

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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TestAmerica Job ID: 580-78527-2

Client Project/Site: Portland Harbor Pre-Remedial Design

For:

AECOM
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Attn: Amy Dahl

M. Elaine Walker

Authorized for release by:
7/31/2018 1:04:23 PM

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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: 580-78527-2

Job ID: 580-78527-2

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE

Client: AECOM

Project: Portland Harbor Pre-Remedial Design

Report Number: 580-78527-2

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

The client changed sample ID for PDI-SG-RB-20180630. It should be PDI-RB-VV-180630.

This report contains results of the Dioxins rinse blank sample only, performed at TestAmerica Sacramento. All other analyses are currently on hold.

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.

DIOXIN/ FURAN

Sample PDI-RB-180630 (580-78527-26) was analyzed for Dioxin/ Furan in accordance with 1613B. The sample was prepared on 07/09/2018 and analyzed on 07/15/2018.

Several analytes were detected in method blank MB 320-232980/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have 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.

Definitions/Glossary

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

TestAmerica Job ID: 580-78527-2

Qualifiers

Dioxin

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.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

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: 580-78527-2

Client Sample ID: PDI-RB-180630

Lab Sample ID: 580-78527-26

Date Collected: 06/30/18 17:15

Matrix: Water

Date Received: 07/02/18 14:30

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	46	J B	51	0.76	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,4,6,7,8-HpCDF	16	J B	51	0.41	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,4,7,8,9-HpCDF	2.0	J q B	51	0.53	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,4,7,8-HxCDD	3.0	J B	51	0.40	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,4,7,8-HxCDF	1.4	J q	51	0.29	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,6,7,8-HxCDD	2.9	J q B	51	0.39	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,6,7,8-HxCDF	1.5	J q	51	0.28	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,7,8,9-HxCDD	3.4	J B	51	0.34	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,7,8,9-HxCDF	2.3	J q B	51	0.25	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,7,8-PeCDD	ND		51	0.56	pg/L		07/09/18 09:34	07/15/18 21:20	1
1,2,3,7,8-PeCDF	1.3	J B	51	0.33	pg/L		07/09/18 09:34	07/15/18 21:20	1
2,3,4,6,7,8-HxCDF	1.3	J	51	0.23	pg/L		07/09/18 09:34	07/15/18 21:20	1
2,3,4,7,8-PeCDF	ND		51	0.37	pg/L		07/09/18 09:34	07/15/18 21:20	1
2,3,7,8-TCDD	7.6	J B	10	0.27	pg/L		07/09/18 09:34	07/15/18 21:20	1
2,3,7,8-TCDF	1.4	J B	10	0.20	pg/L		07/09/18 09:34	07/15/18 21:20	1
OCDD	350	B	100	0.85	pg/L		07/09/18 09:34	07/15/18 21:20	1
OCDF	19	J B	100	0.30	pg/L		07/09/18 09:34	07/15/18 21:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	90		23 - 140	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,4,6,7,8-HpCDF	85		28 - 143	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,4,7,8-HxCDD	81		32 - 141	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,4,7,8-HxCDF	82		26 - 152	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,6,7,8-HxCDD	81		28 - 130	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,7,8,9-HxCDF	84		29 - 147	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,7,8-PeCDD	79		25 - 181	07/09/18 09:34	07/15/18 21:20	1
13C-1,2,3,7,8-PeCDF	77		24 - 185	07/09/18 09:34	07/15/18 21:20	1
13C-2,3,4,6,7,8-HxCDF	84		28 - 136	07/09/18 09:34	07/15/18 21:20	1
13C-2,3,4,7,8-PeCDF	77		21 - 178	07/09/18 09:34	07/15/18 21:20	1
13C-2,3,7,8-TCDD	82		25 - 164	07/09/18 09:34	07/15/18 21:20	1
13C-2,3,7,8-TCDF	81		24 - 169	07/09/18 09:34	07/15/18 21:20	1
13C-OCDD	91		17 - 157	07/09/18 09:34	07/15/18 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	95		35 - 197	07/09/18 09:34	07/15/18 21:20	1

TestAmerica Seattle

QC Sample Results

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

TestAmerica Job ID: 580-78527-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-232980/1-A

