

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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Tel: (253)922-2310

TestAmerica Job ID: 580-78604-9

Client Project/Site: Portland Harbor Pre-Remedial Design

For:

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Attn: Amy Dahl

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Authorized for release by:  
10/2/2018 2:41:06 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: 580-78604-9

**Job ID: 580-78604-9**

**Laboratory: TestAmerica Seattle**

## Narrative

### CASE NARRATIVE

Client: AECOM

Project: Portland Harbor Pre-Remedial Design

Report Number: 580-78604-9

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**

Ten samples were received on 7/5/2018 3:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.3° C, 0.7° C and 2.2° C.

Client changed sample ID for the RB for 580-78604-11 from RB-VV-180703-1720 to PDI-RB-VV-180703.

The following samples were activated by the client on 8/16/18 for all On Hold analysis: PDI-SG-B458 (580-78604-1), PDI-SG-B470 (580-78604-2), PDI-SG-B469 (580-78604-3), PDI-SG-B456 (580-78604-4), PDI-SG-B462 (580-78604-5), PDI-SG-B463 (580-78604-6), PDI-SG-B463 (580-78604-6[MS]), PDI-SG-B463 (580-78604-6[MSD]), PDI-SG-B464 (580-78604-7), PDI-SG-B466 (580-78604-8), PDI-SG-B468 (580-78604-9), PDI-SG-B429 (580-78604-10) and PDI-RB-VV-180703 (580-78604-11)

The following samples were canceled by the client for Atterberg Limits on 8/23/18: PDI-SG-B470 (580-78604-2), PDI-SG-B469 (580-78604-3), PDI-SG-B462 (580-78604-5), PDI-SG-B463 (580-78604-6), PDI-SG-B466 (580-78604-8) and PDI-SG-B468 (580-78604-9).

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

This report contains results for PCB Congeners by Method 1668A, performed at TestAmerica Knoxville.

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.

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

**Samples PDI-SG-B458 (580-78604-1), PDI-SG-B470 (580-78604-2), PDI-SG-B469 (580-78604-3), PDI-SG-B456 (580-78604-4), PDI-SG-B462 (580-78604-5), PDI-SG-B463 (580-78604-6), PDI-SG-B464 (580-78604-7), PDI-SG-B466 (580-78604-8), PDI-SG-B468 (580-78604-9) and PDI-SG-B429 (580-78604-10) were analyzed for polychlorinated biphenyls congeners (PCBs) in accordance with EPA Method 1668A. The samples were prepared on 09/11/2018 and 09/26/2018 and analyzed on 09/19/2018, 09/20/2018 and 10/01/2018.**

Several analytes were detected in method blank MB 140-23484/16-B 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.

# Case Narrative

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

TestAmerica Job ID: 580-78604-9

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## Job ID: 580-78604-9 (Continued)

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### Laboratory: TestAmerica Seattle (Continued)

Several analytes were detected in method blank MB 140-23946/5-B 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.

Ion abundance ratios are outside criteria for the Isotope Dilution Analyte (IDA) associated with the following samples: (LCS 140-23484/17-B) and (LCSD 140-23484/18-B).

Sample PDI-SG-B458 (580-78604-1) was re-extracted at a lesser amount due to extreme matrix interferences which made the initial extraction not reportable.

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

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# Definitions/Glossary

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

TestAmerica Job ID: 580-78604-9

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
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.
C93	The compound co-eluted with PCB-93
C90	The compound co-eluted with PCB-90
C98	The compound co-eluted with PCB-98
C	The compound co-eluted with other compounds
B	Compound was found in the blank and sample.
C86	The compound co-eluted with PCB-86
C110	The compound co-eluted with PCB-110
C85	The compound co-eluted with PCB-85
C108	The compound co-eluted with PCB-108
C12	The compound co-eluted with PCB-12
C129	The compound co-eluted with PCB-129
C139	The compound co-eluted with PCB-139
C134	The compound co-eluted with PCB-134
C147	The compound co-eluted with PCB-147
C135	The compound co-eluted with PCB-135
C156	The compound co-eluted with PCB-156
C128	The compound co-eluted with PCB-128
C153	The compound co-eluted with PCB-153
C171	The compound co-eluted with PCB-171
C183	The compound co-eluted with PCB-183
C180	The compound co-eluted with PCB-180
C198	The compound co-eluted with PCB-198
C20	The compound co-eluted with PCB-20
C26	The compound co-eluted with PCB-26
C18	The compound co-eluted with PCB-18
C21	The compound co-eluted with PCB-21
C40	The compound co-eluted with PCB-40
C44	The compound co-eluted with PCB-44
C45	The compound co-eluted with PCB-45
C50	The compound co-eluted with PCB-50
C59	The compound co-eluted with PCB-59
C49	The compound co-eluted with PCB-49
C61	The compound co-eluted with PCB-61
C43	The compound co-eluted with PCB-43
C88	The compound co-eluted with PCB-88
C83	The compound co-eluted with PCB-83
S	Ion suppression

## 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)

# Definitions/Glossary

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

TestAmerica Job ID: 580-78604-9

## Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: 580-78604-9

**Client Sample ID: PDI-SG-B458**

**Lab Sample ID: 580-78604-1**

Date Collected: 07/02/18 11:00

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.7

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	0.045	J q	0.17	0.0012	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-2	0.015	J	0.17	0.0013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-3	0.041	J q	0.17	0.0014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-4	0.097	J q	0.34	0.092	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-5	ND		0.17	0.070	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-6	ND		0.17	0.061	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-7	ND		0.17	0.063	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-8	0.19	J q	0.34	0.057	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-9	ND		0.17	0.064	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-10	ND		0.17	0.069	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-11	ND		0.34	0.060	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-12	ND	C	0.34	0.062	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-13	ND	C12	0.34	0.062	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-14	ND		0.17	0.053	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-15	0.092	J q	0.17	0.062	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-16	0.27		0.17	0.012	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-17	0.28		0.17	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-18	0.67	C	0.34	0.0099	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-19	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-20	0.85	C B	0.34	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-21	0.42	C	0.34	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-22	0.28		0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-23	ND		0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-24	ND		0.17	0.0094	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-25	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-26	0.15	J C	0.34	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-27	0.060	J	0.17	0.0082	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-28	0.85	B C20	0.34	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-29	0.15	J C26	0.34	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-30	0.67	C18	0.34	0.0099	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-31	0.83		0.34	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-32	0.20	q	0.17	0.0078	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-33	0.42	C21	0.34	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-34	ND		0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-35	ND		0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-36	ND		0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-37	0.20		0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-38	ND		0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-39	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-40	0.70	C B	0.51	0.022	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-41	0.70	B C40	0.51	0.022	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-42	0.29	q	0.17	0.022	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-43	ND	C	0.34	0.020	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-44	1.3	C B	0.51	0.019	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-45	0.20	J C B q	0.34	0.023	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-46	0.061	J q	0.17	0.028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-47	1.3	B C44	0.51	0.019	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-48	0.22		0.17	0.022	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-49	0.91	C	0.34	0.018	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B458**

**Lab Sample ID: 580-78604-1**

Date Collected: 07/02/18 11:00

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.7

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.11	J C q	0.34	0.021	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-51	0.20	J C45 B q	0.34	0.023	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-52	1.6	B	0.17	0.022	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-53	0.11	J C50 q	0.34	0.021	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-54	ND		0.17	0.00021	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-55	0.023	J q	0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-56	0.51		0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-57	ND		0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-58	ND		0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-59	0.11	J C	0.51	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-60	0.20	B	0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-61	2.2	C B	0.67	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-62	0.11	J C59	0.51	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-63	0.053	J	0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-64	0.52	B	0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-65	1.3	B C44	0.51	0.019	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-66	1.2	B	0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-67	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-68	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-69	0.91	C49	0.34	0.018	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-70	2.2	C61 B	0.67	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-71	0.70	B C40	0.51	0.022	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-72	0.040	J q	0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-73	ND	C43	0.34	0.020	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-74	2.2	C61 B	0.67	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-75	0.11	J C59	0.51	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-76	2.2	C61 B	0.67	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-77	0.12	J B	0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-78	ND		0.17	0.016	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-79	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-80	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-81	ND		0.17	0.015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-82	0.30		0.17	0.0038	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-83	2.2	C	0.34	0.0035	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-84	0.67		0.17	0.0038	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-85	0.42	J C	0.51	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-86	1.5	C B	1.0	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-87	1.5	B C86	1.0	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-88	0.41	C	0.34	0.0034	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-89	ND		0.17	0.0037	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-90	3.0	C	0.51	0.0029	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-91	0.41	C88	0.34	0.0034	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-92	0.67		0.17	0.0033	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-93	0.045	J C q	0.34	0.0033	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-94	ND		0.17	0.0037	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-95	2.2	B	0.17	0.0036	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-96	ND		0.17	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-97	1.5	B C86	1.0	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-98	0.096	J C q	0.34	0.0032	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1

TestAmerica Seattle



# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B458**

**Lab Sample ID: 580-78604-1**

**Date Collected: 07/02/18 11:00**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.7**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	2.2	C83	0.34	0.0035	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-100	0.045	J C93 q	0.34	0.0033	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-101	3.0	C90	0.51	0.0029	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-102	0.096	J C98 q	0.34	0.0032	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-103	0.036	J q	0.17	0.0033	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-104	ND		0.17	0.0025	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-105	0.64		0.17	0.0098	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-106	ND		0.17	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-107	0.27		0.17	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-108	ND	C	0.34	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-109	1.5	B C86	1.0	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-110	2.9	C B	0.34	0.0024	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-111	ND		0.17	0.0023	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-112	ND		0.17	0.0024	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-113	3.0	C90	0.51	0.0029	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-114	0.037	J	0.17	0.0097	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-115	2.9	B C110	0.34	0.0024	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-116	0.42	J C85	0.51	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-117	0.42	J C85	0.51	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-118	2.0	B	0.17	0.0093	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-119	1.5	B C86	1.0	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-120	0.054	J q	0.17	0.0024	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-121	ND		0.17	0.0024	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-122	ND		0.17	0.012	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-123	ND		0.17	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-124	ND	C108	0.34	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-125	1.5	B C86	1.0	0.0028	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-126	ND		0.17	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-127	ND		0.17	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-128	0.34	C	0.34	0.0098	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-129	2.8	C	0.67	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-130	0.15	J q	0.17	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-131	ND		0.17	0.014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-132	0.94		0.17	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-133	0.12	J q	0.17	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-134	0.22	J C	0.34	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-135	1.6	C	0.34	0.0020	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-136	0.44	q	0.17	0.0014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-137	0.094	J	0.17	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-138	2.8	C129	0.67	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-139	0.050	J C q	0.34	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-140	0.050	J C139 q	0.34	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-141	0.39		0.17	0.012	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-142	ND		0.17	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-143	0.22	J C134	0.34	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-144	0.11	J q	0.17	0.0018	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-145	ND		0.17	0.0014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-146	1.1		0.17	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-147	3.0	C B	0.34	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B458**

