

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

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TestAmerica Job ID: 580-79057-1

Client Project/Site: Portland Harbor Pre-Remedial Design

For:

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Authorized for release by:  
8/15/2018 12:49:55 PM

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

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

TestAmerica Job ID: 580-79057-1

**Job ID: 580-79057-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### CASE NARRATIVE

Client: AECOM

Project: Portland Harbor Pre-Remedial Design

Report Number: 580-79057-1

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**

Six samples were received on 7/23/2018 2:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.4° C and 2.6° C.

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

This report contains results of all analyses requested on a rush TAT and performed by TestAmerica Seattle.

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. Samples PDI-SC-S022- 0 to 1.8, PDI-SC-S022- 1.8 to 4, PDI-SC-S022- 4 to 5.2, PDI-SC-S033- 0 to 2, PDI-SC-S033- 2 to 3, PDI-SC-S033- 3 to 4 are documented on the COC, but we received no containers for these samples. These samples have not been logged in. Client confirmed that these samples were received in an earlier shipment.

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.

#### **SEMIVOLATILE ORGANIC COMPOUNDS - SELECTED ION MODE (SIM)**

**Samples PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3), PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5) and PDI-SC-S022-4to6 (580-79057-6) were analyzed for semivolatile organic compounds - Selected Ion Mode (SIM) in accordance with SW846 8270D\_SIM. The samples were prepared on 07/27/2018 and analyzed on 07/28/2018.**

Several analytes were detected in method blank MB 580-280203/1-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. Target analyte concentrations in the MB were less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Indeno[1,2,3-cd]pyrene failed the recovery criteria high for LCS 580-280203/2-A. This random marginal exceedance does not indicate a systematic control problem. Qualified results have been reported.

Samples PDI-SC-S036-0to1.4 (580-79057-1)[10X], PDI-SC-S036-1.4to3.4 (580-79057-2)[10X], PDI-SC-S036-3.4to5.2 (580-79057-3)[10X], PDI-SC-S022-0to2 (580-79057-4)[5X], PDI-SC-S022-2to4 (580-79057-5)[5X] and PDI-SC-S022-4to6 (580-79057-6)[5X] required dilution

# Case Narrative

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

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### Laboratory: TestAmerica Seattle (Continued)

prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

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

#### **POLYCHLORINATED BIPHENYLS (PCBS)**

**Samples PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3), PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5) and PDI-SC-S022-4to6 (580-79057-6) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA sw-846 method 8082A.** The samples were prepared on 07/27/2018 and 07/28/2018 and analyzed on 07/27/2018, 07/31/2018 and 08/13/2018.

Surrogate recovery for the following samples were outside control limits: PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis were not performed.

PCB-1016 and PCB-1260 failed the recovery criteria low for the MS of sample PDI-SC-S022-0to2MS (580-79057-4) in batch 580-281356. PCB-1016 and PCB-1260 failed the recovery criteria low for the MSD of sample PDI-SC-S022-0to2MSD (580-79057-4) in batch 580-281356. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The continuing calibration verification (CCV) associated with 580-280273 recovered low and outside the control limits for PCB-1248 on the confirmation column. Results are confirmed on both columns and reported from the passing column. The following samples are impacted: PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2) and (CCV 580-280273/3).

The continuing calibration verification (CCV) associated with batch 580-281356 recovered above the upper control limit for 1232, 1248 and 1242 on both the confirmation column and the primary column and 1221, 1254, 1016 and 1260 on the confirmation column only. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5), PDI-SC-S022-4to6 (580-79057-6), (CCV 580-281356/2), (CCV 580-281356/3), (CCV 580-281356/4), (CCV 580-281356/5), (580-79057-B-4-G MS) and (580-79057-B-4-H MSD).

CCB 580-281356/7 failed surrogate recovery on the confirmation column. Surrogate recovery was within limits on the primary column for the CCB. The CCV run before the CCB passed surrogate recovery. The data is reported.

The continuing calibration verification (CCV) associated with 580-281356 recovered high and outside the control limits for Tetrachloro-m-xylene. The following sample is impacted: (CCVIS 580-281356/6).

The continuing calibration verification (CCV) associated with batch 580-280527 recovered above the upper control limit for PCB-1232. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 580-280527/2).

The following sample(s) required a copper clean-up to reduce matrix interferences caused by sulfur. The copper lot number is 615040-BB. The following samples are impacted: PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3), PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5), PDI-SC-S022-4to6 (580-79057-6), (580-79057-B-4-G MS) and (580-79057-B-4-H MSD).

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

#### **TOTAL ORGANIC CARBON**

**Samples PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3), PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5) and PDI-SC-S022-4to6 (580-79057-6) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060.** The samples were analyzed on 07/27/2018.

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

#### **GRAIN SIZE**

**Samples PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3),**

# Case Narrative

Client: AECOM  
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## Job ID: 580-79057-1 (Continued)

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### Laboratory: TestAmerica Seattle (Continued)

**PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5) and PDI-SC-S022-4to6 (580-79057-6) were analyzed for grain size in accordance with ASTM D7928/D6913.** The samples were analyzed on 07/24/2018 and 07/27/2018.

Coarse Sand exceeded the RPD limit for the duplicate of sample PDI-SC-S022-0to2DU (580-79057-4).

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

### PERCENT SOLIDS

**Samples PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3), PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5) and PDI-SC-S022-4to6 (580-79057-6) were analyzed for percent solids in accordance with ASTM D2216.** The samples were analyzed on 07/24/2018 and 07/25/2018.