Matrix: Water

Analysis Batch: 234157

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 232980

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.83	J	50	0.25	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,4,6,7,8-HpCDF	0.936	J q	50	0.22	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,4,7,8,9-HpCDF	0.465	J	50	0.28	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,4,7,8-HxCDD	1.02	J q	50	0.29	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,4,7,8-HxCDF	ND		50	0.28	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,6,7,8-HxCDD	0.603	J q	50	0.28	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,6,7,8-HxCDF	ND		50	0.27	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,7,8,9-HxCDD	0.868	J q	50	0.24	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,7,8,9-HxCDF	1.31	J	50	0.24	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,7,8-PeCDD	ND		50	0.46	pg/L		07/09/18 09:34	07/15/18 19:04	1
1,2,3,7,8-PeCDF	0.665	J q	50	0.33	pg/L		07/09/18 09:34	07/15/18 19:04	1
2,3,4,6,7,8-HxCDF	ND		50	0.23	pg/L		07/09/18 09:34	07/15/18 19:04	1
2,3,4,7,8-PeCDF	ND		50	0.36	pg/L		07/09/18 09:34	07/15/18 19:04	1
2,3,7,8-TCDD	2.98	J q	10	0.24	pg/L		07/09/18 09:34	07/15/18 19:04	1
2,3,7,8-TCDF	1.33	J	10	0.22	pg/L		07/09/18 09:34	07/15/18 19:04	1
OCDD	21.2	J	100	0.42	pg/L		07/09/18 09:34	07/15/18 19:04	1
OCDF	1.96	J	100	0.24	pg/L		07/09/18 09:34	07/15/18 19:04	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	87		23 - 140	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,4,6,7,8-HpCDF	84		28 - 143	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,4,7,8,9-HpCDF	85		26 - 138	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,4,7,8-HxCDD	77		32 - 141	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,4,7,8-HxCDF	80		26 - 152	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,6,7,8-HxCDD	80		28 - 130	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,6,7,8-HxCDF	80		26 - 123	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,7,8,9-HxCDF	80		29 - 147	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,7,8-PeCDD	72		25 - 181	07/09/18 09:34	07/15/18 19:04	1
13C-1,2,3,7,8-PeCDF	71		24 - 185	07/09/18 09:34	07/15/18 19:04	1
13C-2,3,4,6,7,8-HxCDF	83		28 - 136	07/09/18 09:34	07/15/18 19:04	1
13C-2,3,4,7,8-PeCDF	72		21 - 178	07/09/18 09:34	07/15/18 19:04	1
13C-2,3,7,8-TCDD	74		25 - 164	07/09/18 09:34	07/15/18 19:04	1
13C-2,3,7,8-TCDF	75		24 - 169	07/09/18 09:34	07/15/18 19:04	1
13C-OCDD	88		17 - 157	07/09/18 09:34	07/15/18 19:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	95		35 - 197	07/09/18 09:34	07/15/18 19:04	1

Lab Sample ID: LCS 320-232980/2-A

Matrix: Water

Analysis Batch: 234157

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 232980

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,3,4,6,7,8-HpCDD	1000	847		pg/L		85	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	863		pg/L		86	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	845		pg/L		84	78 - 138
1,2,3,4,7,8-HxCDD	1000	881		pg/L		88	70 - 164
1,2,3,4,7,8-HxCDF	1000	901		pg/L		90	72 - 134

TestAmerica Seattle

QC Sample Results

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

TestAmerica Job ID: 580-78527-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-232980/2-A

