TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 580-77608-2
Client Project/Site: Portland Harbor Pre-Remedial Design

For:
AECOM
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Attn: Karen Mixon

M. Elaine Walker

Authorized for release by:
6/22/2018 2:10:52 PM

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Job ID: 580-77608-2

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE
Client: AECOM
Project: Portland Harbor Pre-Remedial Design
Report Number: 580-77608-2

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

The samples were received on 5/25/2018 12:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.3º C and 2.7º C.

A sample container was provided to be archived frozen at the TestAmerica Sacramento laboratory pending potential additional analyses.

This report contains results of Dioxins / Furans by Method 1613B, performed by TestAmerica Sacramento.

The Client requested 3 samples to be split from the rest and this report contains results of these 3 samples only.

The samples were received on hold and activated for analysis on 06/07/2018

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

Samples PDI-SG-B405-BL1 (580-77608-12), PDI-SG-B409-BL1 (580-77608-13) and PDI-SG-B414-BL1 (580-77608-14) were analyzed for Dioxin/ Furan in accordance with 1613B. The samples were prepared on 06/13/2018 and analyzed on 06/17/2018 and 06/19/2018.

Several analytes were detected in method blank MB 320-228845/1-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.

Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: PDI-SG-B405-BL1 (580-77608-12), PDI-SG-B409-BL1 (580-77608-13) and PDI-SG-B414-BL1 (580-77608-14). The reporting limits (RLs) have been adjusted proportionately. Samples are associated with preparation batch 320-228845.

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: 580-77608-2

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.
¤	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 ID: PDI-SG-B405-BL1

Date Collected: 04/28/18 11:40
Date Received: 05/25/18 12:40

Lab Sample ID: 580-77608-12

Matrix: Solid
Percent Solids: 62.3

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	0.14	B	0.0040	0.00084	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,4,6,7,8-HpCDF	0.021	B	0.0040	0.00019	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,4,7,8,9-HpCDF	0.0022	J B	0.0040	0.00033	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,4,7,8-HxCDD	0.0012	J B	0.0040	0.000075	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,4,7,8-HxCDF	0.0030	J B	0.0040	0.00013	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,6,7,8-HxCDD	0.0061	B	0.0040	0.000073	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,6,7,8-HxCDF	0.0017	J B	0.0040	0.00012	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,7,8,9-HxCDD	0.0027	J B	0.0040	0.000066	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,7,8,9-HxCDF	0.00068	J B	0.0040	0.000089	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,7,8-PeCDD	0.00078	J B	0.0040	0.00011	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
1,2,3,7,8-PeCDF	0.00088	J B	0.0040	0.00018	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
2,3,4,6,7,8-HxCDF	0.00083	J B	0.0040	0.000099	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
2,3,4,7,8-PeCDF	0.00097	J B	0.0040	0.00020	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
2,3,7,8-TCDD	0.00097	B	0.00080	0.000028	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
OCDD	1.7	B	0.0080	0.00029	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1
OCDF	0.051	B	0.0080	0.000051	ug/Kg	☼	06/13/18 10:32	06/17/18 21:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*49*		*23 - 140*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*28 - 143*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*35*		*26 - 138*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,4,7,8-HxCDD	*77*		*32 - 141*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*26 - 152*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*28 - 130*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*25 - 181*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*24 - 185*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*28 - 136*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-2,3,4,7,8-PeCDF	*64*		*21 - 178*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-2,3,7,8-TCDD	*64*		*25 - 164*	*06/13/18 10:32*	*06/17/18 21:27*	*1*
13C-OCDD	*48*		*17 - 157*	*06/13/18 10:32*	*06/17/18 21:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*112*		*35 - 197*	*06/13/18 10:32*	*06/17/18 21:27*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.0015	B	0.00080	0.00013	ug/Kg	☼	06/13/18 10:32	06/19/18 21:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*74*		*24 - 169*	*06/13/18 10:32*	*06/19/18 21:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*104*		*35 - 197*	*06/13/18 10:32*	*06/19/18 21:26*	*1*

