	15:40	SC		ED	4	X	X	X	X	
PDI-SC-S062 - 6 to 7.7	7/31/2018	15:45	SC		ED	4	X	X	X	X	
PDI-SC-S023 - 0 to 2	7/31/2018	10:40	SC		ED	4	X	X	X	X	
PDI-SC-S023 - 2 to 3.9	7/31/2018	10:45	SC		ED	4	X	X	X	X	
PDI-SC-S023 - 3.9 to 5.3	7/31/2018	10:50	SC		ED	4	X	X	X	X	
PDI-SC-S023 - 5.3 to 7.2	7/31/2018	10:55	SC		ED	4	X	X	X	X	
PDI-SC-S023 - 7.2 to 8.8	7/31/2018	11:00	SC		ED	4	X	X	X	X	
PDI-SC-S031 - 0 to 2	7/31/2018	16:55	SC		ED	4	X	X	X	X	
PDI-SC-S031 - 2 to 4	7/31/2018	17:00	SC		ED	4	X	X	X	X	
PDI-SC-S031 - 4 to 5.5	7/31/2018	17:05	SC		ED	4	X	X	X	X	



580-79257 Chain of Custody

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2010
Analysis Turnaround Time
Calendar (C) or Work Days (W) W
 21 days
 Other

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine Walker
Date: 8/1/18
Carrier: Courier

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2010
Analysis Turnaround Time
Calendar (C) or Work Days (W) W
 21 days
 Other

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine Walker
Date: 8/1/18
Carrier: Courier

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2010
Analysis Turnaround Time
Calendar (C) or Work Days (W) W
 21 days
 Other

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine Walker
Date: 8/1/18
Carrier: Courier

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2010
Analysis Turnaround Time
Calendar (C) or Work Days (W) W
 21 days
 Other

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine Walker
Date: 8/1/18
Carrier: Courier

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2010
Analysis Turnaround Time
Calendar (C) or Work Days (W) W
 21 days
 Other

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine Walker
Date: 8/1/18
Carrier: Courier

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

Special Instructions/QC Requirements & Comments: **Separate reports for each lab**

Sample Disposal
 Return To Client Dispose By Lab Archive For 12 Months

Relinquished by: *[Signature]*
Company: **AECom**

Relinquished by: *[Signature]*
Company: **M.E.**

Relinquished by: *[Signature]*
Company: **M.E.**

Relinquished by: *[Signature]*
Company: **M.E.**

Relinquished by: *[Signature]*
Company: **M.E.**

Relinquished by: *[Signature]*
Company: **M.E.**

Relinquished by: *[Signature]*
Company: **M.E.**

Relinquished by: *[Signature]*
Company: **M.E.**

Small Sol 502, 165, 209, 8/1/18

Date/Time: 8/1/18 1340
Date/Time: 8/1/18 1400
Date/Time: 8/1/18 1400

Company: **M.E.**
Company: **TAPER**
Company: **TAPER**

Received by: *[Signature]*
Received by: *[Signature]*
Received by: *[Signature]*

Date/Time: 8/1/18 1340
Date/Time: 8/1/18 1410
Date/Time: 8/1/18 1410

Company: **AECom**
Company: **M.E.**
Company: **M.E.**

Company: **M.E.**
Company: **M.E.**
Company: **M.E.**



**SUBSURFACE SEDIMENT
CHAIN OF CUSTODY**

Test/America-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: Subsurface Sediment Sample Type:	Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010 Analysis Turnaround Time Calendar (C) or Work Days (W) W <input checked="" type="checkbox"/> 21 days <input type="checkbox"/> Other	Date: 8/1/18 Carrier: Courier Date/Time:
Site Contact: Jennifer Ray / Michaela McCoog Laboratory Contact: Elaine Walker Date: 8/1/18 Carrier: Courier Date/Time:		COC No: 1 of 2 pages	
Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Cold Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid Fractions: D = Dissolved, PRT = Particulate, T = Total (unfiltered)			
Sample Disposal <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Ship By Lab <input checked="" type="checkbox"/> Archive For 12 Months			
Special Instructions/QC Requirements & Comments: Separate reports for each lab			