Matrix: Water

Analysis Batch: 234157

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 232980

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,6,7,8-HxCDD	1000	859		pg/L		86	76 - 134
1,2,3,6,7,8-HxCDF	1000	878		pg/L		88	84 - 130
1,2,3,7,8,9-HxCDD	1000	871		pg/L		87	64 - 162
1,2,3,7,8,9-HxCDF	1000	900		pg/L		90	78 - 130
1,2,3,7,8-PeCDD	1000	915		pg/L		92	70 - 142
1,2,3,7,8-PeCDF	1000	926		pg/L		93	80 - 134
2,3,4,6,7,8-HxCDF	1000	890		pg/L		89	70 - 156
2,3,4,7,8-PeCDF	1000	936		pg/L		94	68 - 160
2,3,7,8-TCDD	200	174		pg/L		87	67 - 158
2,3,7,8-TCDF	200	187		pg/L		93	75 - 158
OCDD	2000	1610		pg/L		80	78 - 144
OCDF	2000	1560		pg/L		78	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDD	80		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	77		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	78		20 - 186
13C-1,2,3,4,7,8-HxCDD	72		21 - 193
13C-1,2,3,4,7,8-HxCDF	74		19 - 202
13C-1,2,3,6,7,8-HxCDD	75		25 - 163
13C-1,2,3,6,7,8-HxCDF	75		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-1,2,3,7,8-PeCDD	71		21 - 227
13C-1,2,3,7,8-PeCDF	71		21 - 192
13C-2,3,4,6,7,8-HxCDF	78		22 - 176
13C-2,3,4,7,8-PeCDF	71		13 - 328
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	76		22 - 152
13C-OCDD	81		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	97		31 - 191

Lab Sample ID: LCSD 320-232980/3-A

Matrix: Water

Analysis Batch: 234157

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 232980

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2,3,4,6,7,8-HpCDD	1000	966		pg/L		97	70 - 140	13	50
1,2,3,4,6,7,8-HpCDF	1000	981		pg/L		98	82 - 122	13	50
1,2,3,4,7,8,9-HpCDF	1000	975		pg/L		98	78 - 138	14	50
1,2,3,4,7,8-HxCDD	1000	985		pg/L		99	70 - 164	11	50
1,2,3,4,7,8-HxCDF	1000	973		pg/L		97	72 - 134	8	50
1,2,3,6,7,8-HxCDD	1000	951		pg/L		95	76 - 134	10	50
1,2,3,6,7,8-HxCDF	1000	998		pg/L		100	84 - 130	13	50
1,2,3,7,8,9-HxCDD	1000	977		pg/L		98	64 - 162	12	50
1,2,3,7,8,9-HxCDF	1000	975		pg/L		97	78 - 130	8	50
1,2,3,7,8-PeCDD	1000	980		pg/L		98	70 - 142	7	50

TestAmerica Seattle

QC Sample Results

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

TestAmerica Job ID: 580-78527-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-232980/3-A

Matrix: Water

Analysis Batch: 234157

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 232980

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,7,8-PeCDF	1000	983		pg/L		98	80 - 134	6	50
2,3,4,6,7,8-HxCDF	1000	985		pg/L		99	70 - 156	10	50
2,3,4,7,8-PeCDF	1000	993		pg/L		99	68 - 160	6	50
2,3,7,8-TCDD	200	190		pg/L		95	67 - 158	9	50
2,3,7,8-TCDF	200	197		pg/L		98	75 - 158	5	50
OCDD	2000	1850		pg/L		93	78 - 144	14	50
OCDF	2000	1830		pg/L		92	63 - 170	16	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDD	90		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	87		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	88		20 - 186
13C-1,2,3,4,7,8-HxCDD	83		21 - 193
13C-1,2,3,4,7,8-HxCDF	86		19 - 202
13C-1,2,3,6,7,8-HxCDD	83		25 - 163
13C-1,2,3,6,7,8-HxCDF	84		21 - 159
13C-1,2,3,7,8,9-HxCDF	86		17 - 205
13C-1,2,3,7,8-PeCDD	78		21 - 227
13C-1,2,3,7,8-PeCDF	79		21 - 192
13C-2,3,4,6,7,8-HxCDF	87		22 - 176
13C-2,3,4,7,8-PeCDF	79		13 - 328
13C-2,3,7,8-TCDD	84		20 - 175
13C-2,3,7,8-TCDF	84		22 - 152
13C-OCDD	90		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	96		31 - 191

TestAmerica Seattle

Lab Chronicle

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

TestAmerica Job ID: 580-78527-2

Client Sample ID: PDI-RB-180630

Lab Sample ID: 580-78527-26

Date Collected: 06/30/18 17:15

Matrix: Water

Date Received: 07/02/18 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			232980	07/09/18 09:34	ITH	TAL SAC
Total/NA	Analysis	1613B		1	234157	07/15/18 21:20	KSS	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: AECOM