Client Sample ID: PDI-SG-B409-BL1
Date Collected: 04/29/18 11:15
Date Received: 05/25/18 12:40

Lab Sample ID: 580-77608-13
Matrix: Solid
Percent Solids: 81.9

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	0.018	B	0.0030	0.00013	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,4,6,7,8-HpCDF	0.0019	J q B	0.0030	0.000039	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,4,7,8,9-HpCDF	0.00046	J q B	0.0030	0.000048	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,4,7,8-HxCDD	0.00031	J B	0.0030	0.000018	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,4,7,8-HxCDF	0.00018	J B	0.0030	0.000034	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,6,7,8-HxCDD	0.00053	J q B	0.0030	0.000019	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,6,7,8-HxCDF	0.00011	J B	0.0030	0.000032	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,7,8,9-HxCDD	0.0010	J B	0.0030	0.000017	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,7,8,9-HxCDF	0.00057	J B	0.0030	0.000023	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,7,8-PeCDD	0.00024	J q B	0.0030	0.000023	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
1,2,3,7,8-PeCDF	0.00012	J q B	0.0030	0.000017	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
2,3,4,6,7,8-HxCDF	0.000082	J B	0.0030	0.000024	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
2,3,4,7,8-PeCDF	0.000094	J B	0.0030	0.000018	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
2,3,7,8-TCDD	0.00010	J q B	0.00061	0.000014	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
2,3,7,8-TCDF	0.00017	J B	0.00061	0.000014	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
OCDD	0.29	B	0.0061	0.000094	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1
OCDF	0.0055	J B	0.0061	0.000030	ug/Kg	☼	06/13/18 10:32	06/17/18 22:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*51*		*23 - 140*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*46*		*28 - 143*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*50*		*26 - 138*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*65*		*32 - 141*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*64*		*26 - 152*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*54*		*28 - 130*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*57*		*26 - 123*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,7,8,9-HxCDF	*63*		*29 - 147*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,7,8-PeCDD	*49*		*25 - 181*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-1,2,3,7,8-PeCDF	*56*		*24 - 185*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-2,3,4,6,7,8-HxCDF	*65*		*28 - 136*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-2,3,4,7,8-PeCDF	*58*		*21 - 178*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-2,3,7,8-TCDD	*57*		*25 - 164*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-2,3,7,8-TCDF	*66*		*24 - 169*	*06/13/18 10:32*	*06/17/18 22:15*	*1*
13C-OCDD	*50*		*17 - 157*	*06/13/18 10:32*	*06/17/18 22:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*114*		*35 - 197*	*06/13/18 10:32*	*06/17/18 22:15*	*1*

Client Sample ID: PDI-SG-B414-BL1
Date Collected: 04/30/18 12:35
Date Received: 05/25/18 12:40