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction				Sample Specific Notes:								
							PCDFs 1613B	Archive	Grain Size ASTM D7928/D6913	PCB Aroclors, PAHs, Total Organic Carbon, Total Solids 8082A, 8270D-SIM, 9060, 1603		Afterberg Limits ASTM D4318	WC-D/FS 1613B	WC-Toc SMS310B	WC-PAHs 8270-SIM	WC-RB-A Compares 1613B	WC-TH-D Metals Hg	WC-NUTR-OX 1620B THY W	WC-BEHP EPA 8270D-LL
PDI-SC-S031 - 5.5 to 7	7/31/2018	17:10	SC		ED	4	X	X	X										
PDI-SC-S031 - 7 to 9.2	7/31/2018	17:15	SC		ED	4	X	X	X										
PDI-SC-S038 - 0 to 2	7/31/2018	12:45	SC		ED	4	X	X	X										
PDI-SC-S038 - 2 to 3.4	7/31/2018	12:50	SC		ED	5	X	X	X	X									
PDI-SC-S038 - 3.4 to 5.4	7/31/2018	12:55	SC		ED	4	X	X	X										
PDI-SC-S038 - 5.4 to 7.2	7/31/2018	13:00	SC		ED	6	X	X	X	X									
PDI-SC-S085 - 0 to 2	8/1/2018	9:30	SC		ED	4	X	X	X										
PDI-SC-S085 - 2 to 4	8/1/2018	9:35	SC		ED	4	X	X	X										
PDI-SC-S085 - 4 to 6.4	8/1/2018	9:40	SC	Dup	ED	4	X	X	X										
PDI-SC-S085 - 4 to 6.4D	8/1/2018	9:40	SC		ED	3	X	X	X										
PDI-RB-55-180731	7/31/18	14:45	W		ED	7				X	X	X							

Relinquished by: <i>A.J.</i> Company: AECOM Date/Time: 8/1/18 1340	Relinquished by: <i>Admin Mj</i> Company: M.E. Date/Time: 8/1/18 1410	Received by: <i>Admin Mj</i> Company: AECOM Date/Time: 8/1/18 1340	Received by: <i>JAPOR</i> Company: JAPOR Date/Time: 8/1/18 1410
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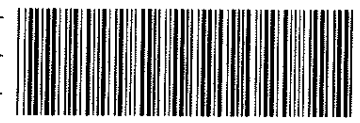


TestAmerica-Seattle
 5755-8th-Street-East
 Tacoma, WA 98424-1317
 Ph: 253-922-2310 Fax: 253-922-5047

**SUBSURFACE SEDIMENT
 CHAIN OF CUSTODY**

Client Contact	Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010	Site Contact: Jennifer Ray / Michaela McCoog	Date: 8/1/18	COC No: 1
AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101	Analysis Turnaround Time Calendar (C) or Work Days (W) W	Laboratory Contact: Elaine-Walker	Carrier: Courier	1 of 2 pages
Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	<input checked="" type="checkbox"/> 21 days			
Portland, OR	<input type="checkbox"/> Other _____			
Project #: 60566335 Study: Subsurface Sediment				
Sample Type:				