TestAmerica Job ID: 580-78527-2

Project/Site: Portland Harbor Pre-Remedial Design

Laboratory: TestAmerica Seattle

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

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

Laboratory: TestAmerica Sacramento

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	17-020	01-20-21
ANAB	DoD ELAP		L2468	01-20-21
Arizona	State Program	9	AZ0708	08-11-18
Arkansas DEQ	State Program	6	88-0691	06-17-19
California	State Program	9	2897	01-31-19
Colorado	State Program	8	CA00044	08-31-19
Connecticut	State Program	1	PH-0691	06-30-19
Florida	NELAP	4	E87570	06-30-19
Georgia	State Program	4	N/A	01-28-19
Hawaii	State Program	9	N/A	01-29-19
Illinois	NELAP	5	200060	03-17-19
Kansas	NELAP	7	E-10375	10-31-18
Louisiana	NELAP	6	30612	06-30-19
Maine	State Program	1	CA0004	04-14-20
Michigan	State Program	5	9947	01-31-20
Nevada	State Program	9	CA00044	07-31-19
New Hampshire	NELAP	1	2997	04-18-19
New Jersey	NELAP	2	CA005	06-30-19
New York	NELAP	2	11666	03-31-19
Oregon	NELAP	10	4040	01-29-19
Pennsylvania	NELAP	3	68-01272	03-31-19
Texas	NELAP	6	T104704399	05-31-19
US Fish & Wildlife	Federal		LE148388-0	07-31-18 *
USDA	Federal		P330-11-00436	01-17-21
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-19
Vermont	State Program	1	VT-4040	04-30-19
Virginia	NELAP	3	460278	03-14-19
Washington	State Program	10	C581	05-05-19
West Virginia (DW)	State Program	3	9930C	12-31-18
Wyoming	State Program	8	8TMS-L	01-28-19

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

TestAmerica Seattle

Sample Summary

Client: AECOM

Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-78527-26	PDI-RB-180630	Water	06/30/18 17:15	07/02/18 14:30

1

2

3

4

5

6

7

8

9

10

11

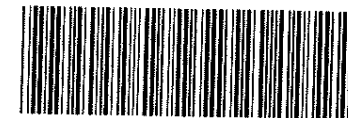
12

13

SURFACE SEDIMENT CHAIN OF CUSTODY															
TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 Ph: 253-922-2310 Fax: 253-922-5047			Client Contact AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1-(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Surface Sediment Sample Type: D/U		Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010 Analysis Turnaround Time Calendar (C) or Work Days (W) _____ ☐ 21 days ☒ Other ASAP		Site Contact: Jennifer Ray Laboratory Contact: Elaine Walker Carrier: Courier		7/2/2018 COC No. 1 2 of 3 pages						
Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	PCB Congeners 168A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury WTPH-Ds, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive - 20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-TL, Kron/Unger	Alterberg Limits ASTM D4318	Sample Specific Notes:
PDI-SG-B448	6/30/2018	12:08	SS		MT	7	H	H	H	x	H	H	H		
PDI-SG-B451	6/30/2018	14:45	SS		AC	7	H	H	H	x	H	H	H		
PDI-SG-B455	6/30/2018	15:55	SS		AC	7	H	H	H	x	H	H	H		
PDI-SG-B450	7/1/2018	10:30	SS		SH	7	H	H	H	x	H	H	H		
PDI-SG-B454	7/1/2018	13:35	SS		SH	7	H	H	H	x	H	H	H		
PDI-SG-B453	7/1/2018	11:41	SS		SH	7	H	H	H	x	H	H	H		
PDI-SG-B453-D	7/1/2018	11:41	SS		SH	6	H	H	H		H	H	H		
PDI-SG-B452	7/1/2018	15:13	SS		SH	7	H	H	H	x	H	H	H		
PDI-SG-B457	7/1/2018	15:30	SS	MS/MSD	AC	13	H	H	H	x	H	H	H		
PDI-SG-B459	7/1/2018	12:20	SS		AC	8	H	H	H	x	H	H	H		
PDI-SG-B460	7/1/2018	11:15	SS		MT	8	H	H	H	x	H	H	H		
PDI-SG-B461	7/1/2018	10:00	SS		MT	8	H	H	H	x	H	H	H		
Container Type: WMG-Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)															
Sample Disposal ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months															
Special Instructions/QC Requirements & Comments: Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction. Separate reports for each lab.															
Relinquished by: <i>[Signature]</i>		Company: <i>TestAmerica</i>		Date/Time: 7/2/18/1257		Company: <i>M-E</i>		Date/Time: 7/2/18/1257		Company: <i>M-E</i>		Date/Time: 7/2/18/1257			
Relinquished by: <i>[Signature]</i>		Company: <i>M-E</i>		Date/Time: 7/2/18/1430		Company: <i>TAPOR</i>		Date/Time: 7/2/18/1430		Company: <i>TAPOR</i>		Date/Time: 7/2/18/1430			
Relinquished by: <i>[Signature]</i>		Company: <i>M-E</i>		Date/Time: 7/2/18/1430		Company: <i>TAPOR</i>		Date/Time: 7/2/18/1430		Company: <i>TAPOR</i>		Date/Time: 7/2/18/1430			

