

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: 580-79504-3

Client Project/Site: Portland Harbor Pre-Remedial Design

For:

AECOM 1111 Third Ave Suite 1600 Seattle, Washington 98101

Attn: Amy Dahl

M. Elains Walker

Authorized for release by: 8/27/2018 3:56:57 PM

Elaine Walker, Project Manager II (253)248-4972

elaine.walker@testamericainc.com

·····LINKS ······

Review your project results through
Total Access

Have a Question?



Visit us at: www.testamericainc.com

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.

Client: AECOM

TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions	
Client Sample Results	5
Chronicle	8
Certification Summary	
Sample Summary	10
Chain of Custody	
Receint Checklists	23

E

6

8

9

Case Narrative

Client: AECOM TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Job ID: 580-79504-3

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE

Client: AECOM

Project: Portland Harbor Pre-Remedial Design

Report Number: 580-79504-3

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 8/10/2018 2:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 9 coolers at receipt time were 0.5° C, 1.8° C, 1.9° C, 2.3° C, 3.1° C, 4.1° C, 4.3° C, 5.1° C and 5.6° 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-S198-0to2 (580-79504-20), PDI-SC-S238-4to6 (580-79504-43) and PDI-SC-S139-2to4 (580-79504-48) were analyzed for Liquid Limit, Plastic Limit and Plasticity Index of Soils in accordance with ASTM D4318. The samples were analyzed on 08/15/2018.

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-S139-2to4 (580-79504-48). Values of zero, zero, and NP have been reported respectively for each determination.

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

J

4

5

6

a

Definitions/Glossary

Client: AECOM TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
n	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 Coloridated

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)

8/27/2018

9

4

J

7

8

9

Client Sample Results

Client: AECOM TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SC-S198-0to2 Lab Sample ID: 580-79504-20

Date Collected: 08/08/18 14:45 Matrix: Solid

Date Received: 08/10/18 14:50

Method: D4318 - Liquid Limit, I	Plastic Lim	it and Plasti	city Index o	f Soils					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	81				NONE			08/15/18 17:22	1
Plastic Limit	43				NONE			08/15/18 17:22	1
Plasticity Index	38				NONE			08/15/18 17:22	1

6

8

9

Client Sample Results

Client: AECOM TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SC-S238-4to6 Lab Sample ID: 580-79504-43

Date Collected: 08/09/18 17:40

Matrix: Solid

Date Received: 08/10/18 14:50

Method: D4318 - Liquid Limit, I	Plastic Lim	it and Plasti	city Index o	f Soils					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	93				NONE			08/15/18 17:22	1
Plastic Limit	49				NONE			08/15/18 17:22	1
Plasticity Index	44				NONE			08/15/18 17:22	1

3

5

6

0

Client Sample Results

Client: AECOM TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SC-S139-2to4 Lab Sample ID: 580-79504-48

Date Collected: 08/07/18 14:25 Matrix: Solid

Date Received: 08/10/18 14:50

Method: D4318 - Liquid Limit, I	Plastic Limit	and Plastic	ity Index	of Soils					
Analyte	Result Q	ualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	0				NONE			08/15/18 17:22	1
Plastic Limit	0				NONE			08/15/18 17:22	1
Plasticity Index	NP				NONE			08/15/18 17:22	1

3

5

Q

Lab Chronicle

Client: AECOM TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SC-S198-0to2 Lab Sample ID: 580-79504-20

Date Collected: 08/08/18 14:45

Date Received: 08/10/18 14:50

Batch Batch Dilution Batch **Prepared** Method Factor Number or Analyzed **Prep Type** Type Run Analyst Lab TAL BUR Total/NA Analysis D4318 132945 08/15/18 17:22 MAP

Client Sample ID: PDI-SC-S238-4to6 Lab Sample ID: 580-79504-43

Date Collected: 08/09/18 17:40 **Matrix: Solid**

Date Received: 08/10/18 14:50

Batch Batch Dilution **Batch Prepared Prep Type** Туре Method Run Factor Number or Analyzed Analyst Lab TAL BUR Total/NA D4318 132945 08/15/18 17:22 MAP Analysis

Client Sample ID: PDI-SC-S139-2to4 Lab Sample ID: 580-79504-48

Date Collected: 08/07/18 14:25 **Matrix: Solid**

Date Received: 08/10/18 14:50

Dilution Batch Batch Batch Prepared Method or Analyzed **Prep Type** Type Run **Factor** Number Analyst Lab Total/NA Analysis D4318 132945 08/15/18 17:22 MAP TAL BUR