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCDD/Fs 1613B	Archive	Grain size ASTM D7528/D6913	PCB Aroclors, PAHs, Total Organic Carbon, Total Solids 8082A, 8270D-SIM, 9060, 1603	Alterberg Limits ASTM D4318	Sample Specific Notes:
PDI-SC-S062 - 0 to 2	7/31/2018	15:30	SC		ED	4		x	x	x	x		
PDI-SC-S062 - 2 to 4	7/31/2018	15:35	SC		ED	4		x	x	x	x		
PDI-SC-S062 - 4 to 6	7/31/2018	15:40	SC		ED	4		x	x	x	x		
PDI-SC-S062 - 6 to 7.7	7/31/2018	15:45	SC		ED	4		x	x	x	x		
PDI-SC-S023 - 0 to 2	7/31/2018	10:40	SC		ED	4		x	x	x	x		
PDI-SC-S023 - 2 to 3.9	7/31/2018	10:45	SC		ED	4		x	x	x	x		
PDI-SC-S023 - 3.9 to 5.3	7/31/2018	10:50	SC		ED	4		x	x	x	x		
PDI-SC-S023 - 5.3 to 7.2	7/31/2018	10:55	SC		ED	4		x	x	x	x		
PDI-SC-S023 - 7.2 to 8.8	7/31/2018	11:00	SC		ED	4		x	x	x	x		
PDI-SC-S031 - 0 to 2	7/31/2018	16:55	SC		ED	4		x	x	x	x		
PDI-SC-S031 - 2 to 4	7/31/2018	17:00	SC		ED	4		x	x	x	x		
PDI-SC-S031 - 4 to 5.5	7/31/2018	17:05	SC		ED	4		x	x	x	x		



580-79257 Chain of Custody

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

Sample Disposal: Return To Client Dispose By Lab Archive For 12 Months

Special Instructions/QC Requirements & Comments: Separate reports for each lab

small 5.1 5.2, 6.5, 8.1/18

Relinquished by:	Company: AECOM	Date/Time: 8/1/18 1340	Received by:	Company: M-E	Date/Time: 8/1/18 1340
Relinquished by:	Company: M-E	Date/Time: 8/1/18 1410	Received by:	Company: TAPOR	Date/Time: 8/1/18 1410
Relinquished by:	Company: TAPOR	Date/Time: 8/1/18 1700	Received by:	Company: TASEC	Date/Time: 8-2-18 0930

IR5=C.1/a.1

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

SUBSURFACE SEDIMENT
CHAIN OF CUSTODY

Client Contact	Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010	Site Contact: Jennifer Ray / Michaela McCoog	Date: 8/1/18	COC No: 1
AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101	Analysis Turnaround Time Calendar (C) or Work Days (W) W	Laboratory Contact: Elaine-Walker	Carrier: Courier	2 of 2 pages
Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	<input checked="" type="checkbox"/> 21 days	Fraction PCDD/Fs 1613B Archive Grain size ASTM D7928/D6913 PCB Aroclors, PAHs, Total Organic Carbon, Total Solids 8082A, 8270D-SIM, 9060, 160.3 Atterberg Limits ASTM D4318 WQ - D/Fs 1613B WQ - TOC SMS310B WQ-PAHs 8270-SIM WQ- PCB-A Compounds 1613B WQ- PPH-D, Metals, Hg NWTPH-Dr, 6020G, 741VA WQ-DEHP EPA 8270D-UL WQ- Tetrachloroethylene Kcon-Layca		
Portland, OR	<input type="checkbox"/> Other _____			
Project #: 60566335 Study: Subsurface Sediment				
Sample Type:				

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	PCDD/Fs 1613B	Archive	Grain size ASTM D7928/D6913	PCB Aroclors, PAHs, Total Organic Carbon, Total Solids 8082A, 8270D-SIM, 9060, 160.3	Atterberg Limits ASTM D4318	WQ - D/Fs 1613B	WQ - TOC SMS310B	WQ-PAHs 8270-SIM	WQ- PCB-A Compounds 1613B	WQ- PPH-D, Metals, Hg NWTPH-Dr, 6020G, 741VA	WQ-DEHP EPA 8270D-UL	WQ- Tetrachloroethylene Kcon-Layca	Sample Specific Notes:
PDI-SC-S031 - 5.5 to 7	7/31/2018	17:10	SC		ED	4	x	x	x	x									
PDI-SC-S031 - 7 to 9.2	7/31/2018	17:15	SC		ED	4	x	x	x	x									
PDI-SC-S038 - 0 to 2	7/31/2018	12:45	SC		ED	4	x	x	x	x									
PDI-SC-S038 - 2 to 3.4	7/31/2018	12:50	SC		ED	5	x	x	x	x	x								
PDI-SC-S038 - 3.4 to 5.4	7/31/2018	12:55	SC		ED	4	x	x	x	x									
PDI-SC-S038 - 5.4 to 7.2	7/31/2018	13:00	SC		ED	6	x	x	x	x	x								
PDI-SC-S085 - 0 to 2	8/1/2018	9:30	SC		ED	4	x	x	x	x									
PDI-SC-S085 - 2 to 4	8/1/2018	9:35	SC		ED	4	x	x	x	x									
PDI-SC-S085 - 4 to 6.4	8/1/2018	9:40	SC	Dup	ED	4	x	x	x	x									
PDI-SC-S085 - 4 to 6.4D	8/1/2018	9:40	SC		ED	3	x	x		x									
PDI-RB-55-180731	7/31/18	14:45	W		ED	7						x	x	x	x				