**Lab Sample ID: 580-78604-1**

Date Collected: 07/02/18 11:00

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.7

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	0.056	J	0.17	0.0019	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-149	3.0	B C147	0.34	0.013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-150	0.018	J q	0.17	0.0013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-151	1.6	C135	0.34	0.0020	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-152	ND		0.17	0.0014	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-153	2.8	C	0.34	0.0088	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-154	0.21		0.17	0.0015	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-155	ND		0.17	0.0013	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-156	0.18	J C B q	0.34	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-157	0.18	J C156 B q	0.34	0.011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-158	0.22	q	0.17	0.0080	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-159	ND		0.17	0.0084	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-160	2.8	C129	0.67	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-161	ND		0.17	0.0084	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-162	ND		0.17	0.0083	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-163	2.8	C129	0.67	0.010	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-164	0.22		0.17	0.0089	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-165	ND		0.17	0.0095	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-166	0.34	C128	0.34	0.0098	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-167	0.073	J q	0.17	0.0066	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-168	2.8	C153	0.34	0.0088	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-169	ND		0.17	0.0063	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-170	0.63		0.17	0.0088	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-171	0.25	J C	0.34	0.0083	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-172	0.11	J q	0.17	0.0082	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-173	0.25	J C171	0.34	0.0083	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-174	0.66		0.17	0.0077	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-175	0.024	J q	0.17	0.0075	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-176	0.12	J q	0.17	0.0056	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-177	0.53		0.17	0.0079	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-178	0.20	q	0.17	0.0081	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-179	0.39		0.17	0.0060	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-180	1.4	C	0.34	0.0063	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-181	ND		0.17	0.0074	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-182	0.019	J q	0.17	0.0072	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-183	0.50	C	0.34	0.0073	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-184	ND		0.17	0.0061	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-185	0.50	C183	0.34	0.0073	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-186	ND		0.17	0.0059	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-187	1.2		0.17	0.0069	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-188	ND		0.17	0.0052	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-189	ND		0.17	0.0098	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-190	0.10	J B	0.17	0.0054	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-191	ND		0.17	0.0056	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-192	ND		0.17	0.0063	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-193	1.4	C180	0.34	0.0063	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-194	0.30	q	0.17	0.0058	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-195	0.092	J q	0.17	0.0064	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-196	0.18		0.17	0.0011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B458**

**Lab Sample ID: 580-78604-1**

**Date Collected: 07/02/18 11:00**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.7**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	0.025	J	0.17	0.00080	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-198	0.39	C B q	0.34	0.0011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-199	0.39	C198 B q	0.34	0.0011	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-200	0.044	J q	0.17	0.00071	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-201	0.047	J q	0.17	0.00073	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-202	0.10	J q	0.17	0.00082	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-203	0.21		0.17	0.00095	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-204	ND		0.17	0.00080	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-205	ND		0.17	0.0049	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-206	0.18		0.17	0.044	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-207	ND		0.17	0.032	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-208	ND		0.17	0.033	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
PCB-209	0.14	J q	0.17	0.0033	ng/g	☼	09/26/18 07:20	10/01/18 13:30	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	58		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-3L	54		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-4L	75		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-15L	80		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-19L	86		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-37L	82		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-54L	81		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-77L	88		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-81L	85		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-104L	78		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-105L	87		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-114L	88		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-118L	88		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-123L	86		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-126L	84		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-155L	88		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-156L	92	C	30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-157L	92	C156	30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-167L	91		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-169L	96		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-170L	87		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-188L	89		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-189L	74		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-202L	105		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-205L	76		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-206L	92		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-208L	93		30 - 140				09/26/18 07:20	10/01/18 13:30	1
PCB-209L	92		30 - 140				09/26/18 07:20	10/01/18 13:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-28L	93		40 - 125				09/26/18 07:20	10/01/18 13:30	1
PCB-111L	94		40 - 125				09/26/18 07:20	10/01/18 13:30	1
PCB-178L	98		40 - 125				09/26/18 07:20	10/01/18 13:30	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B470**

**Lab Sample ID: 580-78604-2**

Date Collected: 07/02/18 15:20

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 58.9

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		0.0085	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-2	ND		0.0085	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-3</b>	<b>0.00074</b>	<b>J q</b>	0.0085	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-4</b>	<b>0.0045</b>	<b>J q</b>	0.017	0.0028	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-5	ND		0.0085	0.0023	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-6</b>	<b>0.0029</b>	<b>J q</b>	0.0085	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-7	ND		0.0085	0.0021	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-8</b>	<b>0.0084</b>	<b>J</b>	0.017	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-9	ND		0.0085	0.0021	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-10	ND		0.0085	0.0023	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-11</b>	<b>0.021</b>	<b>q</b>	0.017	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-12	ND	C	0.017	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-13	ND	C12	0.017	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-14	ND		0.0085	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-15</b>	<b>0.0043</b>	<b>J q</b>	0.0085	0.0022	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-16</b>	<b>0.0033</b>	<b>J q</b>	0.0085	0.00092	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-17</b>	<b>0.0044</b>	<b>J</b>	0.0085	0.00082	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-18</b>	<b>0.011</b>	<b>J C</b>	0.017	0.00072	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-19	ND		0.0085	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-20</b>	<b>0.014</b>	<b>J C</b>	0.017	0.00059	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-21</b>	<b>0.0050</b>	<b>J q C</b>	0.017	0.00058	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-22</b>	<b>0.0047</b>	<b>J</b>	0.0085	0.00061	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-23	ND		0.0085	0.00060	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-24	ND		0.0085	0.00069	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-25	ND		0.0085	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-26</b>	<b>0.0020</b>	<b>J q C</b>	0.017	0.00058	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-27	ND		0.0085	0.00060	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-28</b>	<b>0.014</b>	<b>J C20</b>	0.017	0.00059	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-29</b>	<b>0.0020</b>	<b>J q C26</b>	0.017	0.00058	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-30</b>	<b>0.011</b>	<b>J C18</b>	0.017	0.00072	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-31</b>	<b>0.012</b>	<b>J</b>	0.017	0.00058	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-32</b>	<b>0.0030</b>	<b>J</b>	0.0085	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-33</b>	<b>0.0050</b>	<b>J q C21</b>	0.017	0.00058	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-34	ND		0.0085	0.00063	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-35	ND		0.0085	0.00061	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-36	ND		0.0085	0.00059	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-37</b>	<b>0.0053</b>	<b>J</b>	0.0085	0.00061	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-38	ND		0.0085	0.00063	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-39	ND		0.0085	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-40</b>	<b>0.012</b>	<b>J C</b>	0.025	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-41</b>	<b>0.012</b>	<b>J C40</b>	0.025	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-42</b>	<b>0.0069</b>	<b>J</b>	0.0085	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-43	ND	C	0.017	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-44</b>	<b>0.030</b>	<b>C B</b>	0.025	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-45</b>	<b>0.0036</b>	<b>J q C B</b>	0.017	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-46</b>	<b>0.0020</b>	<b>J</b>	0.0085	0.00070	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-47</b>	<b>0.030</b>	<b>C44 B</b>	0.025	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-48</b>	<b>0.0031</b>	<b>J</b>	0.0085	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-49</b>	<b>0.020</b>	<b>C</b>	0.017	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B470**

**Lab Sample ID: 580-78604-2**

Date Collected: 07/02/18 15:20

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 58.9

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0028	J q C	0.017	0.00053	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-51	0.0036	J q C45 B	0.017	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-52	0.043		0.0085	0.00054	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-53	0.0028	J q C50	0.017	0.00053	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-54	ND		0.0085	0.000046	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-55	ND		0.0085	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-56	0.010		0.0085	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-57	ND		0.0085	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-58	ND		0.0085	0.00041	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-59	0.0025	J C	0.025	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-60	0.0045	J	0.0085	0.00041	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-61	0.051	C B	0.034	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-62	0.0025	J C59	0.025	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-63	0.0010	J q	0.0085	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-64	0.010	q	0.0085	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-65	0.030	C44 B	0.025	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-66	0.029	B	0.0085	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-67	ND		0.0085	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-68	0.00099	J B	0.0085	0.00036	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-69	0.020	C49	0.017	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-70	0.051	C61 B	0.034	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-71	0.012	J C40	0.025	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-72	ND		0.0085	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-73	ND	C43	0.017	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-74	0.051	C61 B	0.034	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-75	0.0025	J C59	0.025	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-76	0.051	C61 B	0.034	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-77	0.0037	J q	0.0085	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-78	ND		0.0085	0.00041	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-79	ND		0.0085	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-80	ND		0.0085	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-81	ND		0.0085	0.00036	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-82	0.0073	J	0.0085	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-83	0.046	C	0.017	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-84	0.014		0.0085	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-85	0.016	J C	0.025	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-86	0.043	J C	0.051	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-87	0.043	J C86	0.051	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-88	0.010	J q C	0.017	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-89	ND		0.0085	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-90	0.067	C	0.025	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-91	0.010	J q C88	0.017	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-92	0.012		0.0085	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-93	ND	C	0.017	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-94	ND		0.0085	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-95	0.052		0.0085	0.00030	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-96	ND		0.0085	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-97	0.043	J C86	0.051	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-98	0.0021	J q C	0.017	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B470**

**Lab Sample ID: 580-78604-2**

**Date Collected: 07/02/18 15:20**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 58.9**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>PCB-99</b>	<b>0.046</b>	<b>C83</b>	0.017	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-100	ND	C93	0.017	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-101</b>	<b>0.067</b>	<b>C90</b>	0.025	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-102</b>	<b>0.0021</b>	<b>J q C98</b>	0.017	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-103	ND		0.0085	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-104	ND		0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-105</b>	<b>0.024</b>		0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-106	ND		0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-107</b>	<b>0.0040</b>	<b>J q</b>	0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-108	ND	C	0.017	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-109</b>	<b>0.043</b>	<b>J C86</b>	0.051	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-110</b>	<b>0.081</b>	<b>C B</b>	0.017	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-111	ND		0.0085	0.00019	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-112</b>	<b>0.00022</b>	<b>J q</b>	0.0085	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-113</b>	<b>0.067</b>	<b>C90</b>	0.025	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-114	ND		0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-115</b>	<b>0.081</b>	<b>C110 B</b>	0.017	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-116</b>	<b>0.016</b>	<b>J C85</b>	0.025	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-117</b>	<b>0.016</b>	<b>J C85</b>	0.025	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-118</b>	<b>0.058</b>		0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-119</b>	<b>0.043</b>	<b>J C86</b>	0.051	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-120	ND		0.0085	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-121	ND		0.0085	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-122	ND		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-123	ND		0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-124	ND	C108	0.017	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-125</b>	<b>0.043</b>	<b>J C86</b>	0.051	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-126	ND		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-127	ND		0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-128</b>	<b>0.019</b>	<b>q C</b>	0.017	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-129</b>	<b>0.13</b>	<b>C B</b>	0.034	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-130	ND		0.0085	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-131	ND		0.0085	0.0028	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-132</b>	<b>0.029</b>		0.0085	0.0026	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-133	ND		0.0085	0.0025	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-134	ND	C	0.017	0.0026	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-135</b>	<b>0.024</b>	<b>C B</b>	0.017	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-136</b>	<b>0.0075</b>	<b>J</b>	0.0085	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-137	ND		0.0085	0.0023	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-138</b>	<b>0.13</b>	<b>C129 B</b>	0.034	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-139	ND	C	0.017	0.0023	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-140	ND	C139	0.017	0.0023	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-141</b>	<b>0.019</b>	<b>q B</b>	0.0085	0.0024	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-142	ND		0.0085	0.0025	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-143	ND	C134	0.017	0.0026	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-144</b>	<b>0.0016</b>	<b>J q</b>	0.0085	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-145	ND		0.0085	0.00015	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-146</b>	<b>0.020</b>		0.0085	0.0022	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-147</b>	<b>0.084</b>	<b>C B</b>	0.017	0.0026	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B470**