Laboratory References:

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

8/27/2018

Matrix: Solid

Accreditation/Certification Summary

Client: AECOM TestAmerica Job ID: 580-79504-3

Project/Site: Portland Harbor Pre-Remedial Design

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-19
ANAB	DoD ELAP		L2236	01-19-19
ANAB	ISO/IEC 17025		L2236	01-19-19
California	State Program	9	2901	11-05-18
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
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
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	12-14-18

-

3

4

7

Ö

9

Sample Summary

Client: AECOM

Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-79504-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-79504-20	PDI-SC-S198-0to2	Solid	08/08/18 14:45	08/10/18 14:50
580-79504-43	PDI-SC-S238-4to6	Solid	08/09/18 17:40	08/10/18 14:50
580-79504-48	PDI-SC-S139-2to4	Solid	08/07/18 14:25	08/10/18 14:50

3

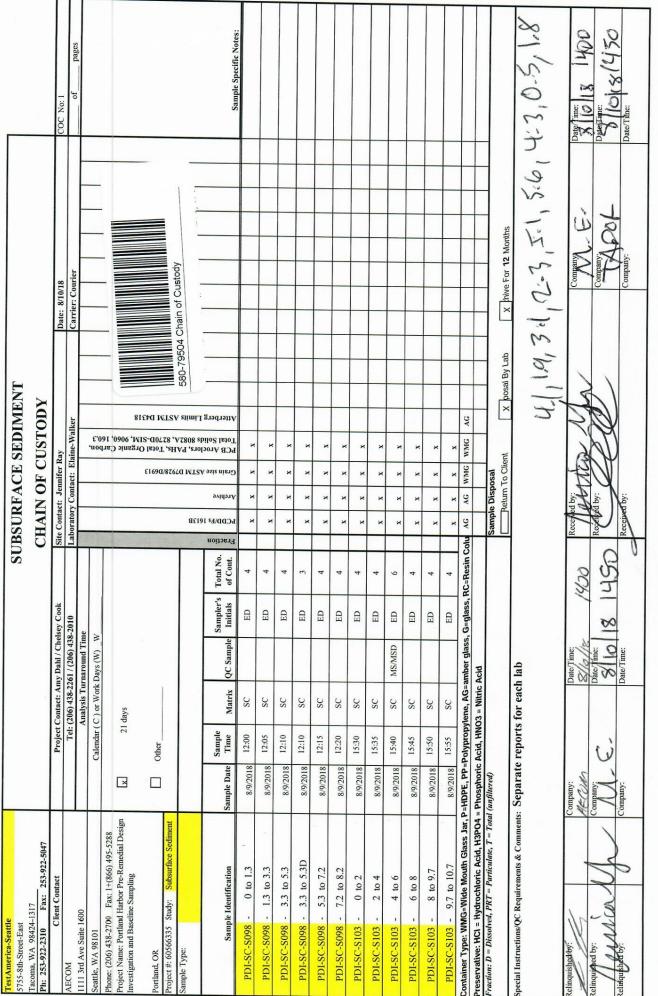
4

__

6

8

0



Page 11 of 24

8/27/2018

Page 12 of 24

2

3

4

5

7

C

9

8/27/2018

Page 13 of 24

Page 14 of 24

8/27/2018

Page 15 of 24

8/27/2018

5755-8th-Street-East	SUBSURFACE SEDIMENT																										
Tacoma, WA 98424-1317							CF	TA 1	NO	TE C	CUST	ron	\mathbf{v}														
Ph: 253-922-2310 Fax: 253-922-5047 Client Contact	 	Duninat	Cantant ta	D. 61 / Ch	-less Cook							OD												<u> </u>			
AECOM AECOM	 			y Dahl / Ch 61 / (206) 43						nnifer	Ray laine-W	allian					8/10/1							COC No			
1111 3rd Ave Suite 1600				rnaround Th			Lat	i i	T	asti. E	Tallie- vi	aikei	T	Т	 	Carri	er: Cou	rier	T	T	1	Т	_		of	_ pages	
Seattle, WA 98101			· · · · · · · · · · · · · · · · · · ·	Days (W)					l	Ì	0.3 0.3				ĺ	ļ		İ									
Phone: (206) 438-2700 Fax: 1+(866) 495-5288							-			ŀ	Cart		}		ļ	1	1	ļ 2 111	(. name (; 11.11.11							
Project Name: Portland Harbor Pre-Remedial Design		21	days								mic 9060		1 1	1111111111	1111									1			
Investigation and Baseline Sampling											Orga IM,	₩.	1 1											l			
Portland, OR		Other						l		6913	otal OD-S	Ž											'	1			
Project #: 60566335 Study: Subsurface Sediment	┪	Outer						Ī		D7928/D6913	Is. T	STW								181 1851							
Sample Type:					· · · · · · · · · · · · · · · · · · ·		-			1079	PAI 82A.	lfs A		580-79	504	Chain	of Cu	stody				-					
								1613B		ASTM	Arociors. PAHs, Total Organic Carbon. Solids 8082A, 8270D-SIM, 9060, 160.3	Atterberg Limits ASTM D4318	-						ı		r · · ·	J					
		Sample			C	75-1-1-1-1	5	/Fs 1-	ي ا		Solic	Serg			1							l	/	1			
Sample Identification	Sample Date	Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	1	PCDD/Fs 1	Archive	Grain size	PCB /	fter								ĺ							