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

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

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

Sample Disposal: Return To Client Dispose By Lab Archive For 12 Months

Special Instructions/QC Requirements & Comments: **Separate reports for each lab**

Relinquished by:	Company: AECOM	Date/Time: 8/1/18 1340	Received by:	Company: M.E.	Date/Time: 8/1/18 1340
Relinquished by:	Company: M.E.	Date/Time: 8/1/18 1410	Received by:	Company: TAPOR	Date/Time: 8/1/18 1410
Relinquished by:	Company: TAPOR	Date/Time: 8/1/18 1700	Received by:	Company: TASE2	Date/Time: 8-2-18 0930

JRS=0.1/0.1

Raised

**SUBSURFACE SEDIMENT
CHAIN OF CUSTODY**

TestAmerica-Spartle
 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: Subsurface Sediment
 Sample Type:


Project Contact: Amy Dahl / Chelsey Cook
 Tel: (206) 438-2261 / (206) 438-2010
 Analysis Turnaround Time
 Calendar (C) or Work Days (W) W
 21 days
 Other

Site Contact: Jennifer Ray / Michela McCoog
 Laboratory Contact: Elaine Walker
 Date: 8/1/18
 Carrier: Courier
 COC No: 1 of 2 pages

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCDD/Fs 1613B	Aroclive	Grain Size ASTM D7928/D6913	PCB Aroclors, PAHs, Total Organic Carbon, Total Solids 8082A, 8270D-SIM, 9060, 160.3	Atterberg Limits ASTM D4318	Sample Specific Notes:
PDI-SC-S062 - 0 to 2	7/31/2018	15:30	SC		ED	4		X	X	X	X		
PDI-SC-S062 - 2 to 4	7/31/2018	15:35	SC		ED	4		X	X	X	X		
PDI-SC-S063 - 4 to 6	7/31/2018	15:40	SC		ED	4		X	X	X	X		
PDI-SC-S062 - 6 to 7.7	7/31/2018	15:45	SC		ED	4		X	X	X	X		
PDI-SC-S023 - 0 to 2	7/31/2018	10:40	SC		ED	4		X	X	X	X		
PDI-SC-S023 - 2 to 3.9	7/31/2018	10:45	SC		ED	4		X	X	X	X		
PDI-SC-S023 - 3.9 to 5.3	7/31/2018	10:50	SC		ED	4		X	X	X	X		
PDI-SC-S023 - 5.3 to 7.2	7/31/2018	10:55	SC		ED	4		X	X	X	X		
PDI-SC-S023 - 7.2 to 8.8	7/31/2018	11:00	SC		ED	4		X	X	X	X		
PDI-SC-S031 - 0 to 2	7/31/2018	16:55	SC		ED	4		X	X	X	X		
PDI-SC-S031 - 2 to 4	7/31/2018	17:00	SC		ED	4		X	X	X	X		
PDI-SC-S031 - 4 to 5.5	7/31/2018	17:05	SC		ED	4		X	X	X	X		

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

Sample Disposal
 Return To Client
 Dispose By Lab
 Archive For 12 Months

580-79257 Chain of Custody


Special Instructions/QC Requirements & Comments: **Separate reports for each lab**