**Lab Sample ID: 580-78604-2**

Date Collected: 07/02/18 15:20

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 58.9

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-149</b>	<b>0.084</b>	<b>C147 B</b>	0.017	0.0026	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-150	ND		0.0085	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-151</b>	<b>0.024</b>	<b>C135 B</b>	0.017	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-152	ND		0.0085	0.00015	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-153</b>	<b>0.098</b>	<b>C B</b>	0.017	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-154	ND		0.0085	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-155	ND		0.0085	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-156</b>	<b>0.012</b>	<b>J C</b>	0.017	0.0031	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-157</b>	<b>0.012</b>	<b>J C156</b>	0.017	0.0031	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-158</b>	<b>0.011</b>	<b>B</b>	0.0085	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-159	ND		0.0085	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-160</b>	<b>0.13</b>	<b>C129 B</b>	0.034	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-161	ND		0.0085	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-162	ND		0.0085	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-163</b>	<b>0.13</b>	<b>C129 B</b>	0.034	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-164</b>	<b>0.0071</b>	<b>J q B</b>	0.0085	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-165	ND		0.0085	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-166</b>	<b>0.019</b>	<b>q C128</b>	0.017	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-167</b>	<b>0.0042</b>	<b>J</b>	0.0085	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-168</b>	<b>0.098</b>	<b>C153 B</b>	0.017	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-169	ND		0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-170</b>	<b>0.030</b>		0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-171</b>	<b>0.0054</b>	<b>J q C B</b>	0.017	0.00099	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-172</b>	<b>0.0072</b>	<b>J</b>	0.0085	0.00098	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-173</b>	<b>0.0054</b>	<b>J q C171 E</b>	0.017	0.00099	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-174</b>	<b>0.029</b>	<b>B</b>	0.0085	0.00092	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-175	ND		0.0085	0.00089	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-176</b>	<b>0.0029</b>	<b>J</b>	0.0085	0.00067	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-177</b>	<b>0.019</b>		0.0085	0.00094	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-178</b>	<b>0.0058</b>	<b>J</b>	0.0085	0.00096	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-179</b>	<b>0.0095</b>	<b>q B</b>	0.0085	0.00071	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-180</b>	<b>0.063</b>	<b>C B</b>	0.017	0.00074	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-181	ND		0.0085	0.00089	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-182	ND		0.0085	0.00085	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-183</b>	<b>0.013</b>	<b>J C</b>	0.017	0.00087	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-184	ND		0.0085	0.00073	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-185</b>	<b>0.013</b>	<b>J C183</b>	0.017	0.00087	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-186	ND		0.0085	0.00071	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-187</b>	<b>0.036</b>	<b>B</b>	0.0085	0.00082	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-188	ND		0.0085	0.00061	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-189	ND		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-190</b>	<b>0.0041</b>	<b>J q B</b>	0.0085	0.00064	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-191	ND		0.0085	0.00067	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-192	ND		0.0085	0.00075	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-193</b>	<b>0.063</b>	<b>C180 B</b>	0.017	0.00074	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-194</b>	<b>0.015</b>		0.0085	0.0031	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-195	ND		0.0085	0.0034	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-196</b>	<b>0.0055</b>	<b>J</b>	0.0085	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B470**

**Lab Sample ID: 580-78604-2**

**Date Collected: 07/02/18 15:20**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 58.9**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	ND		0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-198</b>	<b>0.020</b>	<b>C</b>	0.017	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-199</b>	<b>0.020</b>	<b>C198</b>	0.017	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-200</b>	<b>0.0029</b>	<b>J</b>	0.0085	0.00096	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-201	ND		0.0085	0.00098	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-202</b>	<b>0.0046</b>	<b>J</b>	0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-203</b>	<b>0.011</b>		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-204	ND		0.0085	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-205	ND		0.0085	0.0026	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-206</b>	<b>0.013</b>	<b>q</b>	0.0085	0.0035	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-207	ND		0.0085	0.0023	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
PCB-208	ND		0.0085	0.0023	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
<b>PCB-209</b>	<b>0.029</b>	<b>B</b>	0.0085	0.0025	ng/g	☼	09/11/18 11:15	09/19/18 17:05	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	67		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-3L	72		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-4L	79		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-15L	87		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-19L	95		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-37L	96		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-54L	96		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-77L	95		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-81L	96		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-104L	84		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-105L	97		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-114L	99		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-118L	96		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-123L	92		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-126L	90		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-155L	104		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-156L	67	C	30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-157L	67	C156	30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-167L	94		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-169L	93		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-170L	87		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-188L	97		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-189L	90		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-202L	103		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-205L	76		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-206L	73		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-208L	86		30 - 140				09/11/18 11:15	09/19/18 17:05	1
PCB-209L	68		30 - 140				09/11/18 11:15	09/19/18 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-28L	100		40 - 125				09/11/18 11:15	09/19/18 17:05	1
PCB-111L	97		40 - 125				09/11/18 11:15	09/19/18 17:05	1
PCB-178L	102		40 - 125				09/11/18 11:15	09/19/18 17:05	1



# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B469**

**Lab Sample ID: 580-78604-3**

Date Collected: 07/02/18 16:30

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		0.0085	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-2</b>	<b>0.0021</b>	<b>J q</b>	0.0085	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-3</b>	<b>0.00094</b>	<b>J q</b>	0.0085	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-4	ND		0.017	0.0024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-5	ND		0.0085	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-6	ND		0.0085	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-7	ND		0.0085	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-8</b>	<b>0.0055</b>	<b>J</b>	0.017	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-9	ND		0.0085	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-10	ND		0.0085	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-11</b>	<b>0.032</b>		0.017	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-12</b>	<b>0.0021</b>	<b>J q C</b>	0.017	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-13</b>	<b>0.0021</b>	<b>J q C12</b>	0.017	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-14	ND		0.0085	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-15</b>	<b>0.0039</b>	<b>J q</b>	0.0085	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-16</b>	<b>0.0023</b>	<b>J q</b>	0.0085	0.00072	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-17</b>	<b>0.0051</b>	<b>J q</b>	0.0085	0.00064	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-18</b>	<b>0.0090</b>	<b>J q C</b>	0.017	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-19	ND		0.0085	0.00079	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-20</b>	<b>0.018</b>	<b>q C</b>	0.017	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-21</b>	<b>0.0069</b>	<b>J q C</b>	0.017	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-22</b>	<b>0.0069</b>	<b>J</b>	0.0085	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-23	ND		0.0085	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-24	ND		0.0085	0.00054	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-25</b>	<b>0.0022</b>	<b>J q</b>	0.0085	0.00047	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-26</b>	<b>0.0044</b>	<b>J C</b>	0.017	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-27	ND		0.0085	0.00047	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-28</b>	<b>0.018</b>	<b>q C20</b>	0.017	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-29</b>	<b>0.0044</b>	<b>J C26</b>	0.017	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-30</b>	<b>0.0090</b>	<b>J q C18</b>	0.017	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-31</b>	<b>0.016</b>	<b>J</b>	0.017	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-32</b>	<b>0.0038</b>	<b>J q</b>	0.0085	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-33</b>	<b>0.0069</b>	<b>J q C21</b>	0.017	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-34	ND		0.0085	0.00054	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-35	ND		0.0085	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-36	ND		0.0085	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-37</b>	<b>0.0058</b>	<b>J q</b>	0.0085	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-38	ND		0.0085	0.00054	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-39	ND		0.0085	0.00049	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-40</b>	<b>0.014</b>	<b>J C</b>	0.026	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-41</b>	<b>0.014</b>	<b>J C40</b>	0.026	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-42</b>	<b>0.0063</b>	<b>J q</b>	0.0085	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-43</b>	<b>0.0017</b>	<b>J q C</b>	0.017	0.00030	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-44</b>	<b>0.034</b>	<b>q C B</b>	0.026	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-45</b>	<b>0.0027</b>	<b>J q C B</b>	0.017	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-46	ND		0.0085	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-47</b>	<b>0.034</b>	<b>q C44 B</b>	0.026	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-48</b>	<b>0.0035</b>	<b>J q</b>	0.0085	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-49</b>	<b>0.024</b>	<b>C</b>	0.017	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B469**

**Lab Sample ID: 580-78604-3**

Date Collected: 07/02/18 16:30

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0039	J q C	0.017	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-51	0.0027	J q C45 B	0.017	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-52	0.047		0.0085	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-53	0.0039	J q C50	0.017	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-54	ND		0.0085	0.000022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-55	0.00069	J q	0.0085	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-56	0.015		0.0085	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-57	ND		0.0085	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-58	ND		0.0085	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-59	0.0026	J q C	0.026	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-60	0.0056	J q	0.0085	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-61	0.061	C B	0.034	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-62	0.0026	J q C59	0.026	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-63	0.0015	J q	0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-64	0.013		0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-65	0.034	q C44 B	0.026	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-66	0.035	B	0.0085	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-67	0.0014	J q	0.0085	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-68	0.0011	J q B	0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-69	0.024	C49	0.017	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-70	0.061	C61 B	0.034	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-71	0.014	J C40	0.026	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-72	0.0011	J	0.0085	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-73	0.0017	J q C43	0.017	0.00030	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-74	0.061	C61 B	0.034	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-75	0.0026	J q C59	0.026	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-76	0.061	C61 B	0.034	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-77	0.0046	J q	0.0085	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-78	ND		0.0085	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-79	0.00097	J q	0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-80	ND		0.0085	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-81	ND		0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-82	0.0096		0.0085	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-83	0.054	C	0.017	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-84	0.018		0.0085	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-85	0.018	J C	0.026	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-86	0.051	C	0.051	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-87	0.051	C86	0.051	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-88	0.0097	J C	0.017	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-89	ND		0.0085	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-90	0.077	C	0.026	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-91	0.0097	J C88	0.017	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-92	0.011	q	0.0085	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-93	0.00082	J q C	0.017	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-94	ND		0.0085	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-95	0.055		0.0085	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-96	ND		0.0085	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-97	0.051	C86	0.051	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-98	0.0017	J q C	0.017	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B469**

**Lab Sample ID: 580-78604-3**

Date Collected: 07/02/18 16:30

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	0.054	C83	0.017	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-100	0.00082	J q C93	0.017	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-101	0.077	C90	0.026	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-102	0.0017	J q C98	0.017	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-103	0.00098	J q	0.0085	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-104	ND		0.0085	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-105	0.025		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-106	ND		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-107	0.0056	J	0.0085	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-108	0.0035	J q C	0.017	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-109	0.051	C86	0.051	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-110	0.094	C B	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-111	ND		0.0085	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-112	ND		0.0085	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-113	0.077	C90	0.026	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-114	ND		0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-115	0.094	C110 B	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-116	0.018	J C85	0.026	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-117	0.018	J C85	0.026	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-118	0.068		0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-119	0.051	C86	0.051	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-120	ND		0.0085	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-121	ND		0.0085	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-122	ND		0.0085	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-123	0.0019	J B	0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-124	0.0035	J q C108	0.017	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-125	0.051	C86	0.051	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-126	ND		0.0085	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-127	ND		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-128	0.024	C	0.017	0.0021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-129	0.16	C B	0.034	0.0022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-130	0.0066	J q	0.0085	0.0028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-131	ND		0.0085	0.0030	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-132	0.032	q	0.0085	0.0028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-133	ND		0.0085	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-134	0.0047	J q C	0.017	0.0028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-135	0.030	C B	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-136	0.0076	J q	0.0085	0.00013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-137	0.0079	J	0.0085	0.0024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-138	0.16	C129 B	0.034	0.0022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-139	ND	C	0.017	0.0024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-140	ND	C139	0.017	0.0024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-141	0.018	B	0.0085	0.0025	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-142	ND		0.0085	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-143	0.0047	J q C134	0.017	0.0028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-144	0.0018	J q	0.0085	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-145	ND		0.0085	0.00012	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-146	0.021		0.0085	0.0024	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-147	0.10	C B	0.017	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B469**