SURFACE SEDIMENT CHAIN OF CUSTODY													
TestAmerica-Seattle 5755-8th-Street-East Tacoma, WA 98424-1317 Ph: 253-922-2310 Fax: 253-922-5047		Client Contact AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1-(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Surface Sediment Sample Type: DU		Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010 Analysis Turnaround Time Calendar (C) or Work Days (W) ☐ 21 days ☒ Other ASAP		Site Contact: Jennifer Ray Laboratory Contact: Elaine-Walker Carrier: Courier 7/2/2018 COC No. 1 3 of 3 pages		Sample Specific Notes: WD-TBT Keanee/Wubben WD-BHTP 8270D-LL WD-PH, 8270 SIM WD-TOC SIM 5310S WD-Metals, H, 6008, 7470 WD-TPH Diesel NAPM-Dx WD-PCDD/Fs 1613B WD-PC Congeners 1668A					
Sample Identification PDI-SG-B461-D 8701-SG-RB-20180630		Sample Date 7/1/2018 6/30/18		Sample Time 10:00 17:15		Matrix SS W		QC Sample AC AC		Sampler's Initials AC AC		Total No. of Cont. 6 14	
Fraction PCB Congeners 1668A PCDD/Fs 1613B TPH Diesel, Metals, Mercury NWTM-Dx Grain size ASTM D7928/D6913 Total organic carbon, Total solids 9060 (104C & 70C) Archive Archive -20 C PAHs, BEHP, Tributyltin, 8270-SIM, 8270- TL, Kron/Linger Afterberg Limits ASTM D4318													
Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)													
Sample Disposal ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months													
Special Instructions/QC Requirements & Comments: Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction. Separate reports for each lab.													
Relinquished by: 		Company: AECOM		Date/Time: 7/2/18/1257		Relinquished by: 		Company: U.E.		Date/Time: 7/2/18/1257			
Relinquished by: 		Company: AECOM		Date/Time: 7/2/18/1430		Relinquished by: 		Company: TAPOR		Date/Time: 7/2/18/1430			
Relinquished by: 		Company: AECOM		Date/Time: 7/2/18/1430		Relinquished by: 		Company: TAPOR		Date/Time: 7/2/18/1430			