PDI-SC-S098 - 0 to 1.3	2,0,0,0,0	12:00	SC		ED	4	. Sin-Xi			1	2 1	\ 	+	 							 		 	Sa	imple Spe	citic Notes	: **************
PDI-SC-S098 - 0 to 1.3	8/9/2018	 	SC	ļ	ED	4	Н	X	X	х	X	-		-										<u> </u>			
	8/9/2018		 		 	 	╀╢	X	X	X	X	 	 -								ļ	ļ	ļ				***************************************
PDI-SC-S098 - 3.3 to 5.3	8/9/2018	t	SC	~~~~~	ED	4	Ш	x	X	X	<u> x</u>	ļ	Ļ										<u> </u>				
PDI-SC-S098 - 3.3 to 5.3D	8/9/2018	12:10	sc		ED	3	Ш	x	x	x	x		L														
PDI-SC-S098 - 5.3 to 7.2	8/9/2018	12:15	sc		ED	4	Ш	x	х	x	Х																
PDI-SC-S098 - 7.2 to 8.2	8/9/2018	12:20	SC		ED	4		x	x	x	x														A-11-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
PDI-SC-S103 - 0 to 2	8/9/2018	15:30	SC		ED	4	П	x	x	х	x																
PDI-SC-S103 - 2 to 4	8/9/2018	15:35	SC		ED	4	П	x	x	х	х																
PDI-SC-S103 - 4 to 6	8/9/2018	15:40	SC	MS/MSD	ED	6	П	x	x	x	x														***************************************	•	
PDI-SC-S103 - 6 to 8	8/9/2018	15:45	SC		ED	4	П	x	х	x	x							*************************									
PDI-SC-S103 - 8 to 9.7	8/9/2018	15:50	SC		ED	4	П	х	x	x	x																
PDI-SC-S103 - 9.7 to 10.7	8/9/2018	15:55	SC		ED	4	П	x	x	X	x						- "]										***************************************
Container Type: WMG=Wide Mouth Glass Jar,	P=HDPE, PP	=Polyprop	ylene, AG=	amber glass	s, G=glass,	RC=Resin (Colu	AG	AG	WMG	WMG	AG							~~~			~	\sqcap				
Preservative: HCl = Hydrochloric Acid, H3PO4	= Phosphoric						\neg			<u> </u>																	
Fraction: D = Dissolved, PRT = Particulate, T = Tota	l (unfiltered)	•					Š	_	le Dist													·					
Special Instructions/QC Requirements & Comments	. Sanarat	o ronort	e for soal	. lab			<u>L</u>	<u> </u>	Keturn	ı To Cli	ent)		al By La			x :hive									, .	
Special instructions/QC Requirements & Comment	з: эсраган	e report	s for eaci	1 121)										4	_		_	_1	معيد	1	~	1.	1	1.1	MS	5. \.	X
													ſĺ.	19	. 3	e l	$\mathcal{A}_{\mathcal{A}}$	<u> </u>	΄. Δ	c 1	, J.	W	1	t-3,	0	1 10	O
												•	711	'	<i>(</i> *	•	1	•	ŧ				•			′	
Relinquished by:	Company:	***************************************		Date/Time:		34 tm s	F	Recei	ed by:	1		11	1				To	Compar	туд				<u> </u>	Date/Time:	1	1160	
Relinguided by:	MECOM Company:			<u> </u>	<u> </u>	1400		_//	H	MC				<u> </u>				Δ	<u>/ L.</u>	5	-			X 10	118	1401	<u> </u>
Manney Vh /	11	C.		810	18	450	٦ľ		eu oy:	\mathscr{L}	1	<u>W</u>					ľ	ompar	2	DOL	_		I	Jaser Time:	سادد	1450	"
Relinquished	Company:	-		Date/Time:	, <u>, , , , , , , , , , , , , , , , , , </u>	<u> </u>	F	Receiv	by:		1	11						Compar					I	Date/Time:	=10	, , , , ,	Er Stickenson
1 com	TA	POR		<u> </u>	8	7000			<u> </u>		<u> </u>	~ (S €	12-	772				8/1-	1/18	098	۲
				1 1																							