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

### TOTAL SOLIDS @ 70C

**Samples PDI-SC-S036-0to1.4 (580-79057-1), PDI-SC-S036-1.4to3.4 (580-79057-2), PDI-SC-S036-3.4to5.2 (580-79057-3), PDI-SC-S022-0to2 (580-79057-4), PDI-SC-S022-2to4 (580-79057-5) and PDI-SC-S022-4to6 (580-79057-6) were analyzed for Total Solids @ 70C.** The samples were analyzed on 07/29/2018.

No 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: 580-79057-1

## Qualifiers

### GC/MS Semi VOA

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.
*	LCS or LCSD is outside acceptance limits.

### GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

### General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

### Geotechnical

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

## 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: 580-79057-1

**Client Sample ID: PDI-SC-S036-0to1.4**

**Lab Sample ID: 580-79057-1**

Date Collected: 07/20/18 15:50

Matrix: Solid

Date Received: 07/23/18 14:35

Percent Solids: 52.1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	45	B	36	3.2	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Acenaphthene	67	B	36	4.3	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Acenaphthylene	27	J B	36	3.6	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Anthracene	55	B	36	4.3	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Benzo[a]anthracene	170	B	36	5.5	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Benzo[a]pyrene	230	B	36	2.9	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Benzo[b]fluoranthene	270		36	4.2	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Benzo[g,h,i]perylene	190		36	3.6	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Benzo[k]fluoranthene	100	B	36	4.3	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Chrysene	220		36	11	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Dibenz(a,h)anthracene	37		36	5.2	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Fluoranthene	320		36	10	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Fluorene	44	B	36	3.6	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Indeno[1,2,3-cd]pyrene	230	*	36	4.3	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Naphthalene	130	B	36	5.8	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Phenanthrene	270	B	36	5.0	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10
Pyrene	350	B	36	7.0	ug/Kg	☼	07/27/18 09:37	07/28/18 21:30	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	93		57 - 120	07/27/18 09:37	07/28/18 21:30	10

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		3.8	0.64	ug/Kg	☼	07/27/18 10:51	07/27/18 21:41	1
PCB-1221	ND		3.8	1.8	ug/Kg	☼	07/27/18 10:51	07/27/18 21:41	1
PCB-1232	ND		3.8	0.89	ug/Kg	☼	07/27/18 10:51	07/27/18 21:41	1
PCB-1242	ND		3.8	0.92	ug/Kg	☼	07/27/18 10:51	07/27/18 21:41	1
PCB-1248	ND		3.8	0.30	ug/Kg	☼	07/27/18 10:51	07/27/18 21:41	1
PCB-1254	ND		3.8	1.5	ug/Kg	☼	07/27/18 10:51	07/27/18 21:41	1
PCB-1260	11		3.8	0.64	ug/Kg	☼	07/27/18 10:51	07/27/18 21:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50	X	54 - 142	07/27/18 10:51	07/27/18 21:41	1
Tetrachloro-m-xylene	54	X	58 - 122	07/27/18 10:51	07/27/18 21:41	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	20000		2000	44	mg/Kg			07/27/18 12:38	1
Total Solids	52.1		0.1	0.1	%			07/25/18 14:27	1
Total Solids @ 70°C	53	H	0.10	0.10	%			07/29/18 10:03	1

## Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			07/24/18 15:36	1
Coarse Sand	0.2				%			07/24/18 15:36	1
Medium Sand	1.7				%			07/24/18 15:36	1
Fine Sand	23.2				%			07/24/18 15:36	1
Silt	61.9				%			07/24/18 15:36	1
Clay	13.0				%			07/24/18 15:36	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-79057-1

**Client Sample ID: PDI-SC-S036-1.4to3.4**

**Lab Sample ID: 580-79057-2**

Date Collected: 07/20/18 15:55

Matrix: Solid

Date Received: 07/23/18 14:35

Percent Solids: 64.9

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	170	B	29	2.6	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Acenaphthene	280	B	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Acenaphthylene	48	B	29	2.9	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Anthracene	150	B	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Benzo[a]anthracene	570	B	29	4.5	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Benzo[a]pyrene	730	B	29	2.3	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Benzo[b]fluoranthene	740		29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Benzo[g,h,i]perylene	550		29	2.9	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Benzo[k]fluoranthene	300	B	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Chrysene	770		29	8.8	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Dibenz(a,h)anthracene	87		29	4.2	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Fluoranthene	1500		29	8.2	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Fluorene	150	B	29	2.9	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Indeno[1,2,3-cd]pyrene	630	*	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Naphthalene	400	B	29	4.7	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Phenanthrene	1200	B	29	4.0	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
Pyrene	1800	B	29	5.7	ug/Kg	☼	07/27/18 09:37	07/28/18 21:52	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	68		57 - 120				07/27/18 09:37	07/28/18 21:52	10

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		3.0	0.50	ug/Kg	☼	07/27/18 10:51	07/27/18 21:59	1
PCB-1221	ND		3.0	1.4	ug/Kg	☼	07/27/18 10:51	07/27/18 21:59	1
PCB-1232	ND		3.0	0.70	ug/Kg	☼	07/27/18 10:51	07/27/18 21:59	1
PCB-1242	ND		3.0	0.73	ug/Kg	☼	07/27/18 10:51	07/27/18 21:59	1
PCB-1248	ND		3.0	0.24	ug/Kg	☼	07/27/18 10:51	07/27/18 21:59	1
PCB-1254	ND		3.0	1.2	ug/Kg	☼	07/27/18 10:51	07/27/18 21:59	1
<b>PCB-1260</b>	<b>21</b>		3.0	0.50	ug/Kg	☼	07/27/18 10:51	07/27/18 21:59	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl	52	X	54 - 142				07/27/18 10:51	07/27/18 21:59	1
Tetrachloro-m-xylene	29	X	58 - 122				07/27/18 10:51	07/27/18 21:59	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	11000		2000	44	mg/Kg			07/27/18 12:43	1
Total Solids	64.9		0.1	0.1	%			07/24/18 17:09	1
Total Solids @ 70°C	68	H	0.10	0.10	%			07/29/18 10:03	1

## Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			07/24/18 15:36	1
Coarse Sand	2.9				%			07/24/18 15:36	1
Medium Sand	14.2				%			07/24/18 15:36	1
Fine Sand	45.8				%			07/24/18 15:36	1
Silt	31.1				%			07/24/18 15:36	1
Clay	6.1				%			07/24/18 15:36	1

TestAmerica Seattle



# Client Sample Results

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

TestAmerica Job ID: 580-79057-1

**Client Sample ID: PDI-SC-S036-3.4to5.2**

**Lab Sample ID: 580-79057-3**

Date Collected: 07/20/18 16:00

Matrix: Solid

Date Received: 07/23/18 14:35

Percent Solids: 63.1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	390	B	29	2.6	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Acenaphthene	720	B	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Acenaphthylene	220	B	29	2.9	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Anthracene	590	B	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Benzo[a]anthracene	1800	B	29	4.4	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Benzo[a]pyrene	2400	B	29	2.3	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Benzo[b]fluoranthene	2000	B	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Benzo[g,h,i]perylene	1900	B	29	2.9	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Benzo[k]fluoranthene	600	B	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Chrysene	2300	B	29	8.8	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Dibenz(a,h)anthracene	230	B	29	4.2	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Fluoranthene	4700	B	29	8.2	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Fluorene	490	B	29	2.9	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Indeno[1,2,3-cd]pyrene	2100	*	29	3.5	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Naphthalene	1500	B	29	4.7	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Phenanthrene	4200	B	29	4.0	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10
Pyrene	6300	B	29	5.7	ug/Kg	☼	07/27/18 09:37	07/28/18 22:14	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	69		57 - 120	07/27/18 09:37	07/28/18 22:14	10

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		3.1	0.53	ug/Kg	☼	07/27/18 10:51	07/31/18 23:56	1
PCB-1221	ND		3.1	1.5	ug/Kg	☼	07/27/18 10:51	07/31/18 23:56	1
PCB-1232	ND		3.1	0.74	ug/Kg	☼	07/27/18 10:51	07/31/18 23:56	1
PCB-1242	ND		3.1	0.77	ug/Kg	☼	07/27/18 10:51	07/31/18 23:56	1
PCB-1248	ND		3.1	0.25	ug/Kg	☼	07/27/18 10:51	07/31/18 23:56	1
PCB-1254	85		3.1	1.2	ug/Kg	☼	07/27/18 10:51	07/31/18 23:56	1
PCB-1260	ND		3.1	0.53	ug/Kg	☼	07/27/18 10:51	07/31/18 23:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	150	X	54 - 142	07/27/18 10:51	07/31/18 23:56	1
Tetrachloro-m-xylene	57	X	58 - 122	07/27/18 10:51	07/31/18 23:56	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	23000		2000	44	mg/Kg			07/27/18 12:49	1
Total Solids	63.1		0.1	0.1	%			07/24/18 17:09	1
Total Solids @ 70°C	62	H	0.10	0.10	%			07/29/18 10:03	1

## Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	1.0				%			07/24/18 15:36	1
Coarse Sand	1.4				%			07/24/18 15:36	1
Medium Sand	13.9				%			07/24/18 15:36	1
Fine Sand	40.1				%			07/24/18 15:36	1
Silt	37.0				%			07/24/18 15:36	1
Clay	6.6				%			07/24/18 15:36	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-79057-1

**Client Sample ID: PDI-SC-S022-0to2**

**Lab Sample ID: 580-79057-4**

Date Collected: 07/20/18 13:30

Matrix: Solid

Date Received: 07/23/18 14:35

Percent Solids: 67.4

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	1.5	J B	7.2	0.65	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Acenaphthene	1.1	J B	7.2	0.87	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Acenaphthylene	0.90	J B	7.2	0.72	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Anthracene	3.3	J B	7.2	0.87	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Benzo[a]anthracene	5.2	J B	7.2	1.1	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Benzo[a]pyrene	ND		7.2	0.58	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Benzo[b]fluoranthene	ND		7.2	0.85	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Benzo[g,h,i]perylene	3.7	J	7.2	0.72	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Benzo[k]fluoranthene	ND		7.2	0.87	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Chrysene	4.4	J	7.2	2.2	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Dibenz(a,h)anthracene	ND		7.2	1.0	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Fluoranthene	6.6	J	7.2	2.0	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Fluorene	2.0	J B	7.2	0.72	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Indeno[1,2,3-cd]pyrene	3.1	J *	7.2	0.87	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Naphthalene	2.8	J B	7.2	1.2	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Phenanthrene	13	B	7.2	1.0	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
Pyrene	24	B	7.2	1.4	ug/Kg	☼	07/27/18 09:37	07/28/18 22:36	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	79		57 - 120				07/27/18 09:37	07/28/18 22:36	5