**Lab Sample ID: 580-78604-3**

**Date Collected: 07/02/18 16:30**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.4**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0085	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-149</b>	<b>0.10</b>	<b>C147 B</b>	0.017	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-150	ND		0.0085	0.00012	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-151</b>	<b>0.030</b>	<b>C135 B</b>	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-152	ND		0.0085	0.00013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-153</b>	<b>0.12</b>	<b>C B</b>	0.017	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-154</b>	<b>0.0012</b>	<b>J q</b>	0.0085	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-155	ND		0.0085	0.00012	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-156</b>	<b>0.014</b>	<b>J C</b>	0.017	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-157</b>	<b>0.014</b>	<b>J C156</b>	0.017	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-158</b>	<b>0.012</b>	<b>B</b>	0.0085	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-159	ND		0.0085	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-160</b>	<b>0.16</b>	<b>C129 B</b>	0.034	0.0022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-161	ND		0.0085	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-162	ND		0.0085	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-163</b>	<b>0.16</b>	<b>C129 B</b>	0.034	0.0022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-164</b>	<b>0.010</b>	<b>B</b>	0.0085	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-165	ND		0.0085	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-166</b>	<b>0.024</b>	<b>C128</b>	0.017	0.0021	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-167</b>	<b>0.0057</b>	<b>J</b>	0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-168</b>	<b>0.12</b>	<b>C153 B</b>	0.017	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-169	ND		0.0085	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-170</b>	<b>0.034</b>		0.0085	0.00075	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-171</b>	<b>0.010</b>	<b>J q C B</b>	0.017	0.00068	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-172</b>	<b>0.0057</b>	<b>J q</b>	0.0085	0.00068	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-173</b>	<b>0.010</b>	<b>J q C171 E</b>	0.017	0.00068	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-174</b>	<b>0.031</b>	<b>B</b>	0.0085	0.00064	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-175</b>	<b>0.0013</b>	<b>J q</b>	0.0085	0.00062	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-176</b>	<b>0.0027</b>	<b>J</b>	0.0085	0.00046	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-177</b>	<b>0.023</b>		0.0085	0.00065	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-178</b>	<b>0.0070</b>	<b>J q</b>	0.0085	0.00067	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-179</b>	<b>0.014</b>	<b>B</b>	0.0085	0.00049	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-180</b>	<b>0.066</b>	<b>C B</b>	0.017	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-181	ND		0.0085	0.00061	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-182	ND		0.0085	0.00059	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-183</b>	<b>0.017</b>	<b>q C</b>	0.017	0.00060	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-184	ND		0.0085	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-185</b>	<b>0.017</b>	<b>q C183</b>	0.017	0.00060	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-186	ND		0.0085	0.00049	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-187</b>	<b>0.045</b>	<b>B</b>	0.0085	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-188	ND		0.0085	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-189	ND		0.0085	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-190</b>	<b>0.0051</b>	<b>J q B</b>	0.0085	0.00044	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-191</b>	<b>0.0022</b>	<b>J</b>	0.0085	0.00046	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-192	ND		0.0085	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-193</b>	<b>0.066</b>	<b>C180 B</b>	0.017	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-194</b>	<b>0.021</b>		0.0085	0.0026	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-195</b>	<b>0.0094</b>		0.0085	0.0028	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-196</b>	<b>0.0065</b>	<b>J q</b>	0.0085	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B469**

**Lab Sample ID: 580-78604-3**

**Date Collected: 07/02/18 16:30**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.4**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	ND		0.0085	0.00079	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-198</b>	<b>0.023</b>	<b>C</b>	0.017	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-199</b>	<b>0.023</b>	<b>C198</b>	0.017	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-200	ND		0.0085	0.00070	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-201	ND		0.0085	0.00072	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-202</b>	<b>0.0046</b>	<b>J q</b>	0.0085	0.00080	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-203</b>	<b>0.013</b>		0.0085	0.00093	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-204	ND		0.0085	0.00079	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-205	ND		0.0085	0.0022	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-206</b>	<b>0.021</b>		0.0085	0.0034	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
PCB-207	ND		0.0085	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-208</b>	<b>0.0055</b>	<b>J q</b>	0.0085	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
<b>PCB-209</b>	<b>0.038</b>	<b>B</b>	0.0085	0.0027	ng/g	☼	09/11/18 11:15	09/19/18 18:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	68		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-3L	72		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-4L	78		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-15L	83		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-19L	93		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-37L	87		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-54L	95		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-77L	91		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-81L	91		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-104L	76		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-105L	90		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-114L	91		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-118L	90		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-123L	90		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-126L	90		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-155L	93		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-156L	66	C	30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-157L	66	C156	30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-167L	84		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-169L	84		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-170L	84		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-188L	95		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-189L	85		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-202L	101		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-205L	73		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-206L	70		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-208L	73		30 - 140				09/11/18 11:15	09/19/18 18:06	1
PCB-209L	59		30 - 140				09/11/18 11:15	09/19/18 18:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-28L	98		40 - 125				09/11/18 11:15	09/19/18 18:06	1
PCB-111L	94		40 - 125				09/11/18 11:15	09/19/18 18:06	1
PCB-178L	106		40 - 125				09/11/18 11:15	09/19/18 18:06	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B456**

**Lab Sample ID: 580-78604-4**

Date Collected: 07/02/18 10:19

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 58.5

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	0.0011	J	0.0082	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-2	0.0015	J q	0.0082	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-3	ND		0.0082	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-4	0.0044	J q	0.016	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-5	ND		0.0082	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-6	0.0027	J q	0.0082	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-7	ND		0.0082	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-8	0.0076	J	0.016	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-9	ND		0.0082	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-10	ND		0.0082	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-11	0.022		0.016	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-12	ND	C	0.016	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-13	ND	C12	0.016	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-14	ND		0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-15	0.0050	J q	0.0082	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-16	0.0035	J q	0.0082	0.00073	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-17	0.0060	J q	0.0082	0.00065	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-18	0.015	J C	0.016	0.00058	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-19	ND		0.0082	0.00080	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-20	0.022	C	0.016	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-21	0.0090	J C	0.016	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-22	0.0051	J q	0.0082	0.00044	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-23	ND		0.0082	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-24	ND		0.0082	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-25	0.0022	J q	0.0082	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-26	0.0043	J C	0.016	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-27	ND		0.0082	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-28	0.022	C20	0.016	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-29	0.0043	J C26	0.016	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-30	0.015	J C18	0.016	0.00058	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-31	0.017		0.016	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-32	0.0037	J q	0.0082	0.00046	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-33	0.0090	J C21	0.016	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-34	ND		0.0082	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-35	ND		0.0082	0.00044	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-36	ND		0.0082	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-37	0.0061	J	0.0082	0.00044	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-38	ND		0.0082	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-39	ND		0.0082	0.00041	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-40	0.016	J C	0.025	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-41	0.016	J C40	0.025	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-42	0.0068	J q	0.0082	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-43	ND	C	0.016	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-44	0.043	C B	0.025	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-45	0.0066	J C B	0.016	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-46	0.0015	J q	0.0082	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-47	0.043	B C44	0.025	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-48	0.0054	J q	0.0082	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-49	0.034	C	0.016	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B456**

**Lab Sample ID: 580-78604-4**

**Date Collected: 07/02/18 10:19**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 58.5**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0040	J C q	0.016	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-51	0.0066	J C45 B	0.016	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-52	0.064		0.0082	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-53	0.0040	J C50 q	0.016	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-54	ND		0.0082	0.000064	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-55	0.0015	J q	0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-56	0.013		0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-57	ND		0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-58	ND		0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-59	0.0033	J C q	0.025	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-60	0.0060	J	0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-61	0.064	C B	0.033	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-62	0.0033	J C59 q	0.025	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-63	ND		0.0082	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-64	0.016		0.0082	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-65	0.043	B C44	0.025	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-66	0.039	B	0.0082	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-67	ND		0.0082	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-68	0.0015	J B	0.0082	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-69	0.034	C49	0.016	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-70	0.064	C61 B	0.033	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-71	0.016	J C40	0.025	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-72	0.0018	J q	0.0082	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-73	ND	C43	0.016	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-74	0.064	C61 B	0.033	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-75	0.0033	J C59 q	0.025	0.00027	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-76	0.064	C61 B	0.033	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-77	0.0039	J	0.0082	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-78	ND		0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-79	0.0017	J	0.0082	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-80	ND		0.0082	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-81	ND		0.0082	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-82	0.011		0.0082	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-83	0.065	C	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-84	0.021		0.0082	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-85	0.012	J C q	0.025	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-86	0.048	J C	0.049	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-87	0.048	J C86	0.049	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-88	0.014	J C q	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-89	0.0011	J q	0.0082	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-90	0.089	C	0.025	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-91	0.014	J C88 q	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-92	0.017		0.0082	0.00019	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-93	0.0027	J C	0.016	0.00019	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-94	ND		0.0082	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-95	0.075		0.0082	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-96	ND		0.0082	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-97	0.048	J C86	0.049	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-98	0.0036	J C	0.016	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B456**

**Lab Sample ID: 580-78604-4**

**Date Collected: 07/02/18 10:19**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 58.5**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	0.065	C83	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-100	0.0027	J C93	0.016	0.00019	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-101	0.089	C90	0.025	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-102	0.0036	J C98	0.016	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-103	0.0029	J q	0.0082	0.00019	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-104	ND		0.0082	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-105	0.025		0.0082	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-106	ND		0.0082	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-107	0.0045	J q	0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-108	0.0022	J C q	0.016	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-109	0.048	J C86	0.049	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-110	0.095	C B	0.016	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-111	ND		0.0082	0.00013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-112	ND		0.0082	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-113	0.089	C90	0.025	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-114	ND		0.0082	0.00097	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-115	0.095	B C110	0.016	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-116	0.012	J C85 q	0.025	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-117	0.012	J C85 q	0.025	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-118	0.069		0.0082	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-119	0.048	J C86	0.049	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-120	ND		0.0082	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-121	ND		0.0082	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-122	ND		0.0082	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-123	ND		0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-124	0.0022	J q C108	0.016	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-125	0.048	J C86	0.049	0.00016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-126	ND		0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-127	ND		0.0082	0.0010	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-128	0.018	C	0.016	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-129	0.13	C B	0.033	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-130	0.0094		0.0082	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-131	ND		0.0082	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-132	0.034		0.0082	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-133	ND		0.0082	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-134	ND	C	0.016	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-135	0.045	C B	0.016	0.00012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-136	0.015		0.0082	0.000086	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-137	ND		0.0082	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-138	0.13	B C129	0.033	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-139	ND	C	0.016	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-140	ND	C139	0.016	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-141	0.024	B	0.0082	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-142	ND		0.0082	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-143	ND	C134	0.016	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-144	0.0034	J	0.0082	0.00011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-145	ND		0.0082	0.000082	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-146	0.026		0.0082	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-147	0.10	C B	0.016	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1