TestAmerica-Seattle		SURFACE SEDIMENT CHAIN OF CUSTODY										7/2/2018		COC No. 1			
5755-8th-Street-East Tacoma, WA 98424-1317 Ph: 253-922-2310 Fax: 253-922-5047		Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010				Site Contact: Jennifer Ray Laboratory Contact: Elaine Walker				Carrier: Courier				1 of 3 pages			
Client Contact		Analysis Turnaround Time				PCB Contingents 168A PCDD/Fs 1613B TPH Dissolved Metals Mercury NWTPH-Dx 6020B, 7471A Grain size ASTM D7928/D6913 Total organic carbon, Total solids 9060 (104C & 70C) Archive Archive -20 C PAHs, BEHP, Tributyltin, 8270-SIM, 8270- L.L. Kron/Unger								Sample Specific Notes:			
AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone (206) 438-2700 Fax 1-(866) 495-5288		Calendar (C) or Work Days (W)															
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling		☐ 21 days ☒ Other _ASAP_															
Portland, OR Project #: 60566335 Study: Surface Sediment																	
Sample Type: D/U		Sample Date		Sample Time		Matrix		QC Sample		Sampler's Initials		Total No. of Cont.					
PDI-SG-B434		6/29/2018		11:36		SS				MT		7					
PDI-SG-B435		6/29/2018		13:43		SS				MT		7					
PDI-SG-B441		6/29/2018		15:20		SS				MT		7					
PDI-SG-B442		6/29/2018		16:22		SS				MT		7					
PDI-SG-B439		6/29/2018		11:51		SS				SH		7					
PDI-SG-B440		6/29/2018		14:12		SS				SH		7					
PDI-SG-B445		6/29/2018		16:35		SS				SH		7					
PDI-SG-B446		6/30/2018		11:36		SS				SH		7					
PDI-SG-B447		6/30/2018		14:02		SS				SH		7					
PDI-SG-B449		6/30/2018		15:38		SS				MT		7					
PDI-SG-B443		6/30/2018		10:21		SS				MT		7					
PDI-SG-B444		6/30/2018		15:20		SS				MT		7					
Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)																	
Sample Disposal ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months																	
Special Instructions/QC Requirements & Comments: Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction. Separate reports for each lab.																	
Relinquished by: <i>[Signature]</i>		Company: AECOM		Date/Time: 7/2/18 1257		Received by: <i>[Signature]</i>		Company: M-E		Date/Time: 7/2/18 1257							
Relinquished by: <i>[Signature]</i>		Company: M-E		Date/Time: 7/2/18 1430		Received by: <i>[Signature]</i>		Company: TAPOR		Date/Time: 7/2/18 1430							
Relinquished by: <i>[Signature]</i>		Company: TAPOR		Date/Time: 7/2/18 1800		Received by: <i>[Signature]</i>		Company: TAPOR		Date/Time: 7/3/18 0945							



580-78527 Chain of Custody

6, 01, 67, 203, 02, 302

IR5 0.3/0.3

1.8/1.8

1.4/1.4/31/2018

TestAmerica-Seattle		SURFACE SEDIMENT CHAIN OF CUSTODY															
5755-8th-Street-East Tacoma, WA 98424-1317 Ph: 253-922-2310 Fax: 253-922-5047		Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010					Site Contact: Jennifer Ray Laboratory Contact: Elaine-Walker					7/2/2018 COC No: 1					
Client Contact		Analysis Turnaround Time					Carrier: Courier					2 of 3 pages					
AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1-(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Surface Sediment Sample Type: D/U		Calendar (C) or Work Days (W) ☐ 21 days ☒ Other ASAP															
Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diss. Metals, Mercury NWTPL-DX, 6020B, 7271A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL, Kron/Unger	Atterberg Limits ASTM D4318	Sample Specific Notes:	
PDI-SG-B448	6/30/2018	12:08	SS		MT	7		H	H	H	x	H	H	H			
PDI-SG-B451	6/30/2018	14:45	SS		AC	7		H	H	H	x	H	H	H			
PDI-SG-B455	6/30/2018	15:55	SS		AC	7		H	H	H	x	H	H	H			
PDI-SG-B450	7/1/2018	10:30	SS		SH	7		H	H	H	x	H	H	H			
PDI-SG-B454	7/1/2018	11:41	SS		SH	7		H	H	H	x	H	H	H			
PDI-SG-B453	7/1/2018	11:41	SS		SH	7		H	H	H	x	H	H	H			
PDI-SG-B453-D	7/1/2018	11:41	SS		SH	6		H	H	H		H	H	H			
PDI-SG-B452	7/1/2018	15:13	SS		SH	7		H	H	H	x	H	H	H			
PDI-SG-B457	7/1/2018	15:30	SS	MS/MSD	AC	13		H	H	H	x	H	H	H			
PDI-SG-B459	7/1/2018	12:20	SS		AC	8		H	H	H	x	H	H	H	H		
PDI-SG-B460	7/1/2018	11:15	SS		MT	8		H	H	H	x	H	H	H	H		
PDI-SG-B461	7/1/2018	10:00	SS		MT	8		H	H	H	x	H	H	H	H		
Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column																	
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid																	
Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)																	
Sample Disposal							☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months										
Special Instructions/QC Requirements & Comments: Analyze samples for grain size ASAP, Hold (H) remaining analyses pending further instruction. Separate reports for each lab.																	
Relinquished by: <i>[Signature]</i>	Company: <i>AECOM</i>	Date/Time: <i>7/2/18 1257</i>	Received by: <i>[Signature]</i>				Company: <i>M-E</i>	Date/Time: <i>7/2/18 1257</i>									
Relinquished by: <i>[Signature]</i>	Company: <i>M-E</i>	Date/Time: <i>7/2/18 1430</i>	Received by: <i>[Signature]</i>				Company: <i>TAPOR</i>	Date/Time: <i>7/2/18 1430</i>									
Relinquished by: <i>[Signature]</i>	Company: <i>TAPOR</i>	Date/Time: <i>7/2/18 1800</i>	Received by: <i>[Signature]</i>				Company: <i>TAPOR</i>	Date/Time: <i>7/3/18 0945</i>									