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	F1	2.9	0.50	ug/Kg	☼	07/28/18 09:59	08/13/18 17:32	1
PCB-1221	ND		2.9	1.4	ug/Kg	☼	07/28/18 09:59	08/13/18 17:32	1
PCB-1232	ND		2.9	0.69	ug/Kg	☼	07/28/18 09:59	08/13/18 17:32	1
PCB-1242	ND		2.9	0.72	ug/Kg	☼	07/28/18 09:59	08/13/18 17:32	1
PCB-1248	ND		2.9	0.23	ug/Kg	☼	07/28/18 09:59	08/13/18 17:32	1
PCB-1254	ND		2.9	1.2	ug/Kg	☼	07/28/18 09:59	08/13/18 17:32	1
PCB-1260	ND	F1	2.9	0.50	ug/Kg	☼	07/28/18 09:59	08/13/18 17:32	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl	59		54 - 142				07/28/18 09:59	08/13/18 17:32	1
Tetrachloro-m-xylene	70		58 - 122				07/28/18 09:59	08/13/18 17:32	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	9100		2000	44	mg/Kg			07/27/18 12:55	1
Total Solids	67.4		0.1	0.1	%			07/24/18 17:09	1
Total Solids @ 70°C	68	H	0.10	0.10	%			07/29/18 10:03	1

## Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			07/27/18 09:40	1
Coarse Sand	0.4				%			07/27/18 09:40	1
Medium Sand	5.3				%			07/27/18 09:40	1
Fine Sand	32.6				%			07/27/18 09:40	1
Silt	51.7				%			07/27/18 09:40	1
Clay	10.0				%			07/27/18 09:40	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-79057-1

**Client Sample ID: PDI-SC-S022-2to4**

**Lab Sample ID: 580-79057-5**

Date Collected: 07/20/18 13:35

Matrix: Solid

Date Received: 07/23/18 14:35

Percent Solids: 67.7

**Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		14	1.3	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Acenaphthene	ND		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Acenaphthylene	ND		14	1.4	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Anthracene	ND		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
<b>Benzo[a]anthracene</b>	<b>3.2</b>	<b>J B</b>	14	2.1	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Benzo[a]pyrene	ND		14	1.1	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Benzo[b]fluoranthene	ND		14	1.6	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Benzo[g,h,i]perylene	ND		14	1.4	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Benzo[k]fluoranthene	ND		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Chrysene	ND		14	4.2	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Dibenz(a,h)anthracene	ND		14	2.0	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Fluoranthene	ND		14	3.9	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Fluorene	ND		14	1.4	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Indeno[1,2,3-cd]pyrene	ND *		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Naphthalene	ND		14	2.2	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
<b>Phenanthrene</b>	<b>3.0</b>	<b>J B</b>	14	1.9	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5
Pyrene	ND		14	2.7	ug/Kg	☼	07/27/18 09:37	07/28/18 22:58	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		57 - 120	07/27/18 09:37	07/28/18 22:58	5

**Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.9	0.48	ug/Kg	☼	07/28/18 09:59	08/13/18 18:25	1
PCB-1221	ND		2.9	1.4	ug/Kg	☼	07/28/18 09:59	08/13/18 18:25	1
PCB-1232	ND		2.9	0.67	ug/Kg	☼	07/28/18 09:59	08/13/18 18:25	1
PCB-1242	ND		2.9	0.70	ug/Kg	☼	07/28/18 09:59	08/13/18 18:25	1
PCB-1248	ND		2.9	0.23	ug/Kg	☼	07/28/18 09:59	08/13/18 18:25	1
PCB-1254	ND		2.9	1.1	ug/Kg	☼	07/28/18 09:59	08/13/18 18:25	1
PCB-1260	ND		2.9	0.48	ug/Kg	☼	07/28/18 09:59	08/13/18 18:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	56		54 - 142	07/28/18 09:59	08/13/18 18:25	1
Tetrachloro-m-xylene	64		58 - 122	07/28/18 09:59	08/13/18 18:25	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon - Duplicates</b>	<b>6800</b>		2000	44	mg/Kg			07/27/18 13:00	1
<b>Total Solids</b>	<b>67.7</b>		0.1	0.1	%			07/24/18 17:09	1
<b>Total Solids @ 70°C</b>	<b>68</b>	<b>H</b>	0.10	0.10	%			07/29/18 10:03	1

**Method: D7928/D6913 - ASTM D7928/D6913**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Gravel</b>	<b>0.0</b>				%			07/27/18 09:40	1
<b>Coarse Sand</b>	<b>0.0</b>				%			07/27/18 09:40	1
<b>Medium Sand</b>	<b>5.2</b>				%			07/27/18 09:40	1
<b>Fine Sand</b>	<b>44.1</b>				%			07/27/18 09:40	1
<b>Silt</b>	<b>40.6</b>				%			07/27/18 09:40	1
<b>Clay</b>	<b>10.0</b>				%			07/27/18 09:40	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-79057-1

**Client Sample ID: PDI-SC-S022-4to6**

**Lab Sample ID: 580-79057-6**

**Date Collected: 07/20/18 13:40**

**Matrix: Solid**

**Date Received: 07/23/18 14:35**

**Percent Solids: 66.0**

**Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>2-Methylnaphthalene</b>	<b>1.5</b>	<b>J B</b>	14	1.3	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Acenaphthene	ND		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Acenaphthylene	ND		14	1.4	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Anthracene	ND		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
<b>Benzo[a]anthracene</b>	<b>2.5</b>	<b>J B</b>	14	2.2	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Benzo[a]pyrene	ND		14	1.1	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Benzo[b]fluoranthene	ND		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Benzo[g,h,i]perylene	ND		14	1.4	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Benzo[k]fluoranthene	ND		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Chrysene	ND		14	4.3	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Dibenz(a,h)anthracene	ND		14	2.0	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Fluoranthene	ND		14	4.0	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Fluorene	ND		14	1.4	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Indeno[1,2,3-cd]pyrene	ND *		14	1.7	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Naphthalene	ND		14	2.3	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
<b>Phenanthrene</b>	<b>2.9</b>	<b>J B</b>	14	2.0	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
Pyrene	ND		14	2.8	ug/Kg	☼	07/27/18 09:37	07/28/18 23:20	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	76		57 - 120				07/27/18 09:37	07/28/18 23:20	5

**Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.8	0.48	ug/Kg	☼	07/28/18 09:59	08/13/18 18:42	1
PCB-1221	ND		2.8	1.4	ug/Kg	☼	07/28/18 09:59	08/13/18 18:42	1
PCB-1232	ND		2.8	0.67	ug/Kg	☼	07/28/18 09:59	08/13/18 18:42	1
PCB-1242	ND		2.8	0.70	ug/Kg	☼	07/28/18 09:59	08/13/18 18:42	1
PCB-1248	ND		2.8	0.23	ug/Kg	☼	07/28/18 09:59	08/13/18 18:42	1
PCB-1254	ND		2.8	1.1	ug/Kg	☼	07/28/18 09:59	08/13/18 18:42	1
PCB-1260	ND		2.8	0.48	ug/Kg	☼	07/28/18 09:59	08/13/18 18:42	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl	67		54 - 142				07/28/18 09:59	08/13/18 18:42	1
Tetrachloro-m-xylene	73		58 - 122				07/28/18 09:59	08/13/18 18:42	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon - Duplicates</b>	<b>8900</b>		2000	44	mg/Kg			07/27/18 13:05	1
<b>Total Solids</b>	<b>66.0</b>		0.1	0.1	%			07/24/18 17:09	1
<b>Total Solids @ 70°C</b>	<b>67</b>	<b>H</b>	0.10	0.10	%			07/29/18 10:03	1

**Method: D7928/D6913 - ASTM D7928/D6913**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Gravel</b>	<b>0.0</b>				%			07/27/18 09:40	1
<b>Coarse Sand</b>	<b>0.0</b>				%			07/27/18 09:40	1
<b>Medium Sand</b>	<b>0.1</b>				%			07/27/18 09:40	1
<b>Fine Sand</b>	<b>34.5</b>				%			07/27/18 09:40	1
<b>Silt</b>	<b>53.1</b>				%			07/27/18 09:40	1
<b>Clay</b>	<b>12.2</b>				%			07/27/18 09:40	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-79057-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 580-280203/1-A**  
**Matrix: Solid**  
**Analysis Batch: 280309**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 280203**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.590	J	1.0	0.090	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Acenaphthene	0.237	J	1.0	0.12	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Acenaphthylene	0.160	J	1.0	0.10	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Anthracene	0.140	J	1.0	0.12	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Benzo[a]anthracene	0.203	J	1.0	0.15	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Benzo[a]pyrene	0.146	J	1.0	0.080	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Benzo[b]fluoranthene	ND		1.0	0.12	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Benzo[g,h,i]perylene	ND		1.0	0.10	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Benzo[k]fluoranthene	0.162	J	1.0	0.12	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Chrysene	ND		1.0	0.30	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Dibenz(a,h)anthracene	ND		1.0	0.14	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Fluoranthene	ND		1.0	0.28	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Fluorene	0.226	J	1.0	0.10	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Indeno[1,2,3-cd]pyrene	ND		1.0	0.12	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Naphthalene	0.391	J	1.0	0.16	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Phenanthrene	0.653	J	1.0	0.14	ug/Kg		07/27/18 09:37	07/28/18 17:48	1
Pyrene	0.212	J	1.0	0.19	ug/Kg		07/27/18 09:37	07/28/18 17:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	89		57 - 120	07/27/18 09:37	07/28/18 17:48	1

**Lab Sample ID: LCS 580-280203/2-A**  
**Matrix: Solid**  
**Analysis Batch: 280309**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 280203**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2-Methylnaphthalene	200	185		ug/Kg		92	68 - 120
Acenaphthene	200	188		ug/Kg		94	68 - 120
Acenaphthylene	200	186		ug/Kg		93	68 - 120
Anthracene	200	187		ug/Kg		94	73 - 125
Benzo[a]anthracene	200	202		ug/Kg		101	66 - 120
Benzo[a]pyrene	200	225		ug/Kg		113	72 - 124
Benzo[b]fluoranthene	200	210		ug/Kg		105	63 - 121
Benzo[g,h,i]perylene	200	223		ug/Kg		111	63 - 120
Benzo[k]fluoranthene	200	226		ug/Kg		113	63 - 123
Chrysene	200	221		ug/Kg		111	69 - 120
Dibenz(a,h)anthracene	200	247		ug/Kg		123	70 - 125
Fluoranthene	200	188		ug/Kg		94	74 - 125
Fluorene	200	191		ug/Kg		96	73 - 120
Indeno[1,2,3-cd]pyrene	200	254	*	ug/Kg		127	65 - 121
Naphthalene	200	184		ug/Kg		92	70 - 120
Phenanthrene	200	182		ug/Kg		91	73 - 120
Pyrene	200	187		ug/Kg		94	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	86		57 - 120

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-79057-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