TestAmerica Seattle



# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B456**

**Lab Sample ID: 580-78604-4**

Date Collected: 07/02/18 10:19

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 58.5

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0082	0.00012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-149</b>	<b>0.10</b>	<b>B C147</b>	0.016	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-150</b>	<b>0.00057</b>	<b>J q</b>	0.0082	0.000079	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-151</b>	<b>0.045</b>	<b>C135 B</b>	0.016	0.00012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-152	ND		0.0082	0.000085	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-153</b>	<b>0.11</b>	<b>C B</b>	0.016	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-154</b>	<b>0.0024</b>	<b>J q</b>	0.0082	0.000094	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-155	ND		0.0082	0.000079	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-156</b>	<b>0.011</b>	<b>J C</b>	0.016	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-157</b>	<b>0.011</b>	<b>J C156</b>	0.016	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-158</b>	<b>0.013</b>	<b>B</b>	0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-159	ND		0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-160</b>	<b>0.13</b>	<b>B C129</b>	0.033	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-161	ND		0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-162	ND		0.0082	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-163</b>	<b>0.13</b>	<b>B C129</b>	0.033	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-164</b>	<b>0.010</b>	<b>B</b>	0.0082	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-165	ND		0.0082	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-166</b>	<b>0.018</b>	<b>C128</b>	0.016	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-167</b>	<b>0.0045</b>	<b>J</b>	0.0082	0.00083	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-168</b>	<b>0.11</b>	<b>B C153</b>	0.016	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-169	ND		0.0082	0.00077	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-170</b>	<b>0.034</b>		0.0082	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-171</b>	<b>0.011</b>	<b>J C B</b>	0.016	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-172</b>	<b>0.0055</b>	<b>J q</b>	0.0082	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-173</b>	<b>0.011</b>	<b>J C171 B</b>	0.016	0.00052	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-174</b>	<b>0.029</b>	<b>B q</b>	0.0082	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-175	ND		0.0082	0.00047	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-176	ND		0.0082	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-177</b>	<b>0.020</b>		0.0082	0.00050	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-178</b>	<b>0.0079</b>	<b>J q</b>	0.0082	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-179</b>	<b>0.015</b>	<b>B</b>	0.0082	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-180</b>	<b>0.069</b>	<b>C B</b>	0.016	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-181	ND		0.0082	0.00047	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-182	ND		0.0082	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-183</b>	<b>0.023</b>	<b>C</b>	0.016	0.00046	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-184	ND		0.0082	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-185</b>	<b>0.023</b>	<b>C183</b>	0.016	0.00046	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-186	ND		0.0082	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-187</b>	<b>0.047</b>	<b>B</b>	0.0082	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-188	ND		0.0082	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-189	ND		0.0082	0.00091	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-190</b>	<b>0.0080</b>	<b>J B</b>	0.0082	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-191	ND		0.0082	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-192	ND		0.0082	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-193</b>	<b>0.069</b>	<b>C180 B</b>	0.016	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-194</b>	<b>0.016</b>		0.0082	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-195</b>	<b>0.0093</b>		0.0082	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-196</b>	<b>0.0094</b>		0.0082	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B456**

**Lab Sample ID: 580-78604-4**

**Date Collected: 07/02/18 10:19**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 58.5**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	ND		0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-198</b>	<b>0.022</b>	<b>C</b>	0.016	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-199</b>	<b>0.022</b>	<b>C198</b>	0.016	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-200</b>	<b>0.0017</b>	<b>J q</b>	0.0082	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-201</b>	<b>0.0023</b>	<b>J</b>	0.0082	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-202</b>	<b>0.0026</b>	<b>J q</b>	0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-203</b>	<b>0.012</b>		0.0082	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-204	ND		0.0082	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-205	ND		0.0082	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-206</b>	<b>0.011</b>	<b>q</b>	0.0082	0.0019	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
PCB-207	ND		0.0082	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-208</b>	<b>0.0029</b>	<b>J q</b>	0.0082	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<b>PCB-209</b>	<b>0.025</b>	<b>B</b>	0.0082	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 19:08	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
PCB-1L	65		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-3L	69		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-4L	78		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-15L	83		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-19L	94		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-37L	97		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-54L	95		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-77L	90		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-81L	88		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-104L	85		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-105L	87		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-114L	84		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-118L	83		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-123L	83		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-126L	84		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-155L	98		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-156L	76	C	30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-157L	76	C156	30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-167L	87		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-169L	95		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-170L	89		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-188L	93		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-189L	82		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-202L	103		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-205L	73		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-206L	77		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-208L	81		30 - 140				09/11/18 11:15	09/19/18 19:08	1
PCB-209L	69		30 - 140				09/11/18 11:15	09/19/18 19:08	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
PCB-28L	102		40 - 125				09/11/18 11:15	09/19/18 19:08	1
PCB-111L	97		40 - 125				09/11/18 11:15	09/19/18 19:08	1
PCB-178L	104		40 - 125				09/11/18 11:15	09/19/18 19:08	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B462**

**Lab Sample ID: 580-78604-5**

Date Collected: 07/02/18 11:56

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 54.1

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		0.0091	0.00015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-2</b>	<b>0.0035</b>	<b>J</b>	0.0091	0.00017	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-3	ND		0.0091	0.00018	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-4</b>	<b>0.0023</b>	<b>J q</b>	0.018	0.0020	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-5	ND		0.0091	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-6</b>	<b>0.0018</b>	<b>J</b>	0.0091	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-7	ND		0.0091	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-8</b>	<b>0.0055</b>	<b>J q</b>	0.018	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-9	ND		0.0091	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-10	ND		0.0091	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-11</b>	<b>0.024</b>		0.018	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-12	ND	C	0.018	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-13	ND	C12	0.018	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-14	ND		0.0091	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-15</b>	<b>0.0053</b>	<b>J</b>	0.0091	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-16</b>	<b>0.0034</b>	<b>J</b>	0.0091	0.00085	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-17	ND		0.0091	0.00076	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-18</b>	<b>0.0089</b>	<b>J C q</b>	0.018	0.00067	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-19	ND		0.0091	0.00093	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-20</b>	<b>0.019</b>	<b>C</b>	0.018	0.00067	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-21</b>	<b>0.011</b>	<b>J C</b>	0.018	0.00065	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-22</b>	<b>0.0057</b>	<b>J</b>	0.0091	0.00068	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-23	ND		0.0091	0.00068	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-24	ND		0.0091	0.00064	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-25</b>	<b>0.0024</b>	<b>J</b>	0.0091	0.00062	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-26</b>	<b>0.0034</b>	<b>J C</b>	0.018	0.00066	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-27	ND		0.0091	0.00056	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-28</b>	<b>0.019</b>	<b>C20</b>	0.018	0.00067	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-29</b>	<b>0.0034</b>	<b>J C26</b>	0.018	0.00066	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-30</b>	<b>0.0089</b>	<b>J C18 q</b>	0.018	0.00067	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-31</b>	<b>0.014</b>	<b>J q</b>	0.018	0.00065	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-32	ND		0.0091	0.00053	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-33</b>	<b>0.011</b>	<b>J C21</b>	0.018	0.00065	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-34	ND		0.0091	0.00070	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-35	ND		0.0091	0.00069	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-36	ND		0.0091	0.00066	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-37</b>	<b>0.0047</b>	<b>J</b>	0.0091	0.00068	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-38	ND		0.0091	0.00071	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-39	ND		0.0091	0.00064	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-40</b>	<b>0.022</b>	<b>J C</b>	0.027	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-41</b>	<b>0.022</b>	<b>J C40</b>	0.027	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-42</b>	<b>0.096</b>		0.0091	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-43	ND	C	0.018	0.00030	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-44</b>	<b>0.33</b>	<b>C B</b>	0.027	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-45	ND	C	0.018	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-46	ND		0.0091	0.00041	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-47</b>	<b>0.33</b>	<b>B C44</b>	0.027	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-48</b>	<b>0.0086</b>	<b>J</b>	0.0091	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-49</b>	<b>0.31</b>	<b>C</b>	0.018	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B462**

**Lab Sample ID: 580-78604-5**

Date Collected: 07/02/18 11:56

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 54.1

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	ND	C	0.018	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-51	ND	C45	0.018	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-52</b>	<b>0.12</b>		0.0091	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-53	ND	C50	0.018	0.00031	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-54	ND		0.0091	0.000026	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-55</b>	<b>0.014</b>	<b>q</b>	0.0091	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-56</b>	<b>0.047</b>		0.0091	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-57	ND		0.0091	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-58</b>	<b>0.0076</b>	<b>J</b>	0.0091	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-59</b>	<b>0.023</b>	<b>J C</b>	0.027	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-60</b>	<b>0.010</b>		0.0091	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-61</b>	<b>0.41</b>	<b>C B</b>	0.036	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-62</b>	<b>0.023</b>	<b>J C59</b>	0.027	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-63</b>	<b>0.014</b>	<b>q</b>	0.0091	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-64</b>	<b>0.20</b>		0.0091	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-65</b>	<b>0.33</b>	<b>B C44</b>	0.027	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-66</b>	<b>0.63</b>	<b>B</b>	0.0091	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-67	ND		0.0091	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-68</b>	<b>0.022</b>	<b>B</b>	0.0091	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-69</b>	<b>0.31</b>	<b>C49</b>	0.018	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-70</b>	<b>0.41</b>	<b>C61 B</b>	0.036	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-71</b>	<b>0.022</b>	<b>J C40</b>	0.027	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-72</b>	<b>0.024</b>		0.0091	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-73	ND	C43	0.018	0.00030	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-74</b>	<b>0.41</b>	<b>C61 B</b>	0.036	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-75</b>	<b>0.023</b>	<b>J C59</b>	0.027	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-76</b>	<b>0.41</b>	<b>C61 B</b>	0.036	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-77</b>	<b>0.013</b>	<b>q</b>	0.0091	0.00022	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-78	ND		0.0091	0.00024	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-79</b>	<b>0.010</b>		0.0091	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-80	ND		0.0091	0.00021	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-81	ND		0.0091	0.00023	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-82</b>	<b>0.055</b>	<b>q</b>	0.0091	0.00056	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-83</b>	<b>1.6</b>	<b>C</b>	0.018	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-84</b>	<b>0.20</b>		0.0091	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-85</b>	<b>0.17</b>	<b>C</b>	0.027	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-86</b>	<b>0.61</b>	<b>C</b>	0.055	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-87</b>	<b>0.61</b>	<b>C86</b>	0.055	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-88</b>	<b>0.42</b>	<b>C</b>	0.018	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-89	ND		0.0091	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-90</b>	<b>1.2</b>	<b>C</b>	0.027	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-91</b>	<b>0.42</b>	<b>C88</b>	0.018	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-92</b>	<b>0.15</b>		0.0091	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-93</b>	<b>0.032</b>	<b>C</b>	0.018	0.00049	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-94	ND		0.0091	0.00055	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-95</b>	<b>0.51</b>		0.0091	0.00053	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-96	ND		0.0091	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-97</b>	<b>0.61</b>	<b>C86</b>	0.055	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-98</b>	<b>0.032</b>	<b>C</b>	0.018	0.00047	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B462**