Lab Sample ID: 580-77608-14
Matrix: Solid
Percent Solids: 54.9

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	0.079	B	0.0045	0.00045	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,4,6,7,8-HpCDF	0.0089	B	0.0045	0.00027	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,4,7,8,9-HpCDF	0.0011	J B	0.0045	0.00015	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,4,7,8-HxCDD	0.0013	J B	0.0045	0.000053	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,4,7,8-HxCDF	0.00096	J B	0.0045	0.00012	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,6,7,8-HxCDD	0.0044	J B	0.0045	0.000061	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,6,7,8-HxCDF	0.00068	J B	0.0045	0.00011	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,7,8,9-HxCDD	0.0027	J B	0.0045	0.000051	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,7,8,9-HxCDF	0.0010	J B	0.0045	0.00011	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,7,8-PeCDD	0.00056	J B	0.0045	0.00010	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
1,2,3,7,8-PeCDF	0.00047	J B	0.0045	0.000096	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
2,3,4,6,7,8-HxCDF	0.00046	J B	0.0045	0.00011	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
2,3,4,7,8-PeCDF	0.00034	J q B	0.0045	0.00011	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
2,3,7,8-TCDD	0.00032	J q B	0.00090	0.000032	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
2,3,7,8-TCDF	0.00077	J B	0.00090	0.000061	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
OCDD	0.67	B	0.0090	0.00032	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1
OCDF	0.014	B	0.0090	0.00010	ug/Kg	☼	06/13/18 10:32	06/17/18 23:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*42*		*23 - 140*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*30*		*28 - 143*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*38*		*26 - 138*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*32 - 141*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,4,7,8-HxCDF	*104*		*26 - 152*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*28 - 130*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*26 - 123*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,7,8,9-HxCDF	*69*		*29 - 147*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,7,8-PeCDD	*57*		*25 - 181*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-1,2,3,7,8-PeCDF	*60*		*24 - 185*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-2,3,4,6,7,8-HxCDF	*84*		*28 - 136*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-2,3,4,7,8-PeCDF	*60*		*21 - 178*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-2,3,7,8-TCDD	*60*		*25 - 164*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*06/13/18 10:32*	*06/17/18 23:03*	*1*
13C-OCDD	*32*		*17 - 157*	*06/13/18 10:32*	*06/17/18 23:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*114*		*35 - 197*	*06/13/18 10:32*	*06/17/18 23:03*	*1*

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

Lab Sample ID: MB 320-228845/1-A
Matrix: Solid
Analysis Batch: 229417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228845

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.000207	J	0.0050	0.000011	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,4,6,7,8-HpCDF	0.000210	J	0.0050	0.000022	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,4,7,8,9-HpCDF	0.000642	J	0.0050	0.000028	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,4,7,8-HxCDD	0.000181	J	0.0050	0.000014	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,4,7,8-HxCDF	0.000170	J	0.0050	0.000023	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,6,7,8-HxCDD	0.000105	J q	0.0050	0.000014	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,6,7,8-HxCDF	0.0000830	J q	0.0050	0.000021	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,7,8,9-HxCDD	0.000123	J	0.0050	0.000013	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,7,8,9-HxCDF	0.000799	J	0.0050	0.000016	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,7,8-PeCDD	0.0000809	J q	0.0050	0.000019	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
1,2,3,7,8-PeCDF	0.000188	J	0.0050	0.000017	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
2,3,4,6,7,8-HxCDF	0.0000677	J q	0.0050	0.000016	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
2,3,4,7,8-PeCDF	0.0000902	J	0.0050	0.000019	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
2,3,7,8-TCDD	0.000145	J q	0.0010	0.000016	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
2,3,7,8-TCDF	0.000115	J q	0.0010	0.000013	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
OCDD	0.000817	J	0.010	0.000015	ug/Kg		06/13/18 10:32	06/17/18 16:36	1
OCDF	0.000378	J	0.010	0.000013	ug/Kg		06/13/18 10:32	06/17/18 16:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*71*		*23 - 140*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*70*		*28 - 143*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*73*		*26 - 138*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,4,7,8-HxCDD	*74*		*32 - 141*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*26 - 152*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*28 - 130*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*26 - 123*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*29 - 147*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*24 - 185*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*28 - 136*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-2,3,4,7,8-PeCDF	*69*		*21 - 178*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-2,3,7,8-TCDF	*77*		*24 - 169*	*06/13/18 10:32*	*06/17/18 16:36*	*1*
13C-OCDD	*71*		*17 - 157*	*06/13/18 10:32*	*06/17/18 16:36*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*115*		*35 - 197*	*06/13/18 10:32*	*06/17/18 16:36*	*1*

Lab Sample ID: LCS 320-228845/2-A
Matrix: Solid
Analysis Batch: 229417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228845

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,4,6,7,8-HpCDD	0.100	0.110		ug/Kg		110	70 - 140
1,2,3,4,6,7,8-HpCDF	0.100	0.110		ug/Kg		110	82 - 122
1,2,3,4,7,8,9-HpCDF	0.100	0.107		ug/Kg		107	78 - 138
1,2,3,4,7,8-HxCDD	0.100	0.110		ug/Kg		110	70 - 164
1,2,3,4,7,8-HxCDF	0.100	0.108		ug/Kg		108	72 - 134