**Lab Sample ID: MB 580-280212/1-A**  
**Matrix: Solid**  
**Analysis Batch: 280273**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 280212**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.0	0.34	ug/Kg		07/27/18 10:51	07/27/18 21:06	1
PCB-1221	ND		2.0	0.95	ug/Kg		07/27/18 10:51	07/27/18 21:06	1
PCB-1232	ND		2.0	0.47	ug/Kg		07/27/18 10:51	07/27/18 21:06	1
PCB-1242	ND		2.0	0.49	ug/Kg		07/27/18 10:51	07/27/18 21:06	1
PCB-1248	ND		2.0	0.16	ug/Kg		07/27/18 10:51	07/27/18 21:06	1
PCB-1254	ND		2.0	0.79	ug/Kg		07/27/18 10:51	07/27/18 21:06	1
PCB-1260	ND		2.0	0.34	ug/Kg		07/27/18 10:51	07/27/18 21:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	78		54 - 142				07/27/18 10:51	07/27/18 21:06	1
Tetrachloro-m-xylene	69		58 - 122				07/27/18 10:51	07/27/18 21:06	1

**Lab Sample ID: LCS 580-280212/2-A**  
**Matrix: Solid**  
**Analysis Batch: 280273**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 280212**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	10.0	8.73		ug/Kg		87	64 - 120
PCB-1260	10.0	8.95		ug/Kg		90	63 - 130
Surrogate	%Recovery	Qualifier	Limits				
DCB Decachlorobiphenyl	81		54 - 142				
Tetrachloro-m-xylene	72		58 - 122				

**Lab Sample ID: MB 580-280286/1-A**  
**Matrix: Solid**  
**Analysis Batch: 281356**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 280286**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.0	0.34	ug/Kg		07/28/18 09:59	08/13/18 16:56	1
PCB-1221	ND		2.0	0.95	ug/Kg		07/28/18 09:59	08/13/18 16:56	1
PCB-1232	ND		2.0	0.47	ug/Kg		07/28/18 09:59	08/13/18 16:56	1
PCB-1242	ND		2.0	0.49	ug/Kg		07/28/18 09:59	08/13/18 16:56	1
PCB-1248	ND		2.0	0.16	ug/Kg		07/28/18 09:59	08/13/18 16:56	1
PCB-1254	ND		2.0	0.79	ug/Kg		07/28/18 09:59	08/13/18 16:56	1
PCB-1260	ND		2.0	0.34	ug/Kg		07/28/18 09:59	08/13/18 16:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	92		54 - 142				07/28/18 09:59	08/13/18 16:56	1
Tetrachloro-m-xylene	70		58 - 122				07/28/18 09:59	08/13/18 16:56	1

**Lab Sample ID: LCS 580-280286/2-A**  
**Matrix: Solid**  
**Analysis Batch: 281356**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 280286**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	10.0	8.47		ug/Kg		85	64 - 120

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-79057-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

**Lab Sample ID: LCS 580-280286/2-A**  
**Matrix: Solid**  
**Analysis Batch: 281356**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 280286**  
**%Rec. Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1260	10.0	7.61		ug/Kg		76	63 - 130
		<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>			
<i>DCB Decachlorobiphenyl</i>		82		54 - 142			
<i>Tetrachloro-m-xylene</i>		69		58 - 122			

**Lab Sample ID: 580-79057-4 MS**  
**Matrix: Solid**  
**Analysis Batch: 281356**

**Client Sample ID: PDI-SC-S022-0to2**  
**Prep Type: Total/NA**  
**Prep Batch: 280286**  
**%Rec. Limits**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
PCB-1016	ND	F1	14.0	8.76	F1	ug/Kg	☼	63	64 - 120
PCB-1260	ND	F1	14.0	7.22	F1	ug/Kg	☼	52	63 - 130
		<b>MS %Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>					
<i>DCB Decachlorobiphenyl</i>		61		54 - 142					
<i>Tetrachloro-m-xylene</i>		70		58 - 122					

**Lab Sample ID: 580-79057-4 MSD**  
**Matrix: Solid**  
**Analysis Batch: 281356**

**Client Sample ID: PDI-SC-S022-0to2**  
**Prep Type: Total/NA**  
**Prep Batch: 280286**  
**%Rec. RPD Limit**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
PCB-1016	ND	F1	13.9	8.26	F1	ug/Kg	☼	59	64 - 120	6	21
PCB-1260	ND	F1	13.9	7.70	F1	ug/Kg	☼	55	63 - 130	6	25
		<b>MSD %Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>							
<i>DCB Decachlorobiphenyl</i>		61		54 - 142							
<i>Tetrachloro-m-xylene</i>		66		58 - 122							

## Method: 9060\_PSEP - TOC (Puget Sound)

**Lab Sample ID: MB 580-280230/3**  
**Matrix: Solid**  
**Analysis Batch: 280230**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	44	mg/Kg			07/27/18 11:09	1

**Lab Sample ID: LCS 580-280230/4**  
**Matrix: Solid**  
**Analysis Batch: 280230**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**%Rec. Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Organic Carbon - Duplicates	4270	3980		mg/Kg		93	68 - 149

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-79057-1

## Method: 9060\_PSEP - TOC (Puget Sound) (Continued)

**Lab Sample ID: LCSD 580-280230/5**  
**Matrix: Solid**  
**Analysis Batch: 280230**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	4270	4220		mg/Kg		99	68 - 149	6	32

## Method: Moisture 70C - Percent Moisture, 70 C

**Lab Sample ID: 580-79057-6 DU**  
**Matrix: Solid**  
**Analysis Batch: 280318**

**Client Sample ID: PDI-SC-S022-4to6**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Solids @ 70°C	67	H	67		%		0.6	20