**Lab Sample ID: 580-78604-5**

Date Collected: 07/02/18 11:56

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 54.1

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	1.6	C83	0.018	0.00051	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-100	0.032	C93	0.018	0.00049	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-101	1.2	C90	0.027	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-102	0.032	C98	0.018	0.00047	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-103	0.023		0.0091	0.00049	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-104	ND		0.0091	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-105	0.15		0.0091	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-106	ND		0.0091	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-107	0.10		0.0091	0.0017	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-108	0.020	C	0.018	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-109	0.61	C86	0.055	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-110	1.4	C B	0.018	0.00036	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-111	ND		0.0091	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-112	0.017	q	0.0091	0.00036	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-113	1.2	C90	0.027	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-114	0.011		0.0091	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-115	1.4	B C110	0.018	0.00036	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-116	0.17	C85	0.027	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-117	0.17	C85	0.027	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-118	1.5		0.0091	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-119	0.61	C86	0.055	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-120	0.024		0.0091	0.00035	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-121	ND		0.0091	0.00036	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-122	0.011	q	0.0091	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-123	0.016	B	0.0091	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-124	0.020	C108	0.018	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-125	0.61	C86	0.055	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-126	ND		0.0091	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-127	ND		0.0091	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-128	0.073	C	0.018	0.00095	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-129	0.52	C B	0.036	0.00098	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-130	0.023	q	0.0091	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-131	0.0065	J q	0.0091	0.0014	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-132	0.12		0.0091	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-133	0.012		0.0091	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-134	0.056	C	0.018	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-135	0.18	C B	0.018	0.00015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-136	0.087		0.0091	0.00011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-137	0.026		0.0091	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-138	0.52	B C129	0.036	0.00098	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-139	0.013	J C q	0.018	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-140	0.013	J C139 q	0.018	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-141	0.064	B	0.0091	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-142	ND		0.0091	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-143	0.056	C134	0.018	0.0013	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-144	0.011	q	0.0091	0.00014	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-145	0.0012	J q	0.0091	0.00011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-146	0.12		0.0091	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-147	0.80	C B	0.018	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B462**

**Lab Sample ID: 580-78604-5**

**Date Collected: 07/02/18 11:56**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 54.1**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0091	0.00015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-149</b>	<b>0.80</b>	<b>B C147</b>	0.018	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-150</b>	<b>0.0026</b>	<b>J q</b>	0.0091	0.00010	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-151</b>	<b>0.18</b>	<b>C135 B</b>	0.018	0.00015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-152	ND		0.0091	0.00011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-153</b>	<b>0.74</b>	<b>C B</b>	0.018	0.00086	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-154</b>	<b>0.019</b>		0.0091	0.00012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-155	ND		0.0091	0.00010	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-156</b>	<b>0.047</b>	<b>C</b>	0.018	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-157</b>	<b>0.047</b>	<b>C156</b>	0.018	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-158</b>	<b>0.063</b>	<b>B</b>	0.0091	0.00077	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-159	ND		0.0091	0.00082	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-160</b>	<b>0.52</b>	<b>B C129</b>	0.036	0.00098	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-161	ND		0.0091	0.00081	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-162	ND		0.0091	0.00080	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-163</b>	<b>0.52</b>	<b>B C129</b>	0.036	0.00098	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-164</b>	<b>0.058</b>	<b>B</b>	0.0091	0.00086	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-165	ND		0.0091	0.00092	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-166</b>	<b>0.073</b>	<b>C128</b>	0.018	0.00095	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-167</b>	<b>0.028</b>		0.0091	0.00057	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-168</b>	<b>0.74</b>	<b>B C153</b>	0.018	0.00086	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-169	ND		0.0091	0.00059	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-170</b>	<b>0.040</b>		0.0091	0.00048	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-171</b>	<b>0.013</b>	<b>J C B</b>	0.018	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-172</b>	<b>0.0057</b>	<b>J q</b>	0.0091	0.00044	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-173</b>	<b>0.013</b>	<b>J C171 B</b>	0.018	0.00045	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-174</b>	<b>0.036</b>	<b>B</b>	0.0091	0.00042	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-175	ND		0.0091	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-176</b>	<b>0.0033</b>	<b>J q</b>	0.0091	0.00030	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-177</b>	<b>0.026</b>		0.0091	0.00043	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-178</b>	<b>0.0084</b>	<b>J q</b>	0.0091	0.00044	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-179</b>	<b>0.019</b>	<b>B</b>	0.0091	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-180</b>	<b>0.084</b>	<b>C B</b>	0.018	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-181	ND		0.0091	0.00040	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-182	ND		0.0091	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-183</b>	<b>0.025</b>	<b>C</b>	0.018	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-184	ND		0.0091	0.00033	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-185</b>	<b>0.025</b>	<b>C183</b>	0.018	0.00039	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-186	ND		0.0091	0.00032	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-187</b>	<b>0.063</b>	<b>B</b>	0.0091	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-188	ND		0.0091	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-189	ND		0.0091	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-190</b>	<b>0.0089</b>	<b>J B</b>	0.0091	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-191</b>	<b>0.0020</b>	<b>J q</b>	0.0091	0.00030	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-192	ND		0.0091	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-193</b>	<b>0.084</b>	<b>C180 B</b>	0.018	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-194</b>	<b>0.018</b>		0.0091	0.0015	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-195</b>	<b>0.0058</b>	<b>J</b>	0.0091	0.0016	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
<b>PCB-196</b>	<b>0.0035</b>	<b>J q</b>	0.0091	0.00037	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B462**

**Lab Sample ID: 580-78604-5**

Date Collected: 07/02/18 11:56

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 54.1

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	0.00086	J q	0.0091	0.00028	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-198	0.028	C	0.018	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-199	0.028	C198	0.018	0.00038	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-200	0.0014	J q	0.0091	0.00025	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-201	0.0025	J	0.0091	0.00026	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-202	0.0054	J q	0.0091	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-203	0.013		0.0091	0.00034	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-204	ND		0.0091	0.00029	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-205	ND		0.0091	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-206	0.016		0.0091	0.0021	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-207	ND		0.0091	0.0012	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-208	0.0079	J	0.0091	0.0011	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
PCB-209	0.037	B	0.0091	0.0018	ng/g	☼	09/11/18 11:15	09/19/18 20:09	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	70		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-3L	69		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-4L	80		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-15L	80		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-19L	89		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-37L	85		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-54L	94		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-77L	91		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-81L	84		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-104L	84		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-105L	91		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-114L	93		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-118L	90		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-123L	86		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-126L	95		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-155L	100		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-156L	76	C	30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-157L	76	C156	30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-167L	94		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-169L	100		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-170L	87		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-188L	90		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-189L	73		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-202L	98		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-205L	75		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-206L	78		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-208L	66		30 - 140				09/11/18 11:15	09/19/18 20:09	1
PCB-209L	69		30 - 140				09/11/18 11:15	09/19/18 20:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-28L	90		40 - 125				09/11/18 11:15	09/19/18 20:09	1
PCB-111L	101		40 - 125				09/11/18 11:15	09/19/18 20:09	1
PCB-178L	98		40 - 125				09/11/18 11:15	09/19/18 20:09	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B463**

**Lab Sample ID: 580-78604-6**

Date Collected: 07/02/18 12:58

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 60.2

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	0.0013	J q	0.0080	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-2	0.0022	J q	0.0080	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-3	ND		0.0080	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-4	0.0026	J q	0.016	0.0020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-5	ND		0.0080	0.0017	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-6	ND		0.0080	0.0015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-7	ND		0.0080	0.0015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-8	0.0074	J q	0.016	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-9	ND		0.0080	0.0015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-10	ND		0.0080	0.0016	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-11	0.019	q	0.016	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-12	ND	C	0.016	0.0015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-13	ND	C12	0.016	0.0015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-14	ND		0.0080	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-15	0.0053	J q	0.0080	0.0016	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-16	0.0033	J q	0.0080	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-17	0.0065	J q	0.0080	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-18	0.012	J C q	0.016	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-19	ND		0.0080	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-20	0.025	C	0.016	0.00040	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-21	0.012	J C	0.016	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-22	0.0073	J	0.0080	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-23	ND		0.0080	0.00040	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-24	ND		0.0080	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-25	0.0017	J q	0.0080	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-26	0.0042	J C	0.016	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-27	0.00074	J q	0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-28	0.025	C20	0.016	0.00040	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-29	0.0042	J C26	0.016	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-30	0.012	J C18 q	0.016	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-31	0.019		0.016	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-32	0.0034	J q	0.0080	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-33	0.012	J C21	0.016	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-34	ND		0.0080	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-35	0.0011	J	0.0080	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-36	ND		0.0080	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-37	0.0071	J	0.0080	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-38	ND		0.0080	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-39	ND		0.0080	0.00038	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-40	0.013	J C	0.024	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-41	0.013	J C40	0.024	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-42	0.0070	J q	0.0080	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-43	0.00081	J C q	0.016	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-44	0.031	C B	0.024	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-45	0.0037	J C B q	0.016	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-46	0.0014	J	0.0080	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-47	0.031	B C44	0.024	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-48	0.0036	J q	0.0080	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-49	0.022	C	0.016	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1

TestAmerica Seattle



# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B463**

**Lab Sample ID: 580-78604-6**

Date Collected: 07/02/18 12:58

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 60.2

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0027	J C	0.016	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-51	0.0037	J C45 B q	0.016	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-52	0.045		0.0080	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-53	0.0027	J C50	0.016	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-54	ND		0.0080	0.000016	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-55	0.0010	J q	0.0080	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-56	0.011		0.0080	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-57	ND		0.0080	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-58	ND		0.0080	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-59	0.0028	J C	0.024	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-60	0.0038	J	0.0080	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-61	0.050	C B	0.032	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-62	0.0028	J C59	0.024	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-63	0.00077	J q	0.0080	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-64	0.012		0.0080	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-65	0.031	B C44	0.024	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-66	0.031	B	0.0080	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-67	0.00066	J q	0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-68	0.0015	J B	0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-69	0.022	C49	0.016	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-70	0.050	C61 B	0.032	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-71	0.013	J C40	0.024	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-72	0.0016	J	0.0080	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-73	0.00081	J C43 q	0.016	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-74	0.050	C61 B	0.032	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-75	0.0028	J C59	0.024	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-76	0.050	C61 B	0.032	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-77	0.0036	J	0.0080	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-78	ND		0.0080	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-79	0.00084	J q	0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-80	ND		0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-81	ND		0.0080	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-82	0.0099		0.0080	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-83	0.055	C	0.016	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-84	0.015	q	0.0080	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-85	0.016	J C	0.024	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-86	0.047	J C	0.048	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-87	0.047	J C86	0.048	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-88	0.010	J C	0.016	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-89	ND		0.0080	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-90	0.074	C q	0.024	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-91	0.010	J C88	0.016	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-92	0.015		0.0080	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-93	0.0019	J C	0.016	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-94	ND		0.0080	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-95	0.071		0.0080	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-96	ND		0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-97	0.047	J C86	0.048	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-98	0.0026	J C	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B463**