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

Lab Sample ID: LCS 320-228845/2-A
Matrix: Solid
Analysis Batch: 229417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228845

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,6,7,8-HxCDD	0.100	0.107		ug/Kg		107	76 - 134
1,2,3,6,7,8-HxCDF	0.100	0.109		ug/Kg		109	84 - 130
1,2,3,7,8,9-HxCDD	0.100	0.155		ug/Kg		155	64 - 162
1,2,3,7,8,9-HxCDF	0.100	0.108		ug/Kg		108	78 - 130
1,2,3,7,8-PeCDD	0.100	0.109		ug/Kg		109	70 - 142
1,2,3,7,8-PeCDF	0.100	0.111		ug/Kg		111	80 - 134
2,3,4,6,7,8-HxCDF	0.100	0.107		ug/Kg		107	70 - 156
2,3,4,7,8-PeCDF	0.100	0.115		ug/Kg		115	68 - 160
2,3,7,8-TCDD	0.0200	0.0246		ug/Kg		123	67 - 158
2,3,7,8-TCDF	0.0200	0.0218		ug/Kg		109	75 - 158
OCDD	0.200	0.214		ug/Kg		107	78 - 144
OCDF	0.200	0.211		ug/Kg		105	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-1,2,3,4,6,7,8-HpCDD	*71*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*60*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*74*		*20 - 186*
13C-1,2,3,4,7,8-HxCDD	*50*		*21 - 193*
13C-1,2,3,4,7,8-HxCDF	*56*		*19 - 202*
13C-1,2,3,6,7,8-HxCDD	*52*		*25 - 163*
13C-1,2,3,6,7,8-HxCDF	*55*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*78*		*17 - 205*
13C-1,2,3,7,8-PeCDD	*65*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*69*		*21 - 192*
13C-2,3,4,6,7,8-HxCDF	*74*		*22 - 176*
13C-2,3,4,7,8-PeCDF	*50*		*13 - 328*
13C-2,3,7,8-TCDD	*66*		*20 - 175*
13C-2,3,7,8-TCDF	*76*		*22 - 152*
13C-OCDD	*73*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*113*		*31 - 191*

Lab Sample ID: LCSD 320-228845/3-A
Matrix: Solid
Analysis Batch: 229417

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 228845

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,6,7,8-HpCDD	0.100	0.109		ug/Kg		109	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF	0.100	0.109		ug/Kg		109	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF	0.100	0.106		ug/Kg		106	78 - 138	1	50
1,2,3,4,7,8-HxCDD	0.100	0.110		ug/Kg		110	70 - 164	0	50
1,2,3,4,7,8-HxCDF	0.100	0.105		ug/Kg		105	72 - 134	3	50
1,2,3,6,7,8-HxCDD	0.100	0.108		ug/Kg		108	76 - 134	1	50
1,2,3,6,7,8-HxCDF	0.100	0.107		ug/Kg		107	84 - 130	1	50
1,2,3,7,8,9-HxCDD	0.100	0.117		ug/Kg		117	64 - 162	28	50
1,2,3,7,8,9-HxCDF	0.100	0.108		ug/Kg		108	78 - 130	0	50
1,2,3,7,8-PeCDD	0.100	0.107		ug/Kg		107	70 - 142	2	50