Page 16 of 24 = 4.8/4.8 W/C-5Page 16 of 24 = 3.0/3.0, 3.7/3.7 1.911.9 1.11.1 (1.11.0 1.3/10)

FestAmerica-Seattle 755-8th-Street-East	1					St	UB	SUI	RFA	CE	SED	IMI	ENT	7										•		
Facoma, WA 98424-1317 Ph: 253-922-2310 Fax: 253-922-5047							Cl	HAI	N O	F C	UST	OD	Y													
Client Contact		Project	Contact: An	ny Dahl / Che	lsev Cook					mifer F		-				Date	8/10/1	R						COC No: 1		
SECOM				61 / (206) 43							aine-Wa	lker					er: Cou		***************************************					of	pages	
111 3rd Ave Suite 1600			Analysis Tur	naround Tir	ne					T			T	T				1	T	T	1	T				
eattle, WA 98101		Calendar (C) er Werk	Days (W) V	V						bon 50.3															
thone; (206) 438-2700 Fax: 1+(866) 495-5288 troject Name: Portland Harbor Pre-Remedial Design avestigation and Baseline Sampling	N N	21	days							1	d Organic Carbon, -SIM, 9060, 160.3	1318							4444	7750444	- ANTANAS					
ortland, OR		Other								169G	Total 70D	M						İ		İ						
roject #: 60566335 Study: Subsurface Sediment										7928/	A. 82	AST														
ample Type:								161318		ASTM D	clors, P	Limits														
Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	.00	Archive	Grain size ASTM D7928/D6913	PCB Aroctor Total Solids	Atterborg Limits ASTM D4318												Sample Spec	rific Notes:	
PDI-SC-S103 - 10.7 to 13.4	8/9/2018	16:00	SC		ED	4		Х	х	х	х															
PDI-SC-S176 - 0 to 2	8/8/2018	16:20	sc		EÐ	4		х	х	х	x															
PDI-SC-S176 - 2 to 4	8/8/2018	16:25	SC	MS/MSD	ED	6		Х	х	х	x	************									1					
PDI-SC-S176 - 4 to 5.5	8/8/2018	16:30	SC		ED	4		х	х	х	x									ļ	1					
PDI-SC-S176 - 5.5 to 7.5	8/8/2018	16:35	SC		ED	4		X	х	x	x															
PDI-SC-S176 - 7.5 to 9.5	8/8/2018	16:40	SC		ED	4		х	х	x	X															
PDI-SC-S188 - 0 to 1.5	8/8/2018	17:00	SC		ED	4		X	x	x	X															
PDI-SC-S198 - 0 to 2	8/8/2018	14:45	SC		EÐ	5		x	x	X	X	х														
PDI-SC-S198 - 2 to 4	8/8/2018	14:50	SC		ED	4		X	x	х	x															
PDI-SC-S198 - 2 to 4D	8/8/2018	14:50	SC		ED	3		x	x	х	х															
PDI-SC-S198 - 4 to 6	8/8/2018	14:55	SC		ED	. 4	Ш	x	х	x	х									Ĺ						
PDI-SC-S198 - 6 to 8	8/8/2018	15:00	sc		ED	4		X	x	х	X															
ontainer Type: WMG=Wide Mouth Glass Jar, P				~~~~~~	, G≖glass, F	RC=Resin C	olur	AG	AG	WMG	WMG	AG												····		
reservative: HCl = Hydrochloric Acid, H3PO4 = raction: D = Dissolved, PRT = Particulate, T = Total		Acid, HNC)3 = Nitric /	Acid				Samo	e Dîsp	neal										<u> </u>	<u> </u>					
	(****)*********							-	-	To Clic	ent		c pos	al By La	de	Г	thive	For 1	12 Mor	nths						
pecial Instructions/QC Requirements & Comments	: Separate	reports	for each	lab								<u>-</u>					<u> </u>				~					
	•	-																								ĺ
											······································															
clinquished bu	Company:			Date/Time:	<u>;</u>	1400		Receiv	ed by:	11	1 cm	_]	M					Compa	nyj .	<i>C</i> -]	Date/Time:	140	9
elinquished by:	Company:	E.,		Date/Time:	i .	450		Receiv	N/		1		力	/				Compa	ÄQ.	<u>ک</u> (2_		Ī	Date/lime:	1112	5/
eling his hed by y	Company:	Oma		8 0 Date time:	*********			Receiv	dy		91	1	<u>o</u> n					Compa	ny:	_			I	Date/kime:		
· (MXDAM)	1/5	por		8/13/	18	1700	1		D	ejer. ¬	_0		<u> </u>			·		<u> </u>	M	ת				8/14/18	094	<u>(S</u>