Project Name: 5255-4th, River Edge
Location: WPA 99034-1317
File #: 202-202-0007

Client Contact:

Project Number: 1111 2nd Ave Suite 2000
Location: WPA 99001

Project Name: 2003-430-4700 Fax: 1-800-401-0000
Project Name: Portland Harbor Twp-Sustainable Design
Investigations and Remedial Sampling
Field and QA

Project #: 00000115 **Study:** Surface Sediment
Sample Type: DFO

Project Contacts: Andy Dault / Quality Check
File Contact: Jennifer May
File Contact: 408-2001 / (509) 408-2001

Analysis: As Requested
Calendar (C) or Week Days (W): 21 days
☐ Other ASAP

Site Coordinates: 46°04'N 122°18'W
Site Name: 46°04'N 122°18'W
Site Address: 46°04'N 122°18'W
Site Description: 46°04'N 122°18'W
Site Notes: 46°04'N 122°18'W

Sample ID	Sample Name	Sample Type	Sample Date	Sample Time	Sample Location	Sample Depth	Sample Volume	Sample Container	Sample Analysis	Sample Results	Sample Comments
PDX-SG-B448	PDX-SG-B448	MT	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	MT	7	
PDX-SG-B451	PDX-SG-B451	AC	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	AC	7	
PDX-SG-B453	PDX-SG-B453	AC	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	AC	7	
PDX-SG-B450	PDX-SG-B450	SE	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	SE	7	
PDX-SG-B454	PDX-SG-B454	SE	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	SE	7	
PDX-SG-B453	PDX-SG-B453	SE	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	SE	7	
PDX-SG-B453-D	PDX-SG-B453-D	SE	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	SE	7	
PDX-SG-B452	PDX-SG-B452	SE	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	SE	6	
PDX-SG-B457	PDX-SG-B457	AC	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	AC	7	
PDX-SG-B459	PDX-SG-B459	AC	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	AC	8	
PDX-SG-B460	PDX-SG-B460	MT	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	MT	8	
PDX-SG-B461	PDX-SG-B461	MT	7/2/08	08:00	46°04'N 122°18'W	0.5m	100ml	100ml	MT	8	

Client Signature: [Signature]
Client Title: [Title]
Client Company: [Company]

Analyst Signature: [Signature]
Analyst Title: [Title]
Analyst Company: [Company]

QA/QC Signature: [Signature]
QA/QC Title: [Title]
QA/QC Company: [Company]

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-78527-2

Login Number: 78527

List Source: TestAmerica Seattle

List Number: 1

Creator: Rogers, Angeline D

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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: 580-78527-2

Login Number: 78527

List Number: 5

Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento

List Creation: 07/07/18 04:24 PM

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.	N/A	
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.	False	only for #26
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?	False	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.	False	lid received broken anf taped
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: 580-78527-2

Login Number: 78527

List Number: 6

Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento

List Creation: 07/07/18 04:43 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	N/A	
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	5.8,5.2
COC is present.	False	
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?	False	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.	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 $<6\text{mm}$ (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: 580-78527-2