## Method: D7928/D6913 - ASTM D7928/D6913

**Lab Sample ID: 580-79057-4 DU**  
**Matrix: Solid**  
**Analysis Batch: 280205**

**Client Sample ID: PDI-SC-S022-0to2**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Gravel	0.0		0.0		%		NC	20
Coarse Sand	0.4		0.3	F3	%		29	20
Medium Sand	5.3		5.4		%		2	20
Fine Sand	32.6		33.7		%		3	20
Silt	51.7		51.5		%		0.4	20
Clay	10.0		9.1		%		9	20



# Lab Chronicle

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

TestAmerica Job ID: 580-79057-1

**Client Sample ID: PDI-SC-S036-0to1.4**

**Date Collected: 07/20/18 15:50**

**Date Received: 07/23/18 14:35**

**Lab Sample ID: 580-79057-1**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	280230	07/27/18 12:38	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	280037	07/25/18 14:27	BAH	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280318	07/29/18 10:03	JSM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	279944	07/24/18 15:36	A1K	TAL SEA

**Client Sample ID: PDI-SC-S036-0to1.4**

**Date Collected: 07/20/18 15:50**

**Date Received: 07/23/18 14:35**

**Lab Sample ID: 580-79057-1**

**Matrix: Solid**

**Percent Solids: 52.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			280203	07/27/18 09:37	BAH	TAL SEA
Total/NA	Analysis	8270D SIM		10	280309	07/28/18 21:30	T1W	TAL SEA
Total/NA	Prep	3550B			280212	07/27/18 10:51	TTN	TAL SEA
Total/NA	Analysis	8082A		1	280273	07/27/18 21:41	TL1	TAL SEA

**Client Sample ID: PDI-SC-S036-1.4to3.4**

**Date Collected: 07/20/18 15:55**

**Date Received: 07/23/18 14:35**

**Lab Sample ID: 580-79057-2**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	280230	07/27/18 12:43	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	279964	07/24/18 17:09	JCM	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280318	07/29/18 10:03	JSM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	279944	07/24/18 15:36	A1K	TAL SEA

**Client Sample ID: PDI-SC-S036-1.4to3.4**

**Date Collected: 07/20/18 15:55**

**Date Received: 07/23/18 14:35**

**Lab Sample ID: 580-79057-2**

**Matrix: Solid**

**Percent Solids: 64.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			280203	07/27/18 09:37	BAH	TAL SEA
Total/NA	Analysis	8270D SIM		10	280309	07/28/18 21:52	T1W	TAL SEA
Total/NA	Prep	3550B			280212	07/27/18 10:51	TTN	TAL SEA
Total/NA	Analysis	8082A		1	280273	07/27/18 21:59	TL1	TAL SEA

**Client Sample ID: PDI-SC-S036-3.4to5.2**

**Date Collected: 07/20/18 16:00**

**Date Received: 07/23/18 14:35**

**Lab Sample ID: 580-79057-3**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	280230	07/27/18 12:49	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	279964	07/24/18 17:09	JCM	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: AECOM

TestAmerica Job ID: 580-79057-1

Project/Site: Portland Harbor Pre-Remedial Design

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture 70C		1	280318	07/29/18 10:03	JSM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	279944	07/24/18 15:36	A1K	TAL SEA

**Client Sample ID: PDI-SC-S036-3.4to5.2**

**Lab Sample ID: 580-79057-3**

Date Collected: 07/20/18 16:00

Matrix: Solid

Date Received: 07/23/18 14:35

Percent Solids: 63.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			280203	07/27/18 09:37	BAH	TAL SEA
Total/NA	Analysis	8270D SIM		10	280309	07/28/18 22:14	T1W	TAL SEA
Total/NA	Prep	3550B			280212	07/27/18 10:51	TTN	TAL SEA
Total/NA	Analysis	8082A		1	280527	07/31/18 23:56	TL1	TAL SEA

**Client Sample ID: PDI-SC-S022-0to2**

**Lab Sample ID: 580-79057-4**

Date Collected: 07/20/18 13:30

Matrix: Solid

Date Received: 07/23/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	280230	07/27/18 12:55	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	279964	07/24/18 17:09	JCM	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280318	07/29/18 10:03	JSM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	280205	07/27/18 09:40	A1K	TAL SEA

**Client Sample ID: PDI-SC-S022-0to2**

**Lab Sample ID: 580-79057-4**

Date Collected: 07/20/18 13:30

Matrix: Solid

Date Received: 07/23/18 14:35

Percent Solids: 67.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			280203	07/27/18 09:37	BAH	TAL SEA
Total/NA	Analysis	8270D SIM		5	280309	07/28/18 22:36	T1W	TAL SEA
Total/NA	Prep	3550B			280286	07/28/18 09:59	BAH	TAL SEA
Total/NA	Analysis	8082A		1	281356	08/13/18 17:32	CSC	TAL SEA

**Client Sample ID: PDI-SC-S022-2to4**

**Lab Sample ID: 580-79057-5**

Date Collected: 07/20/18 13:35

Matrix: Solid

Date Received: 07/23/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	280230	07/27/18 13:00	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	279964	07/24/18 17:09	JCM	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280318	07/29/18 10:03	JSM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	280205	07/27/18 09:40	A1K	TAL SEA