estAmerica-Seattle 755-8th-Street-East	SUBSURFACE SEDIMENT													7													
acoma, WA 98424-1317 h: 253-922-2310 Fax: 253-922-5047							CI	TAI	N O	F C	UST	OD.	Y														
Client Contact	 	Project	Contact: An	y Dahi / Che	elsey Cook					mifer R						Doss.	8/10/1	0						COC No:	1		
ECOM	<u> </u>			61 / (206) 43		m · ·	_				aine-Wa	lker					er: Cou								of	130As	
111 3rd Ave Suite 1600				naround Tir				1) Com		1	T	1	T		Carri	1. Cu	i ici	T	1	Т	T	T		,ı	pages	
eattle, WA 98101				Days (W) \							0.3					l		ĺ		ĺ							
hone: (206) 438-2700 Fax: 1+(866) 495-5288											anie Carbon, 9060, 160.3	1			ļ												
roject Name: Portland Harbor Pre-Remedial Design	x	21	days								906			İ													
westigation and Baseline Sampling											2 2.		ļ				l										
ortland, OR		Other								6913	or S	D4						ļ									
roject #: 60566335 Study: Subsurface Sediment	<u></u>	Other								28/D	ls, Total	ASTM D4318				İ				l		İ					
ample Type:						·	1			ASTM D7928/D6913	rs, PAH 8082A,	lits A	ļ	Į			İ					ļ					
				<u></u>		,	_	1613B		AST	clors lids &	a Lin					ļ		İ			l					
		Sample			Sampler's	Total No.	iction	PCDD/Fs	Archive	Grain size	B Arc	Atterberg Limits]													
Sample Identification	Sample Date	Time	Matrix	QC Sample	Initials	of Cont.	E	3d	Α	Ğ	PCB. Total	ΨH												Sar	iple Spec	fic Notes	:
PDI-SC-S198 - 8 to 10	8/8/2018	15:05	SC		ED	4		x	х	X	x																
PDI-SC-S198 - 10 to 11.8	8/8/2018	15:10	SC	···	ED	4		х	Х	x	X																
PDI-SC-S213 - 0 to 2	8/9/2018	9:50	SC	ļ	ED	4	Ш	x	х	X	x																
PDI-SC-S213 - 2 to 4	8/9/2018	9:55	SC	MS/MSD	ĒD	6		x	х	x	x																
PDI-SC-S213 - 4 to 6	8/9/2018	10:00	SC		ED	4	Ш	x	х	х	х																
PDI-SC-S213 - 6 to 8	8/9/2018	10:05	SC		ED	4		x	х	х	Х																
PDI-SC-S213 - 8 to 10	8/9/2018	10:10	sc		ED	4		х	х	х	X																
PDI-SC-S213 - 10 to 11.8	8/9/2018	10:15	SC		ED	4		x	х	x	x																
PDI-SC-S213 - 11.8 to 12.8	8/9/2018	10:20	SC		ED	4		х	x	X	X																
PDI-SC-S229 - 0 to 2	8/9/2018	19:40	SC		ED	4		X	x	x	x																
PDI-SC-S229 - 2 to 4	8/9/2018	19:45	SC		ED	4		x	x	x	x			Í													
PDI-SC-\$229 - 4 to 6	8/9/2018	19:50	SC		ED	4	Ц	x	x	х	x																
ontainer Type: WMG=Wide Mouth Glass Jar, P					, G=glass, F	Resin C	Colur	AG	AG	WMG	WMG	AG															
eservative: HCl = Hydrochloric Acid, H3PO4 = action: D = Dissolved, PRT = Particulate, T = Total		Acid, HN)3 = Nitric I	/cid				Sampl	e Disp	logo																	
action D Dissorra, 1 KF 1 arichaec, 1 = 10tal	(mnjimereu)						ľ	-	-	To Clie	ent	Гх	bose	il By La	ь	Γ.	hive	For 1	2 Mon	ths							
ecial Instructions/QC Requirements & Comments:	Separate	reports	for each	lab													<u> </u>										
linquished by:	Company:			Date/Time:		Mess	1	Receive	ed by:		_	h /	1				Į.	Compar	ıy _ğ				·····	Date/Time:		hic	
tinguished by:	ACCUM Company:			√/2//8 Date/Ime: [1400		Receive	der.	40	<u> </u>	/\	~				- 1	_		<u> </u>	•			SID	18_	<u>140</u>	
//saw//-	M	, <u>E</u>	-	810	18 1L	<u>150</u>			4	1	10	2						1	4	10	_			810	15	14:	50
Imputshed by	Company:	PO)	2	Date/Time:	ior t	Z0°V		Receive	By	(L	Les					(Ompar	y: / 4	7	<u> </u>			Date/Time:	110	09	4
Whi contract	1.71	/		910	0	700		¥.		1477	<u> </u>	··		······································					\	۱,)	0/17	110	UZ	7.3