Login Number: 78527

List Number: 7

Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento

List Creation: 07/07/18 04:45 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	N/A	
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	5.8,5.2
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?	False	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.	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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Site



Job: 580-78527 Field Sheet

Tracking #

4423 6750 6436

SO / PO / FO / UPS / Other

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

Notes:

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

Cracked lid for #5

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

Ice ☒ Wet ☒ Gel ☐ Other ☐

Cooler Custody Seal: Seal

Sample Custody Seal: -

Cooler ID: 2083

Temp: Observed 5.8

From: Temp Blank ☐ Sample ☒

NCM Filed: Yes ☒ No ☐

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

Initials: ☒ Date: 7-7-18 Time

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

FZEJF

13D

Sacramento Sample Receiving Notes

Job: _____

Tracking # 442367506447 SO / PO / FO / UPS / Other _____

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

Notes: _____

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

Ice ☒ Wet ☒ Gel _____ Other _____

Cooler Custody Seal: Seal

Sample Custody Seal: _____

Cooler ID: 3073

Temp: Observed 5.2

From: Temp Blank ☐ Sample ☒

NCM Filed: Yes ☐ No ☐

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

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

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

Isotope Dilution Summary

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

TestAmerica Job ID: 580-78527-2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	HxCDD (32-141)	HxCDF (26-152)	HxDD (28-130)	HxDF (26-123)	HxCF (29-147)
580-78527-26	PDI-RB-180630	90	85	86	81	82	81	82	84
MB 320-232980/1-A	Method Blank	87	84	85	77	80	80	80	80

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCDD (25-181)	PeCDF (24-185)	13CHxCF (28-136)	PeCF (21-178)	TCDD (25-164)	TCDF (24-169)	OCDD (17-157)	
580-78527-26	PDI-RB-180630	79	77	84	77	82	81	91	
MB 320-232980/1-A	Method Blank	72	71	83	72	74	75	88	

Surrogate Legend

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
 HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
 HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
 HxCDD = 13C-1,2,3,4,7,8-HxCDD
 HxCDF = 13C-1,2,3,4,7,8-HxCDF
 HxDD = 13C-1,2,3,6,7,8-HxCDD
 HxDF = 13C-1,2,3,6,7,8-HxCDF
 HxCF = 13C-1,2,3,7,8,9-HxCDF
 PeCDD = 13C-1,2,3,7,8-PeCDD
 PeCDF = 13C-1,2,3,7,8-PeCDF
 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
 PeCF = 13C-2,3,4,7,8-PeCDF
 TCDD = 13C-2,3,7,8-TCDD
 TCDF = 13C-2,3,7,8-TCDF
 OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	HxCDD (21-193)	HxCDF (19-202)	HxDD (25-163)	HxDF (21-159)	HxCF (17-205)
LCS 320-232980/2-A	Lab Control Sample	80	77	78	72	74	75	75	75
LCSD 320-232980/3-A	Lab Control Sample Dup	90	87	88	83	86	83	84	86

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCDD (21-227)	PeCDF (21-192)	13CHxCF (22-176)	PeCF (13-328)	TCDD (20-175)	TCDF (22-152)	OCDD (13-199)	
LCS 320-232980/2-A	Lab Control Sample	71	71	78	71	76	76	81	
LCSD 320-232980/3-A	Lab Control Sample Dup	78	79	87	79	84	84	90	

Surrogate Legend

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
 HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
 HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
 HxCDD = 13C-1,2,3,4,7,8-HxCDD
 HxCDF = 13C-1,2,3,4,7,8-HxCDF
 HxDD = 13C-1,2,3,6,7,8-HxCDD
 HxDF = 13C-1,2,3,6,7,8-HxCDF
 HxCF = 13C-1,2,3,7,8,9-HxCDF
 PeCDD = 13C-1,2,3,7,8-PeCDD

TestAmerica Seattle

Isotope Dilution Summary

Client: AECOM

Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78527-2

PeCDF = 13C-1,2,3,7,8-PeCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
PeCF = 13C-2,3,4,7,8-PeCDF
TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
OCDD = 13C-OCDD

1

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