**Lab Sample ID: 580-78604-6**

**Date Collected: 07/02/18 12:58**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 60.2**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	0.055	C83	0.016	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-100	0.0019	J C93	0.016	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-101	0.074	C90 q	0.024	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-102	0.0026	J C98	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-103	0.0018	J	0.0080	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-104	ND		0.0080	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-105	0.028		0.0080	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-106	ND		0.0080	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-107	0.0073	J	0.0080	0.00059	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-108	0.0030	J C q	0.016	0.00057	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-109	0.047	J C86	0.048	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-110	0.096	C B	0.016	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-111	ND		0.0080	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-112	ND		0.0080	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-113	0.074	C90 q	0.024	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-114	0.0015	J	0.0080	0.00052	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-115	0.096	B C110	0.016	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-116	0.016	J C85	0.024	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-117	0.016	J C85	0.024	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-118	0.073		0.0080	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-119	0.047	J C86	0.048	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-120	ND		0.0080	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-121	ND		0.0080	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-122	ND		0.0080	0.00064	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-123	0.0013	J B q	0.0080	0.00056	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-124	0.0030	J q C108	0.016	0.00057	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-125	0.047	J C86	0.048	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-126	0.0012	J	0.0080	0.00056	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-127	ND		0.0080	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-128	0.026	C	0.016	0.00072	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-129	0.15	C B	0.032	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-130	0.0092		0.0080	0.00098	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-131	ND		0.0080	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-132	0.035		0.0080	0.00095	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-133	0.0037	J	0.0080	0.00092	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-134	0.0061	J C	0.016	0.00096	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-135	0.033	C B	0.016	0.000080	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-136	0.012		0.0080	0.000057	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-137	0.0059	J q	0.0080	0.00083	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-138	0.15	B C129	0.032	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-139	0.0023	J C q	0.016	0.00082	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-140	0.0023	J C139 q	0.016	0.00082	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-141	0.022	B	0.0080	0.00086	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-142	ND		0.0080	0.00092	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-143	0.0061	J C134	0.016	0.00096	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-144	0.0028	J q	0.0080	0.000072	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-145	ND		0.0080	0.000055	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-146	0.020		0.0080	0.00081	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-147	0.095	C B	0.016	0.00093	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B463**

**Lab Sample ID: 580-78604-6**

**Date Collected: 07/02/18 12:58**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 60.2**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0080	0.000077	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-149</b>	<b>0.095</b>	<b>B C147</b>	0.016	0.00093	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-150	ND		0.0080	0.000052	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-151</b>	<b>0.033</b>	<b>C135 B</b>	0.016	0.000080	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-152	ND		0.0080	0.000056	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-153</b>	<b>0.11</b>	<b>C B</b>	0.016	0.00065	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-154</b>	<b>0.0035</b>	<b>J</b>	0.0080	0.000062	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-155	ND		0.0080	0.000052	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-156</b>	<b>0.015</b>	<b>J C S</b>	0.016	0.00087	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-157</b>	<b>0.015</b>	<b>J C156 S</b>	0.016	0.00087	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-158</b>	<b>0.013</b>	<b>B</b>	0.0080	0.00058	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-159</b>	<b>0.00089</b>	<b>J</b>	0.0080	0.00062	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-160</b>	<b>0.15</b>	<b>B C129</b>	0.032	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-161	ND		0.0080	0.00061	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-162	ND		0.0080	0.00060	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-163</b>	<b>0.15</b>	<b>B C129</b>	0.032	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-164</b>	<b>0.011</b>	<b>B</b>	0.0080	0.00065	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-165	ND		0.0080	0.00069	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-166</b>	<b>0.026</b>	<b>C128</b>	0.016	0.00072	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-167</b>	<b>0.0052</b>	<b>J</b>	0.0080	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-168</b>	<b>0.11</b>	<b>B C153</b>	0.016	0.00065	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-169	ND		0.0080	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-170</b>	<b>0.031</b>		0.0080	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-171</b>	<b>0.011</b>	<b>J C B</b>	0.016	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-172</b>	<b>0.0064</b>	<b>J</b>	0.0080	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-173</b>	<b>0.011</b>	<b>J C171 B</b>	0.016	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-174</b>	<b>0.029</b>	<b>B</b>	0.0080	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-175</b>	<b>0.0012</b>	<b>J q</b>	0.0080	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-176</b>	<b>0.0031</b>	<b>J q</b>	0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-177</b>	<b>0.020</b>		0.0080	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-178</b>	<b>0.0083</b>		0.0080	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-179</b>	<b>0.012</b>	<b>B q</b>	0.0080	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-180</b>	<b>0.063</b>	<b>C B</b>	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-181</b>	<b>0.00073</b>	<b>J q</b>	0.0080	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-182	ND		0.0080	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-183</b>	<b>0.020</b>	<b>C</b>	0.016	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-184	ND		0.0080	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-185</b>	<b>0.020</b>	<b>C183</b>	0.016	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-186	ND		0.0080	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-187</b>	<b>0.044</b>	<b>B</b>	0.0080	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-188	ND		0.0080	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-189</b>	<b>0.0015</b>	<b>J B q</b>	0.0080	0.00048	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-190</b>	<b>0.0072</b>	<b>J B</b>	0.0080	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-191</b>	<b>0.0013</b>	<b>J q</b>	0.0080	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-192	ND		0.0080	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-193</b>	<b>0.063</b>	<b>C180 B</b>	0.016	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-194</b>	<b>0.016</b>		0.0080	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-195</b>	<b>0.0062</b>	<b>J</b>	0.0080	0.00032	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
<b>PCB-196</b>	<b>0.0049</b>	<b>J</b>	0.0080	0.000063	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B463**

**Lab Sample ID: 580-78604-6**

Date Collected: 07/02/18 12:58

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 60.2

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	0.00020	J q	0.0080	0.000048	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-198	0.016	C	0.016	0.000064	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-199	0.016	C198	0.016	0.000064	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-200	0.0016	J q	0.0080	0.000043	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-201	0.0011	J q	0.0080	0.000044	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-202	0.0040	J	0.0080	0.000049	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-203	0.0091		0.0080	0.000057	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-204	ND		0.0080	0.000048	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-205	0.00097	J B	0.0080	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-206	0.012		0.0080	0.00054	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-207	ND		0.0080	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-208	0.0037	J q	0.0080	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
PCB-209	0.020	B	0.0080	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 04:12	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	89		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-3L	91		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-4L	87		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-15L	86		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-19L	91		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-37L	94		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-54L	72		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-77L	90		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-81L	91		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-104L	84		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-105L	91		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-114L	90		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-118L	88		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-123L	86		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-126L	89		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-155L	80		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-156L	73	C S	30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-157L	73	C156 S	30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-167L	90		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-169L	90		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-170L	91		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-188L	90		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-189L	95		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-202L	103		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-205L	77		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-206L	78		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-208L	75		30 - 140				09/11/18 11:15	09/20/18 04:12	1
PCB-209L	69		30 - 140				09/11/18 11:15	09/20/18 04:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-28L	101		40 - 125				09/11/18 11:15	09/20/18 04:12	1
PCB-111L	93		40 - 125				09/11/18 11:15	09/20/18 04:12	1
PCB-178L	110		40 - 125				09/11/18 11:15	09/20/18 04:12	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B464**

**Lab Sample ID: 580-78604-7**

Date Collected: 07/02/18 14:39

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 49.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	0.0017	J	0.010	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-2	0.0033	J q	0.010	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-3	0.0022	J	0.010	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-4	0.0056	J q	0.020	0.0030	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-5	ND		0.010	0.0023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-6	ND		0.010	0.0020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-7	ND		0.010	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-8	0.0069	J q	0.020	0.0019	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-9	ND		0.010	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-10	ND		0.010	0.0023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-11	0.040		0.020	0.0020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-12	ND	C	0.020	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-13	ND	C12	0.020	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-14	ND		0.010	0.0018	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-15	0.0074	J	0.010	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-16	0.0041	J q	0.010	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-17	0.0079	J q	0.010	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-18	0.014	J C	0.020	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-19	0.0025	J q	0.010	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-20	0.031	C	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-21	0.012	J C	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-22	0.0086	J	0.010	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-23	ND		0.010	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-24	ND		0.010	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-25	0.0024	J q	0.010	0.00034	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-26	0.0054	J C	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-27	0.00080	J q	0.010	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-28	0.031	C20	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-29	0.0054	J C26	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-30	0.014	J C18	0.020	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-31	0.023		0.020	0.00035	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-32	0.0055	J	0.010	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-33	0.012	J C21	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-34	ND		0.010	0.00038	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-35	0.0012	J	0.010	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-36	ND		0.010	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-37	0.0098	J	0.010	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-38	ND		0.010	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-39	ND		0.010	0.00035	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-40	0.023	J C	0.030	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-41	0.023	J C40	0.030	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-42	0.013		0.010	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-43	0.0014	J C q	0.020	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-44	0.054	C B	0.030	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-45	0.0076	J C B	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-46	0.0023	J q	0.010	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-47	0.054	B C44	0.030	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-48	0.0084	J	0.010	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-49	0.033	C	0.020	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B464**

**Lab Sample ID: 580-78604-7**

Date Collected: 07/02/18 14:39

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 49.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0057	J C	0.020	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-51	0.0076	J C45 B	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-52	0.072		0.010	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-53	0.0057	J C50	0.020	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-54	ND		0.010	0.000013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-55	0.00051	J q	0.010	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-56	0.014	q	0.010	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-57	ND		0.010	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-58	ND		0.010	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-59	0.0032	J C q	0.030	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-60	0.0071	J	0.010	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-61	0.079	C B	0.040	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-62	0.0032	J C59 q	0.030	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-63	0.0017	J q	0.010	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-64	0.021		0.010	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-65	0.054	B C44	0.030	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-66	0.046	B	0.010	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-67	0.0012	J q	0.010	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-68	0.0011	J B q	0.010	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-69	0.033	C49	0.020	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-70	0.079	C61 B	0.040	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-71	0.023	J C40	0.030	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-72	0.0011	J q	0.010	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-73	0.0014	J C43 q	0.020	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-74	0.079	C61 B	0.040	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-75	0.0032	J C59 q	0.030	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-76	0.079	C61 B	0.040	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-77	0.0064	J	0.010	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-78	ND		0.010	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-79	0.00081	J q	0.010	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-80	ND		0.010	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-81	ND		0.010	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-82	0.0087	J q	0.010	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-83	0.066	C	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-84	0.024		0.010	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-85	0.019	J C q	0.030	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-86	0.060	C	0.060	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-87	0.060	C86	0.060	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-88	0.016	J C	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-89	ND		0.010	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-90	0.093	C	0.030	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-91	0.016	J C88	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-92	0.021		0.010	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-93	ND	C	0.020	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-94	ND		0.010	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-95	0.086		0.010	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-96	ND		0.010	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-97	0.060	C86	0.060	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-98	0.0029	J C	0.020	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B464**

**Lab Sample ID: 580-78604-7**

Date Collected: 07/02/18 14:39

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 49.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	0.066	C83	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-100	ND	C93	0.020	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-101	0.093	C90	0.030	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-102	0.0029	J C98	0.020	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-103	ND		0.010	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-104	ND		0.010	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-105	0.043		0.010	0.00072	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-106	ND		0.010	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-107	0.0089	J	0.010	0.00079	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-108	0.0044	J C q	0.020	0.00076	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-109	0.060	C86	0.060	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-110	0.12	C B	0.020	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-111	ND		0.010	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-112	ND		0.010	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-113	0.093	C90	0.030	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-114	0.0026	J	0.010	0.00072	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-115	0.12	B C110	0.020	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-116	0.019	J C85 q	0.030	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-117	0.019	J C85 q	0.030	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-118	0.10		0.010	0.00070	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-119	0.060	C86	0.060	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-120	ND		0.010	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-121	ND		0.010	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-122	0.0023	J	0.010	0.00086	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-123	0.0016	J B q	0.010	0.00075	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-124	0.0044	J q C108	0.020	0.00076	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-125	0.060	C86	0.060	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-126	0.0020	J q	0.010	0.00073	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-127	ND		0.010	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-128	0.035	C	0.020	0.00099	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-129	0.23	C B	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-130	0.015		0.010	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-131	ND		0.010	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-132	0.051		0.010	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-133	0.0031	J	0.010	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-134	0.0086	J C q	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-135	0.039	C B q	0.020	0.000070	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-136	0.013		0.010	0.000051	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-137	0.011		0.010	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-138	0.23	B C129	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-139	0.0020	J C	0.020	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-140	0.0020	J C139	0.020	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-141	0.033	B	0.010	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-142	ND		0.010	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-143	0.0086	J C134 q	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-144	0.0046	J q	0.010	0.000064	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-145	ND		0.010	0.000048	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-146	0.028		0.010	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-147	0.14	C B	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B464**