3.	
4	
8	
5	
4	
1	

estAmerica-Seattle 755-8th-Street-East						SI	U B S	SUF	RFA	CE	SED	IME	NT	1															
acoma, WA 98424-1317							CI	IAT	N O	F C	UST	OD	V																
h: 253-922-2310 Fax: 253-922-5047 Client Contact	ļ	Project	Contact: Am	v Dabl / Che	lsev Cook			Site Contact: Jennifer Ray Date: 8/10/18															COC No: 1						
ECOM ECOMACT									aine-Wal				r: Con						ofpages										
111 3rd Ave Suite 1600				naround Tin		·			1	1				Ī	<u> </u>			T	T	Ι	T								
eattle, WA 98101		Calendar (C) or Work	Days (W) _V	V					ĺ	Pon 60.3		ĺ										ı						
hone: (206) 438-2700 Fax: 1+(866) 495-5288											Ç 6							ļ											
roject Name: Portland Harbor Pre-Remedial Design ivestigation and Baseline Sampling	x	21	days					İ			, 98 in						ĺ	Ì					l						
westigation and buseline sampling										5	SIN	D4318						l								ļ			
ertland, OR		Other								1690	s, Total Organic Carbon 8270D-SIM, 9060, 160.3	M N											1						
roject #: 60566335 Study: Subsurface Sediment										7928		ASTM																	
ample Type:						1613B		Grain size ASTM D792&D6913	Arociors, PAH Solids 8082A,	Atterberg Limits																			
Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No.	raction	PCDD/Fs	Archive	rain size	PCB Are Total Sol	víterber												Sample Specil	ir Notas:				
PDI-SC-S229 - 6 to 8	8/9/2018	19:55	SC	<u> </u>	ED	4		x	x	x		7												запри брил	ic Notes.	_			
PDI-SC-S229 - 8 to 9.9	8/9/2018	20:00	sc	<u> </u>	ED	4	T	x	x	X	x x						*******************************									-			
PDI-SC-S229 - 9.9 to 12.5	8/9/2018	20:05	SC	 	ED	4	П	x	x	x	x				***************************************							-				-			
PDI-SC-S238 - 0 to 2	8/9/2018	17:30	SC	1	ED	4	П	x	х	x	x								 							1			
PDI-SC-S238 - 2 to 4	8/9/2018	17:35	SC		ED	4		x	x	х	х															٦			
PDI-SC-S238 - 2 to 4D	8/9/2018	17:35	sc		ED	3		x	x	х	х																		
PDI-SC-S238 - 4 to 6	8/9/2018	17:40	SC		ED	5		x	х	х	x	x																	
PDI-SC-S238 - 6 to 8	8/9/2018	17:45	sc		ED	4	Ш	x	x	X	x														•				
PDI-SC-S238 - 8 to 10	8/9/2018	17:50	sc		ED	4		x	X	x	x									~~~~~	*******************************			***************************************					
PDI-SC-S238 - 10 to 12.4	8/9/2018	17:55	SC		ED	4		x	x	х	x															\dashv			
PDI-SC-S238 - 12.4 to 13.4	8/9/2018	18:00	SC		ED	4		х	х	х	. х															4			
PDI-SC-\$139 - 2 to 4	8/7/2018	14:25	sc	<u> </u>	ED	1	1_1					х														4			
ontainer Type: WMG=Wide Mouth Glass Jar, F reservative: HCl = Hydrochloric Acid, H3PO4 :					, G=glass, I	RC=Resin C	colur	AG	AG	WMG	WMG	AG									 								
raction: D = Dissolved, PRT = Particulate, T = Total		Acia, ine	JJ = 18(1)C	ACIU				Samp	e Disp	osal				L							L					-			
									Return	To Clie	ent)	posa	al By La	ds		(hive	For 1	2 Mor	iths									
pecial Instructions/QC Requirements & Comments	: Separate	reports	for each	ı lab																									
elinquished by:	Company:	<i>,</i>		Date/Time:		1400	T	Recei	ed by:		<u> </u>		1/1		,			Compa	ny:	E	_	•	I	Date/Time:	14.00	٦			
elinquished by:	Company:			Date/Vime:	Y	1700		Recei	a by:	44	The same of the sa		34	<u> </u>		····		Compa	<u> </u>	$\frac{\mathcal{L}}{\mathcal{L}}$			r	Date/Time:	1400	\dashv			
//www	Company:	Er		810 Date/Time:	[[8	145		Receiv	ad but	<i>Y</i>		/(<u>U</u>					Comm	18	\\ (N			3/10/18	1450	_			
AN 1 M	(A)	PUR		8/13/	18	1700		Accelv.	The second	5	X	1	را	(ĺ	Compa	CN	a -	M			8/14/16	0948	+			
				7 1																					-				