Relinquished by: *[Signature]*
 Relinquished by: *[Signature]*
 Relinquished by: *[Signature]*

Company: AECOM
 Date/Time: 8/1/18 1340
 Company: M.E.
 Date/Time: 8/1/18 1410
 Company: TAPOR
 Date/Time: 8/1/18 1700

Received by: *[Signature]*
 Received by: *[Signature]*
 Received by: *[Signature]*

Company: M.E.
 Date/Time: 8/1/18 1340
 Company: TAPOR
 Date/Time: 8/1/18 1410
 Company: TAPOR
 Date/Time: 8/2/18 0930

Small 50l
 502, 605 ~~per 8/1/18~~

IR5=0.1/0.1

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Revised

SUBSURFACE SEDIMENT CHAIN OF CUSTODY

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

Client Contact
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: Subsurface Sediment
Sample Type:

Project Contact: Amy Dahl / Chelsey Cook
Tel: (206) 438-2261 / (206) 438-2010
Analysis Turnaround Time
Calendar (C) or Work Days (W) W
 21 days
 Other

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine Walker
Date: 8/1/18
Carrier: Courier
COC No: 1 of 2 pages

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Rt Action	PCDD/Fs 1613B	Arhive	Grain size ASTM D7928/D6913	PCB Aroclors, PAHs, Total Organic Carbon, Total Solids 8082A, 8270D-SIM, 9060, 160,3	Afterberg Limits ASTM D4318	WA-D/Fs 1613B	WA-Toc SMS3108	WA-PAHs 8270-SIM	WA-PCB-A 8270-SIM	WA-TH-D Metals, Hg	WA-AMPH-OR, 1020B, 341A	WA-BEHP EPA 8270-LL	WA-TOB/THA/Ken-Lyng	
PDI-SC-S031 - 5.5 to 7	7/31/2018	17:10	SC		ED	4		X	X	X	X										
PDI-SC-S031 - 7 to 9.2	7/31/2018	17:15	SC		ED	4		X	X	X	X										
PDI-SC-S038 - 0 to 2	7/31/2018	12:45	SC		ED	4		X	X	X	X										
PDI-SC-S038 - 2 to 3.4	7/31/2018	12:50	SC		ED	5		X	X	X	X	X									
PDI-SC-S038 - 3.4 to 5.4	7/31/2018	12:55	SC		ED	4		X	X	X	X										
PDI-SC-S038 - 5.4 to 7.2	7/31/2018	13:00	SC		ED	6		X	X	X	X	X									
PDI-SC-S085 - 0 to 2	8/1/2018	9:30	SC		ED	4		X	X	X	X										
PDI-SC-S085 - 2 to 4	8/1/2018	9:35	SC		ED	4		X	X	X	X										
PDI-SC-S085 - 4 to 6.4	8/1/2018	9:40	SC	Dye	ED	4		X	X	X	X										
PDI-SC-S085 - 4 to 6.4D	8/1/2018	9:40	SC		ED	3		X	X	X	X										
PDI-SC-S085 - 5.5-180731	7/31/18	14:45	W		ED	7		X	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 Collu
 Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
 Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Special Instructions/QC Requirements & Comments: Separate reports for each lab

Sample Disposal
 Return To Client
 Dispose By Lab
 Archive For 12 Months

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>[Signature]</i>	AEcom	8/1/18 1340	<i>[Signature]</i>	M.E.	8/1/18 1340
<i>[Signature]</i>	M.E.	8/1/18 1410	<i>[Signature]</i>	TAPOR	8/1/18 1410
<i>[Signature]</i>	TAPOR	8/1/18 1700	<i>[Signature]</i>	TAPOR	8-2-18 0930