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

Lab Sample ID: LCSD 320-228845/3-A
Matrix: Solid
Analysis Batch: 229417

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 228845

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,7,8-PeCDF			0.100	0.111		ug/Kg		111	80 - 134	1	50
2,3,4,6,7,8-HxCDF			0.100	0.107		ug/Kg		107	70 - 156	0	50
2,3,4,7,8-PeCDF			0.100	0.109		ug/Kg		109	68 - 160	6	50
2,3,7,8-TCDD			0.0200	0.0230		ug/Kg		115	67 - 158	7	50
2,3,7,8-TCDF			0.0200	0.0217		ug/Kg		108	75 - 158	1	50
OCDD			0.200	0.212		ug/Kg		106	78 - 144	1	50
OCDF			0.200	0.205		ug/Kg		102	63 - 170	3	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*75*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*78*		*20 - 186*
13C-1,2,3,4,7,8-HxCDD	*79*		*21 - 193*
13C-1,2,3,4,7,8-HxCDF	*84*		*19 - 202*
13C-1,2,3,6,7,8-HxCDD	*67*		*25 - 163*
13C-1,2,3,6,7,8-HxCDF	*74*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*81*		*17 - 205*
13C-1,2,3,7,8-PeCDD	*69*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*72*		*21 - 192*
13C-2,3,4,6,7,8-HxCDF	*80*		*22 - 176*
13C-2,3,4,7,8-PeCDF	*73*		*13 - 328*
13C-2,3,7,8-TCDD	*70*		*20 - 175*
13C-2,3,7,8-TCDF	*81*		*22 - 152*
13C-OCDD	*78*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*116*		*31 - 191*

Lab Chronicle

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

TestAmerica Job ID: 580-77608-2

Client Sample ID: PDI-SG-B405-BL1

Lab Sample ID: 580-77608-12
Date Collected: 04/28/18 11:40
Matrix: Solid
Date Received: 05/25/18 12:40
Percent Solids: 62.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox	RA		228845	06/13/18 10:32	SR1	TAL SAC
Total/NA	Analysis	1613B	RA	1	229942	06/19/18 21:26	KSS	TAL SAC
Total/NA	Prep	HRMS-Sox			228845	06/13/18 10:32	SR1	TAL SAC
Total/NA	Analysis	1613B		1	229417	06/17/18 21:27	AS	TAL SAC

Client Sample ID: PDI-SG-B409-BL1

Lab Sample ID: 580-77608-13
Date Collected: 04/29/18 11:15
Matrix: Solid
Date Received: 05/25/18 12:40
Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			228845	06/13/18 10:32	SR1	TAL SAC
Total/NA	Analysis	1613B		1	229417	06/17/18 22:15	AS	TAL SAC

Client Sample ID: PDI-SG-B414-BL1

Lab Sample ID: 580-77608-14
Date Collected: 04/30/18 12:35
Matrix: Solid
Date Received: 05/25/18 12:40
Percent Solids: 54.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			228845	06/13/18 10:32	SR1	TAL SAC
Total/NA	Analysis	1613B		1	229417	06/17/18 23:03	AS	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: 580-77608-2
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	10-31-18
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
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	08-31-18
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
L-A-B	DoD ELAP		L2468	01-20-21
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	07-31-18
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

Sample Summary

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

TestAmerica Job ID: 580-77608-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-77608-12	PDI-SG-B405-BL1	Solid	04/28/18 11:40	05/25/18 12:40
580-77608-13	PDI-SG-B409-BL1	Solid	04/29/18 11:15	05/25/18 12:40
580-77608-14	PDI-SG-B414-BL1	Solid	04/30/18 12:35	05/25/18 12:40

580-77608 Chain of Custody

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica-Seattle	
5755-8th-Street-East	
Tacoma, WA 98424-1317	
Ph: 253-922-2310 Fax: 253-922-5047	
Client Contact	**Project Contact: Amy Dahl / Chelsey Cook**
AECOM	**Tel: (206) 438-2261 / (206) 438-2010**
1111 3rd Ave Suite 1600	**Analysis Turnaround Time**
Seattle, WA 98101	Calendar (C) or Work Days (W) _____
Phone: (206) 438-2700 Fax: 1+(866) 495-5288	☐ 21 days
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other _____
Portland, OR	
Project #: 60566335 Study: Surface Sediment	