In5 = 4.8/48 w/c3.
Page 19 of 24

Ŷ.	
1000	
2000	
The same	

estAmerica-Seattle 155-8th-Street-East						SI	U B S	SUF	UFA	CE	SED	IME	ENT	•													
асона, WA 98424-1317							CI	TAI	N O	F C	UST	OD	V														
n: 253-922-2310 Fax: 253-922-5047 Client Contact											COC No: 1																
ECOM							Laboratory Contact: Elaine-Walker Carrier: Courier													f	pages						
11 3rd Ave Suite 1600			Analysis Tu	rnaround Tin	ne				Ì			T	T	T]	T	<u> </u>				_ P-9-0	
attle, WA 98101		Calendar (C) or Work	Days (W) _V	λ/						bon,		ļ														
ione: (206) 438-2700 Fax: 1+(866) 495-5288 oject Name: Portland Harbor Pre-Remedial Design vestigation and Baseline Sampling	×	21	days								PCB Aroclors, PAHS, Total Organic Carbon Total Solids 8082A, 8270D-SIM, 9060, 160,3	81					X	Acon	(Z								
ortland, OR		04								6913	otal (54		}			10	135	(Z)		l	İ					
oject #: 60566335 Study: Subsurface Sediment		Other							Ì	28/D	15, T.	MES					1	ď	\mathcal{A}								
mple Type:							-			D79	PAH 82A,	ts A						- 1	~]						
AND MARKET STATES								138		STW	ors, Is 80	Lim			İ	ļ	夜	3	7-								
Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCDD/Fs 1613B	Archive	Grain size ASTM D7928/D6913	PCB Arocl Total Solid	Atterberg Limits ASTM D4318	WQ-PCBA	WQ-PAHs	WQ-D/F	WQ-TOC	Ma-	Cancel	81/4/18					San	iple Spe	cific Note:	·S:
DI-RB-SS-180809	8/9/2018	8:00	W		AC	1/2	10000404	*****		Ť			x	X	х	х			****								
DI-RB-SS-180809-1900	8/9/2018	19:00	W		ED	9	TT							x	×	x	X										
A PARENTE	0,,,2010					 	T						X			_ <u> </u>											
					<u> </u>		1																		····		
	<u> </u>				l		H							 													-
2, X							H																				
							\vdash																				
							H																			·	
							H										.										
NAME OF THE PROPERTY OF THE PR							f	************										\dashv				-+					
							$\dagger \dagger$			····																	
Weining and Aria							Н									····			-+								
ntainer Type: WMG=Wide Mouth Glass Jar, I	P=HDPE, PP:	-Polyprop	ylene, AG=	amber glass	s, G=glass,	RC=Resin	Colu	AG	AG	WMG	WMG	AG											-			· · · · · · · · · · · · · · · · · · ·	
eservative: HCl = Hydrochloric Acid, H3PO4																											
action: D = Dissolved, PRT = Particulate, T = Tota	l (unfiltered)							Samp	le Disp	osal												-	<u>-</u>				
	~								Return	To Cli	enl	L×	(boss	al By La	ab		x :hive	For 17	Mont	hs							
ecial Instructions/QC Requirements & Comments	: Separat	e report	s for eac	h lab																							
,														4													
inquished by:	Company:			Date/Time:	<u></u>	11620	ľ	Receir	ed by:	, , , ,	<u></u>		7	1	,		C	ompan	y: <i>1</i> .	9,	•		Į	ate/Time: ろ (<i>O</i>)	10-	140	<u>~</u>
in anished by:	Company:			S/10 ff Date/Time:	Ť—	1400		Regent	d by:	<u> </u>	30	\prec	$V_{\underline{J}}$	├ ^				Ompan					I	ろ ((() Date/Time:	<i>l</i> 8	146	<u>/U</u>
Jellia Mr	<u> </u>	<u>E-</u>		8/10	181	450		(2	4	4	2_					1	X	-PC	<u> 74/</u>			8/10	2/6	3 14	(Q)
inquished by Jahan	Company:	ron		Date/Time: 1	d 1	700	_	Receive	ању: (16		H.	L	4			ľ	ompan S	PA	<u>-</u>	77		I	Pate/Time:	1 m	08	400
The first the state of the stat	- [-]			9/3/		/		····	····			<u> </u>				•					<i>5 '</i>				110		ر ،

