

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: 580-80213-5

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: 9/20/2018 3:29:48 PM

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.

Client: AECOM

TestAmerica Job ID: 580-80213-5

Project/Site: Portland Harbor Pre-Remedial Design

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#### **Case Narrative**

Client: AECOM TestAmerica Job ID: 580-80213-5

Project/Site: Portland Harbor Pre-Remedial Design

Job ID: 580-80213-5

**Laboratory: TestAmerica Seattle** 

**Narrative** 

### **CASE NARRATIVE**

**Client: AECOM** 

**Project: Portland Harbor Pre-Remedial Design** 

**Report Number: 580-80213-5** 

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**

Three samples were received on 9/10/2018 12:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

This report contains results for Grain Size for samples PDI-SG-B431 (580-80213-1) and PDI-SG-B479 (580-80213-2) only, performed at TestAmerica Seattle.

All other analyses are on hold pending client authorization to proceed.

The Rinse Blank sample data are reported under separate covers.

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.

#### **GRAIN SIZE**

Samples PDI-SG-B431 (580-80213-1) and PDI-SG-B479 (580-80213-2) were analyzed for grain size in accordance with ASTM D7928/D6913. The samples were analyzed on 09/12/2018.

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

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#### **Definitions/Glossary**

Client: AECOM TestAmerica Job ID: 580-80213-5

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)

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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** Relative Error Ratio (Radiochemistry) RER Reporting Limit or Requested Limit (Radiochemistry) RLRPD Relative Percent Difference, a measure of the relative difference between two points TEF Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin) TEQ

## **Client Sample Results**

Client: AECOM TestAmerica Job ID: 580-80213-5

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SG-B431 Lab Sample ID: 580-80213-1

Date Collected: 09/07/18 12:08

Matrix: Solid

Date Received: 09/10/18 12:40

Method: D7928/D6913 -	ASTM D7928/D6913							
Analyte	Result Qua	alifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	3.0			%			09/12/18 16:40	1
Coarse Sand	0.1			%			09/12/18 16:40	1
Fine Sand	<b>65</b> .8			%			09/12/18 16:40	1
Gravel	0.0			%			09/12/18 16:40	1
Medium Sand	17.2			%			09/12/18 16:40	1
Silt	13.9			%			09/12/18 16:40	1

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## **Client Sample Results**

Client: AECOM TestAmerica Job ID: 580-80213-5

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SG-B479 Lab Sample ID: 580-80213-2

Date Collected: 09/07/18 09:58 East Sample 15: 000 00210 2

Date Received: 09/10/18 12:40

Method: D7928/D6913 -	<b>ASTM D7928/D69</b>	13							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	4.8				%			09/12/18 16:40	1
Coarse Sand	0.0				%			09/12/18 16:40	1
Fine Sand	53.1				%			09/12/18 16:40	1
Gravel	0.0				%			09/12/18 16:40	1
Medium Sand	0.1				%			09/12/18 16:40	1
Silt	42.0				%			09/12/18 16:40	1

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#### **Lab Chronicle**

Client: AECOM TestAmerica Job ID: 580-80213-5

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SG-B431 Lab Sample ID: 580-80213-1

Date Collected: 09/07/18 12:08 Matrix: Solid

Date Received: 09/10/18 12:40

Batch Batch Dilution Batch Prepared **Prep Type** Method Run **Factor** Number or Analyzed Type Analyst Lab TAL SEA Total/NA Analysis D7928/D6913 283824 09/12/18 16:40 A1K

Client Sample ID: PDI-SG-B479 Lab Sample ID: 580-80213-2

Date Received: 09/10/18 12:40

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	D7928/D6913		1	283824	09/12/18 16:40	A1K	TAL SEA

**Laboratory References:** 

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

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TestAmerica Seattle

## **Accreditation/Certification Summary**

Client: AECOM TestAmerica Job ID: 580-80213-5

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	<b>Expiration Date</b>
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
Nevada	State Program	9	WA000502019-1	07-31-19
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

## **Sample Summary**

Client: AECOM

Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-80213-5

Lab Sample ID	Client Sample ID	Matrix	Collected F	Received
580-80213-1	PDI-SG-B431	Solid	09/07/18 12:08 09/	10/18 12:40
580-80213-2	PDI-SG-B479	Solid	09/07/18 09:58 09/	10/18 12:40

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PDI-SG-B479

Study:

roject #: 60566335

Sample Type: ortland, OR

Tacoma, WA 98424-1317 Ph: 253-922-2310

5755-8th-Street-East

11 3rd Ave Suite 1600

AECOM

eattle, WA 98101

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TestAmerica-Seattle 5755-8th-Street-East		,			***************************************	<del></del>	SU	RF	ACI	E SE	DI	MEN	NT		***********			Cha						
Tacoma, WA 98424-1317	1														-	380-6	50210	Clia	III OI C	Jusio	uy			
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Client Contact				my Dahl / Ch			Sit	e Conta	ct: Je	nnifer l	Ray									··········		9/1	0/2018	COC No: 1
AECOM		Tel:		261 / (206) 43			La	orator	y Con	tact: E	laine-V	Valker				Carri	er: Cor	ırier						l ofl pages
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Phone. (206) 438-2700 Fax: 1+(866) 495-5288				. 1						±		s 9060		E S				5	25		]			
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling		21	days (NO	iter)	•					NWTPH-Dx,	\$1690	l solid		8270-	8.4		ě	208, 74	as SMS			-	nger	
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Project #: 60566335 Study: Surface Montes Confidence of State of Study				Û				1668.4	ļ	Σ̈	3.	900	20 (	E.	ners	150	ž	1 5	🚆	S Z	8	827	, Y	
Sample Type: D/U								Ę	16138	f. Metals.	ASTM	nnic carl 70C)	rchive -	HP, Tri	B Conge	DD/Fs 10	+ Diese	als, Mer	al Organ	4s 8270-	reides 16	HP EPA	utykin	
Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Conge	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury 6820B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids (104C & 70C)	Archive Archive -20 (*	PAHs. BEHP, Tributyltin, 8270-SIM, 8270- Ll., Kron/Unger	WQ - PCB Congeners 1668A	WQ - PCDD/Fs 1613B	WQ - TPH Diesel NWTPH-Dx	WQ - Metals, Mercury 6020B, 7470	WQ - Total Organic Carbon SMS310B	WQ - PAHs 8270-SIM	WQ - Pesticides 1669M	WQ - BEHP EPA 8270D-LL	WQ - Fributykin Krone/Unger	Sample Specific Notes:
PDI-SG-B431	9/7/2018	12.08	ss		M1-14	7	Ī	13	H	H	X	H	Н	H	-X16.W			- Hellotten			-			
PDI-SG-B479	9/7/2018	9:58	SS	<u> </u>	1987)H	7	T	11	Н	н	x	11	H	н							<del>                                     </del>	†		
PDI-RB-VV-090718	9/7/2018	14:50	W		JH	14	T	l ''		- 22	^	- "		''										
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Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphe				······································											T									~~~~~
Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered	l)		······································					Samp	-									4			1			
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Special Instructions/QC Requirements & Comments: Analyze samples for grain size ASAP, Hold (H) remain Separate reports for each lab.	ning analys	es pendin	g further in	struction.																			1	3
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Client: AECOM Job Number: 580-80213-5

Login Number: 80213 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.</td <td>True</td> <td>Comment</td>	True	Comment
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	