Site Contact: Jennifer Ray / Michaela McCoog
Laboratory Contact: Elaine-Walker
Carrier: courier
5/25/2018
COC No: 4
2 of 2 pages

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	Hold -20 C	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060	Sample Specific Notes:
PDI-SG-B405-BL1	4/28/2018	11:40	SS			6		x	H	H	H	H	H	Frozen 5/1/18 09:00
PDI-SG-B409-BL1	4/29/2018	11:15	SS			6		x	H	H	H	H	H	Frozen 5/1/18 09:00
PDI-SG-B414-BL1	4/30/2018	12:35	SS			6		x	H	H	H	H	H	Frozen 5/1/18 09:00

Analyze per AECOM 6/7/18 EW

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

Sample Disposal
☐ Return To Client X Disposal By Lab X Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Please hold in freezer pending approval of analyses marked H.
Separate reports for each lab when analyzed

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by: Michael McCoy	AECOM	5-25-18	Received by:	M-E	5-25-18 1200
Relinquished by:	M-E	5-25-18 1240	Received by:	TAPOR	5/25/18 1240
Relinquished by:	TA-POR	5/25/18 1700	Received by: B Hall	SRA TR	5/30/18 0910

6/22/2018

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-56129.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: elaine.walker@testamericainc.com	State of Origin: Oregon	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 580-77608-2
Address: 880 Riverside Parkway,	Due Date Requested: 6/25/2018			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Portland Harbor Pre-Remedial Design	Project #: 58012120			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/HRMS_Sox_P (MOD) Full List w/o Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PDI-SG-B405-BL1 (580-77608-12)	4/28/18	11:40 Pacific		Solid			X	2	
PDI-SG-B409-BL1 (580-77608-13)	4/29/18	11:15 Pacific		Solid			X	2	
PDI-SG-B414-BL1 (580-77608-14)	4/30/18	12:35 Pacific		Solid			X	2	

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.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Tom Sherman	Date/Time: 6/11/18	Company TA-Sea	Received by: Dan Hu	Date/Time: 6/12/18 920	Company TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.66

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-77608-2

Login Number: 77608
List Number: 1
Creator: Gonzales, Steve

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	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: 580-77608-2

Login Number: 77608
List Number: 3
Creator: Gooch, Mayce

List Source: TestAmerica Sacramento
List Creation: 06/12/18 01:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	506408
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	0.6c
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 <6mm (1/4").	N/A	
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

580-77608 Field Sheet

Job:_____

Tracking # 4463 1752 5156 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 K Wet K Gel _____ Other _____

Cooler Custody Seal: 506409

Sample Custody Seal: _____

Cooler ID: _____

Temp: Observed 0.6c

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: DH Date: 6/12/18 Time 920

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

F2 D in High Res

Isotope Dilution Summary

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

TestAmerica Job ID: 580-77608-2

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

Matrix: Solid **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)
580-77608-12	PDI-SG-B405-BL1	49	48	35	77	80	61	74	73
580-77608-12 - RA	PDI-SG-B405-BL1								
580-77608-13	PDI-SG-B409-BL1	51	46	50	65	64	54	57	63
580-77608-14	PDI-SG-B414-BL1	42	30	38	80	104	59	82	69
MB 320-228845/1-A	Method Blank	71	70	73	74	79	67	72	77

		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)
580-77608-12	PDI-SG-B405-BL1	62	65	79	64	64		48
580-77608-12 - RA	PDI-SG-B405-BL1						74	
580-77608-13	PDI-SG-B409-BL1	49	56	65	58	57	66	50
580-77608-14	PDI-SG-B414-BL1	57	60	84	60	60	70	32
MB 320-228845/1-A	Method Blank	65	69	79	69	69	77	71

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: Solid **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 320-228845/2-A	Lab Control Sample	71	60	74	50	56	52	55	78
LCSD 320-228845/3-A	Lab Control Sample Dup	75	75	78	79	84	67	74	81