TRC-00-10-1

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Chain of Custody Record



580-79257 Chain of Custody

Client Information (Sub Contract Lab)
 Client Contact: Walker, Elaine M
 Shipping/Receiving: elaine.walker@testamerica.com
 Company: TestAmerica Laboratories, Inc. Oregon
 Address: 30 Community Drive, Suite 11, South Burlington, VT, 05403
 Phone: 802-660-1990 (Tel) 802-660-1919 (Fax)
 Project Name: Portland Harbor Pre-Remedial Design
 Site:
 Due Date Requested: 8/17/2018
 TAT Requested (days):
 PO #:
 WO #:
 Project #: 58012120
 SSO#:
 Lab PM: Walker, Elaine M
 E-Mail: elaine.walker@testamerica.com
 Accreditations Required (See note):
 Page 1 of 1
 Job #: 580-79257-1
 Preservation Codes:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2SO3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Z - other (specify)
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:
 Analysis Requested
 Total Number of containers
 Sample Identification - Client ID (Lab ID)
 PDI-SC-S038-2to3.4 (580-79257-16)
 PDI-SC-S038-5.4to7.2 (580-79257-18)
 Sample Date: 7/31/18
 Sample Time: 12:50 Pacific
 Sample Date: 7/31/18
 Sample Time: 13:00 Pacific
 Sample Type (C=Comp, G=grab)
 Matrix (W=Water, S=Soil, O=Organic, BT=Tissue, AA=Air)
 Solid
 Solid
 Field Filled Sample (Yes or No) X
 D438 X
 Special Instructions/Note:
 Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody, if the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.
 Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify)
 Primary Deliverable Rank: 2
 Sample Disposal (A fee may be assessed if samples are retained longer than 7 month)
 Return To Client Disposal By Lab Archive For Months
 Special Instructions/QC Requirements:
 Empty Kit Relinquished by:
 Relinquished by: [Signature]
 Date/Time: 8/2/18 14:5
 Relinquished by:
 Date/Time:
 Relinquished by:
 Date/Time:
 Custody Seals Intact: Yes No
 Custody Seal No.: IA
 Received by: [Signature]
 Date/Time: 8/3/18 10:10
 Company: [Signature]
 Cooler Temperature(s) °C and Other Remarks: 0.12
 Ver: 09/20/2016



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Part # 159469-434 RITZ EXP 03/19 ●●

ORIGIN ID: BNOA (503) 906-9240
SAMPLE CONTROL
TESTAMERICA PORTLAND
8920 SW GEMINI DR
BUILDING 7
BEAVERTON, OR 970087145
UNITED STATES US

SHIP DATE: 02AUG18
ACTWGT: 33.35 LB
CAD: 0996922/CAFE3210

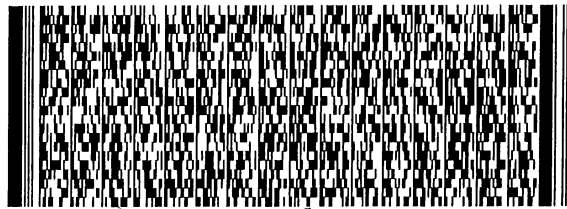
BILL RECEIPT

TO **SHIPPING/RECEIVING**
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403

(802) 860-1990

REF: S580-29961

30401608E/13155



FedEx
Express



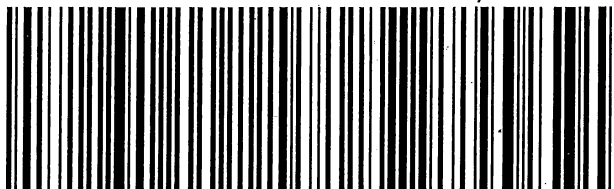
JN1002040811181J

TRK# 4423 0750 7969
0201

FRI - 03 AUG 10:30A
PRIORITY OVERNIGHT

XH BTVA

05403
VT-US **BTVA**



Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-79257-4

Login Number: 79257

List Source: TestAmerica Seattle

List Number: 1

Creator: Antonson, Angeline D

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.	N/A	
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	



Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-79257-4

Login Number: 79257
List Number: 2
Creator: Mohn, Taylor J

List Source: TestAmerica Burlington
List Creation: 08/03/18 01:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
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	0.2°C
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?	N/A	Received project as a subcontract.
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.	N/A	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