Ver: 09/20/2016

1
9

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2SO3
S - H2SO4
T - TSP Dodecafydrate **TestAmerica** THE LEADER IN ENVIRONMENTAL TESTING TABLY 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/tests/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 complicance to TestAmerica Laboratories, inc. Special Instructions/Note: U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) reservation Codes A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
F - NanSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid 030 COC No: 580-58068.1 580-79504-1 Page 1 of 1 I - Ice J - Di Water K-EDTA L-EDA Date/Time: A/(8 Total Number of containers Jate/Time: Aethod of Shipment: Disposal By Lab State of Origin: Oregon Analysis Requested Cooler Temperature(s) °C and Other Remarks: 580-79504 Chain of Custody Special Instructions/QC Requirements: E-Mail: elaine.walker@testamericainc.com ccreditations Required (See note): Ø Return To Client Received by: Received by: Lab PM: Walker, Elaine M Chain of Custody Record \times × × Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) (W=water, S=solid, O=waste/oil, Preservation Code: Matrix Solid Solid Solid Company Type (C=comp, Sample G=grab) Primary Deliverable Rank: 2 Sample Pacific 17:40 Pacific 14:25 Pacific Time Date: (AT Requested (days) Due Date Requested: 8/28/2018 Sample Date 8/9/18 8/8/18 8/8/18 Project #: 58012120 Date/Time: Phone: #O/ Client Information (Sub Contract Lab) Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No.: Sample Identification - Client ID (Lab ID) 802-660-1919(Fax) Portland Harbor Pre-Remedial Design PDI-SC-S238-4to6 (580-79504-43) PDI-SC-S139-2to4 (580-79504-48) PDI-SC-S198-0to2 (580-79504-20) Suite 11, Possible Hazard Identification estAmerica Laboratories, Inc. Empty Kit Relinquished by Custody Seals Intact: 30 Community Drive, 802-660-1990(Tel) Shipping/Receiving South Burlington Inconfirmed linquished by: elinquished by State, Zip: VT, 05403 linquished by

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

ORIGIN ID:BNOA (503) 906-9240 SAMPLE CONTROL TESTAMERICA PORTLAND 8320 SW GEMINI DR BUILDING 7 BEAVERTON, OR 970087145 UNITED STATES US SHIP DATE: 13AUG18 ACTWGT: 30.00 LB CAD: 0996922/CAFE3210

BILL RECIPIENT

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

(802) 660 – 1990

REF: \$580 - 30219



FedEx Express



TRK# 4423 0750 8910

TUE - 14 AUG 10:30A PRIORITY OVERNIGHT

XH BTVA

05403 VT-US BTV



Client: AECOM Job Number: 580-79504-3

Login Number: 79504 List Source: TestAmerica Seattle

List Number: 1

Creator: O'Connell, Jason I

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

Login Sample Receipt Checklist

Client: AECOM Job Number: 580-79504-3

Login Number: 79504 List Source: TestAmerica Burlington
List Number: 2 List Creation: 08/14/18 11:24 AM

Creator: Johnson, Eleanor E

Creator: Johnson, Eleanor E		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td>Lab does not accept radioactive samples.</td>	True	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	3.1°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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

3

4

6

Ω

9