		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 320-228845/2-A	Lab Control Sample	65	69	74	50	66	76	73
LCSD 320-228845/3-A	Lab Control Sample Dup	69	72	80	73	70	81	78

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

Isotope Dilution Summary

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

TestAmerica Job ID: 580-77608-2

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

Walker, M Elaine

From: Dahl, Amy <amy.dahl@aecom.com>
Sent: Thursday, June 07, 2018 12:57 PM
To: Cook, Chelsey; Presley, Kim
Cc: Walker, M Elaine; Ray, Jennifer
Subject: Portland Harbor: holding samples authorized for analysis

[redacted]

Hi Elaine, the 14 samples tabulated below previously frozen and submitted on 5/25/18 to be held frozen are authorized by EPA for analysis. Please take them off hold, noting on the COCs "analyze per AECOM 6/7/18". Please send sample confirmations.

PDI-SG-B405-BL1
PDI-SG-B409-BL1
PDI-SG-B414-BL1
PDI-SG-S010
PDI-SG-S078
PDI-SG-S084
PDI-SG-S090
PDI-SG-S097
PDI-SG-S115
PDI-SG-S147
PDI-SG-S204
PDI-SG-S255
PDI-SG-S135
PDI-SG-S157

Thank you,

PRIVILEGED AND CONFIDENTIAL / JOINT DEFENSE COMMUNICATION / ATTORNEY CLIENT WORK PRODUCT

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amy.dahl@aecom.com

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Seattle, WA 98101, United States
T +1-206-438-2700
aecom.com

From: Cook, Chelsey
Sent: Tuesday, June 05, 2018 9:43 AM
To: Presley, Kim; Dahl, Amy
Cc: Walker, M Elaine
Subject: RE: TestAmerica Seattle sample confirmation files from 580-77608-2 Portland Harbor Pre-Remedial Design

Hi Kim,

It looks like the SRS samples are -2 and the SMA samples are -3, but we need them to be on different lab groups all together.

For all of the data we have so far, the dashes on the lab group numbers have indicated the different labs (and different data). When we end up analyzing these samples we want the data reported with different lab groups, and the -1 to be the Wa lab, -2 Sacramento, and -3 Knoxville.

Can we log them in separate lab groups all together?

Thanks,

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

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

From: Presley, Kim [mailto:Kim.Presley@testamericainc.com]
Sent: Monday, June 04, 2018 4:30 PM
To: Cook, Chelsey; Dahl, Amy
Cc: Walker, M Elaine
Subject: RE: TestAmerica Seattle sample confirmation files from 580-77608-2 Portland Harbor Pre-Remedial Design

Hi Chelsey,

I split the SMA samples and the COCs from the others and resent the conf for 580-77608-2 as well as the new job 580-77608-3.

KIM A PRESLEY
Project Management Assistant

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East
Tacoma, WA 98424
Tel: 253.922.2310
www.testamericainc.com

From: Cook, Chelsey [mailto:Chelsey.Cook@aecom.com]
Sent: Monday, June 04, 2018 4:17 PM
To: Presley, Kim; Dahl, Amy
Cc: Walker, M Elaine
Subject: RE: TestAmerica Seattle sample confirmation files from 580-77608-2 Portland Harbor Pre-Remedial Design

-External Email-

Hi Kim,

The two sample types should be on separate work orders. Could you please split them and send revised acknowledgments?

Thanks,

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

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

From: Presley, Kim [mailto:kim.presley@testamericainc.com]
Sent: Monday, June 04, 2018 1:21 PM
To: Dahl, Amy; Cook, Chelsey; Mixon, Karen
Subject: TestAmerica Seattle sample confirmation files from 580-77608-2 Portland Harbor Pre-Remedial Design

Hello,

Attached please find the Seattle sample confirmation files for job 580-77608-2; Portland Harbor Pre-Remedial Design

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

Thank you.

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

KIM A PRESLEY
Project Manager Assistant

TestAmerica Seattle
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 253.922.2310
www.testamericainc.com

Reference: [245209]
Attachments: 2