# Lab Chronicle

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

TestAmerica Job ID: 580-79057-1

## Client Sample ID: PDI-SC-S022-2to4

Date Collected: 07/20/18 13:35  
Date Received: 07/23/18 14:35

## Lab Sample ID: 580-79057-5

Matrix: Solid  
Percent Solids: 67.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			280203	07/27/18 09:37	BAH	TAL SEA
Total/NA	Analysis	8270D SIM		5	280309	07/28/18 22:58	T1W	TAL SEA
Total/NA	Prep	3550B			280286	07/28/18 09:59	BAH	TAL SEA
Total/NA	Analysis	8082A		1	281356	08/13/18 18:25	CSC	TAL SEA

## Client Sample ID: PDI-SC-S022-4to6

Date Collected: 07/20/18 13:40  
Date Received: 07/23/18 14:35

## Lab Sample ID: 580-79057-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	280230	07/27/18 13:05	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	279964	07/24/18 17:09	JCM	TAL SEA
Total/NA	Analysis	Moisture 70C		1	280318	07/29/18 10:03	JSM	TAL SEA
Total/NA	Analysis	D7928/D6913		1	280205	07/27/18 09:40	A1K	TAL SEA

## Client Sample ID: PDI-SC-S022-4to6

Date Collected: 07/20/18 13:40  
Date Received: 07/23/18 14:35

## Lab Sample ID: 580-79057-6

Matrix: Solid  
Percent Solids: 66.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			280203	07/27/18 09:37	BAH	TAL SEA
Total/NA	Analysis	8270D SIM		5	280309	07/28/18 23:20	T1W	TAL SEA
Total/NA	Prep	3550B			280286	07/28/18 09:59	BAH	TAL SEA
Total/NA	Analysis	8082A		1	281356	08/13/18 18:42	CSC	TAL SEA

### Laboratory References:

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

# Accreditation/Certification Summary

Client: AECOM

TestAmerica Job ID: 580-79057-1

Project/Site: Portland Harbor Pre-Remedial Design

## Laboratory: TestAmerica Seattle

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

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

# Sample Summary

Client: AECOM

TestAmerica Job ID: 580-79057-1

Project/Site: Portland Harbor Pre-Remedial Design

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-79057-1	PDI-SC-S036-0to1.4	Solid	07/20/18 15:50	07/23/18 14:35
580-79057-2	PDI-SC-S036-1.4to3.4	Solid	07/20/18 15:55	07/23/18 14:35
580-79057-3	PDI-SC-S036-3.4to5.2	Solid	07/20/18 16:00	07/23/18 14:35
580-79057-4	PDI-SC-S022-0to2	Solid	07/20/18 13:30	07/23/18 14:35
580-79057-5	PDI-SC-S022-2to4	Solid	07/20/18 13:35	07/23/18 14:35
580-79057-6	PDI-SC-S022-4to6	Solid	07/20/18 13:40	07/23/18 14:35







Revised

**SUBSURFACE SEDIMENT CHAIN OF CUSTODY**

West America North  
5735-8th-Street-East  
Tacoma, WA 98424-1317  
Ph: 253-922-2110 Fax: 253-922-5047

Client Contact  
AIRCUM  
1111 3rd Ave Suite 1600  
Seattle, WA 98101  
Phone: (206) 438-2700 Fax: 1+(866) 495-5288  
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling  
Portland, OR  
Project #: 60566335 Study: Subsurface Sediment  
Sample Type:

Date: 7/23/18  
Carrier: Courier  
Site Contact: Jennifer Ray / Michaela McCoug  
Laboratory Contact: Elaine-Walker

COC No. 3 of 1 pages

Sample ID	Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction			Sample Specific Notes:
								PCCD/Fs 1613B	Archive	Grain size ASTM D7928/D6913	
PDI-SC-S036	0 to 1.4	7/20/2018	15:50	SC		ED	4	X	X	X	
PDI-SC-S036	1.4 to 3.4	7/20/2018	15:55	SC		ED	4	X	X	X	
PDI-SC-S036	3.4 to 5.2	7/20/2018	16:00	SC		ED	4	X	X	X	
PDI-SC-S022	0 to 2	7/20/2018	13:30	SC		ED	4	X	X	X	
PDI-SC-S022	2 to 4	7/20/2018	13:35	SC		ED	4	X	X	X	
PDI-SC-S022	4 to 6	7/20/2018	13:40	SC		ED	4	X	X	X	
PDI-SC-S034	0 to 1.8	7/20/2018	11:45	SC		ED	4	X	X	X	
PDI-SC-S034	1.8 to 4	7/20/2018	11:50	SC		ED	5	X	X	X	
PDI-SC-S034	4 to 5.2	7/20/2018	11:55	SC		ED	4	X	X	X	
PDI-SC-S033	0 to 2	7/20/2018	17:40	SC		ED		X	X	X	
PDI-SC-S033	2 to 3	7/20/2018	17:45	SC		ED		X	X	X	
PDI-SC-S033	3 to 4	7/20/2018	17:50	SC		ED		X	X	X	

Per Account  
Already Received  
in email SDG  
7/24/18



580-79057 Chain of Custody

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

Relinquished by	Company	Date/Time	Relinquished by	Company	Date/Time
<i>Michaela McCoug</i>	AIRCUM	7-23-18 1410	<i>Jessica Nfor</i>	M.E.	7/23/18 1410
<i>Jessica Nfor</i>	M.E.	7/23/18 1435	<i>Jessica Nfor</i>	JTPOR	7/23/18 1435
<i>Jessica Nfor</i>	JTPOR	7/24/18 1700	<i>B-Gall</i>	SEA TA	7/24/18 0950

7/24/2018

IR5 = 1.1/1.1 w/c.s.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



# Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-79057-1

**Login Number: 79057**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Rogers, Angeline D**

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