**Lab Sample ID: 580-78604-7**

**Date Collected: 07/02/18 14:39**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 49.4**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.010	0.000068	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-149</b>	<b>0.14</b>	<b>B C147</b>	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-150	ND		0.010	0.000046	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-151</b>	<b>0.039</b>	<b>C135 B q</b>	0.020	0.000070	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-152	ND		0.010	0.000050	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-153</b>	<b>0.16</b>	<b>C B</b>	0.020	0.00089	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-154</b>	<b>0.0021</b>	<b>J q</b>	0.010	0.000055	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-155	ND		0.010	0.000046	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-156</b>	<b>0.019</b>	<b>J C q S</b>	0.020	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-157</b>	<b>0.019</b>	<b>J C156 q S</b>	0.020	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-158</b>	<b>0.020</b>	<b>B</b>	0.010	0.00080	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-159	ND		0.010	0.00085	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-160</b>	<b>0.23</b>	<b>B C129</b>	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-161	ND		0.010	0.00084	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-162	ND		0.010	0.00083	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-163</b>	<b>0.23</b>	<b>B C129</b>	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-164</b>	<b>0.014</b>	<b>B</b>	0.010	0.00089	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-165	ND		0.010	0.00096	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-166</b>	<b>0.035</b>	<b>C128</b>	0.020	0.00099	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-167</b>	<b>0.0082</b>	<b>J</b>	0.010	0.00057	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-168</b>	<b>0.16</b>	<b>B C153</b>	0.020	0.00089	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-169	ND		0.010	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-170</b>	<b>0.041</b>		0.010	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-171</b>	<b>0.011</b>	<b>J C B q</b>	0.020	0.00038	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-172</b>	<b>0.0086</b>	<b>J</b>	0.010	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-173</b>	<b>0.011</b>	<b>J C171 B q</b>	0.020	0.00038	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-174</b>	<b>0.040</b>	<b>B</b>	0.010	0.00035	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-175	ND		0.010	0.00034	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-176</b>	<b>0.0040</b>	<b>J</b>	0.010	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-177</b>	<b>0.026</b>		0.010	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-178</b>	<b>0.010</b>	<b>q</b>	0.010	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-179</b>	<b>0.016</b>	<b>B</b>	0.010	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-180</b>	<b>0.085</b>	<b>C B</b>	0.020	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-181	ND		0.010	0.00034	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-182	ND		0.010	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-183</b>	<b>0.026</b>	<b>C</b>	0.020	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-184	ND		0.010	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-185</b>	<b>0.026</b>	<b>C183</b>	0.020	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-186	ND		0.010	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-187</b>	<b>0.058</b>	<b>B</b>	0.010	0.00032	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-188	ND		0.010	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-189</b>	<b>0.0021</b>	<b>J B q</b>	0.010	0.00070	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-190</b>	<b>0.0077</b>	<b>J B q</b>	0.010	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-191</b>	<b>0.0017</b>	<b>J q</b>	0.010	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-192	ND		0.010	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-193</b>	<b>0.085</b>	<b>C180 B</b>	0.020	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-194</b>	<b>0.020</b>		0.010	0.00052	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-195</b>	<b>0.0094</b>	<b>J</b>	0.010	0.00056	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-196</b>	<b>0.0098</b>	<b>J</b>	0.010	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1

TestAmerica Seattle



# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B464**

**Lab Sample ID: 580-78604-7**

Date Collected: 07/02/18 14:39

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 49.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	ND		0.010	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-198</b>	<b>0.026</b>	<b>C q</b>	0.020	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-199</b>	<b>0.026</b>	<b>C198 q</b>	0.020	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-200</b>	<b>0.0027</b>	<b>J q</b>	0.010	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-201</b>	<b>0.0020</b>	<b>J q</b>	0.010	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-202</b>	<b>0.0047</b>	<b>J q</b>	0.010	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-203</b>	<b>0.016</b>		0.010	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-204	ND		0.010	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-205</b>	<b>0.0017</b>	<b>J B</b>	0.010	0.00044	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-206</b>	<b>0.018</b>		0.010	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
PCB-207	ND		0.010	0.00054	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-208</b>	<b>0.0079</b>	<b>J</b>	0.010	0.00050	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
<b>PCB-209</b>	<b>0.032</b>	<b>B</b>	0.010	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 05:14	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	83		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-3L	89		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-4L	82		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-15L	87		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-19L	97		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-37L	103		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-54L	77		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-77L	87		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-81L	87		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-104L	89		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-105L	93		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-114L	87		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-118L	87		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-123L	85		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-126L	90		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-155L	81		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-156L	59	C S	30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-157L	59	C156 S	30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-167L	89		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-169L	98		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-170L	88		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-188L	90		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-189L	95		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-202L	93		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-205L	78		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-206L	79		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-208L	61		30 - 140				09/11/18 11:15	09/20/18 05:14	1
PCB-209L	67		30 - 140				09/11/18 11:15	09/20/18 05:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-28L	102		40 - 125				09/11/18 11:15	09/20/18 05:14	1
PCB-111L	94		40 - 125				09/11/18 11:15	09/20/18 05:14	1
PCB-178L	102		40 - 125				09/11/18 11:15	09/20/18 05:14	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B466**

**Lab Sample ID: 580-78604-8**

Date Collected: 07/02/18 15:34

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 55.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		0.0099	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-2	ND		0.0099	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-3</b>	<b>0.0014</b>	<b>J</b>	0.0099	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-4</b>	<b>0.0058</b>	<b>J q</b>	0.020	0.0038	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-5	ND		0.0099	0.0031	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-6	ND		0.0099	0.0027	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-7	ND		0.0099	0.0028	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-8</b>	<b>0.0050</b>	<b>J q</b>	0.020	0.0025	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-9	ND		0.0099	0.0029	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-10	ND		0.0099	0.0031	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-11</b>	<b>0.025</b>	<b>q</b>	0.020	0.0027	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-12	ND	C	0.020	0.0028	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-13	ND	C12	0.020	0.0028	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-14	ND		0.0099	0.0024	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-15</b>	<b>0.0056</b>	<b>J q</b>	0.0099	0.0030	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-16	ND		0.0099	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-17</b>	<b>0.0039</b>	<b>J</b>	0.0099	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-18</b>	<b>0.0081</b>	<b>J C</b>	0.020	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-19	ND		0.0099	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-20</b>	<b>0.017</b>	<b>J C</b>	0.020	0.00054	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-21</b>	<b>0.0048</b>	<b>J q C</b>	0.020	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-22</b>	<b>0.0040</b>	<b>J q</b>	0.0099	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-23	ND		0.0099	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-24	ND		0.0099	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-25</b>	<b>0.0018</b>	<b>J</b>	0.0099	0.00050	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-26</b>	<b>0.0032</b>	<b>J C</b>	0.020	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-27	ND		0.0099	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-28</b>	<b>0.017</b>	<b>J C20</b>	0.020	0.00054	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-29</b>	<b>0.0032</b>	<b>J C26</b>	0.020	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-30</b>	<b>0.0081</b>	<b>J C18</b>	0.020	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-31</b>	<b>0.013</b>	<b>J</b>	0.020	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-32</b>	<b>0.0038</b>	<b>J q</b>	0.0099	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-33</b>	<b>0.0048</b>	<b>J q C21</b>	0.020	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-34	ND		0.0099	0.00057	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-35</b>	<b>0.00097</b>	<b>J</b>	0.0099	0.00056	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-36	ND		0.0099	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-37</b>	<b>0.0051</b>	<b>J</b>	0.0099	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-38	ND		0.0099	0.00058	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-39	ND		0.0099	0.00052	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-40</b>	<b>0.012</b>	<b>J C</b>	0.030	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-41</b>	<b>0.012</b>	<b>J C40</b>	0.030	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-42</b>	<b>0.0054</b>	<b>J</b>	0.0099	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-43</b>	<b>0.0011</b>	<b>J C</b>	0.020	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-44</b>	<b>0.028</b>	<b>J C B</b>	0.030	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-45</b>	<b>0.0043</b>	<b>J C B</b>	0.020	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-46	ND		0.0099	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-47</b>	<b>0.028</b>	<b>J C44 B</b>	0.030	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-48</b>	<b>0.0017</b>	<b>J q</b>	0.0099	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-49</b>	<b>0.020</b>	<b>C</b>	0.020	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B466**

**Lab Sample ID: 580-78604-8**

Date Collected: 07/02/18 15:34

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 55.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0028	J q C	0.020	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-51	0.0043	J C45 B	0.020	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-52	0.042		0.0099	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-53	0.0028	J q C50	0.020	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-54	ND		0.0099	0.000020	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-55	ND		0.0099	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-56	0.011		0.0099	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-57	ND		0.0099	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-58	ND		0.0099	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-59	0.0027	J C	0.030	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-60	0.0054	J	0.0099	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-61	0.048	C B	0.040	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-62	0.0027	J C59	0.030	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-63	0.0013	J q	0.0099	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-64	0.011	q	0.0099	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-65	0.028	J C44 B	0.030	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-66	0.029	B	0.0099	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-67	0.0011	J q	0.0099	0.00010	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-68	0.0010	J B	0.0099	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-69	0.020	C49	0.020	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-70	0.048	C61 B	0.040	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-71	0.012	J C40	0.030	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-72	0.00082	J q	0.0099	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-73	0.0011	J C43	0.020	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-74	0.048	C61 B	0.040	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-75	0.0027	J C59	0.030	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-76	0.048	C61 B	0.040	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-77	0.0039	J	0.0099	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-78	ND		0.0099	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-79	0.0011	J	0.0099	0.00010	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-80	ND		0.0099	0.00010	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-81	ND		0.0099	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-82	0.0097	J	0.0099	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-83	0.051	C	0.020	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-84	0.015		0.0099	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-85	0.018	J q C	0.030	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-86	0.049	J C	0.059	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-87	0.049	J C86	0.059	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-88	0.0082	J C	0.020	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-89	ND		0.0099	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-90	0.072	C	0.030	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-91	0.0082	J C88	0.020	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-92	0.010		0.0099	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-93	ND	C	0.020	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-94	ND		0.0099	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-95	0.049		0.0099	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-96	ND		0.0099	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-97	0.049	J C86	0.059	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-98	0.0015	J C	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B466**

**Lab Sample ID: 580-78604-8**

**Date Collected: 07/02/18 15:34**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 55.4**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	0.051	C83	0.020	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-100	ND	C93	0.020	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-101	0.072	C90	0.030	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-102	0.0015	J C98	0.020	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-103	ND		0.0099	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-104	ND		0.0099	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-105	0.024		0.0099	0.00072	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-106	ND		0.0099	0.00075	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-107	0.0049	J	0.0099	0.00080	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-108	0.0031	J q C	0.020	0.00077	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-109	0.049	J C86	0.059	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-110	0.084	C B	0.020	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-111	ND		0.0099	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-112	ND		0.0099	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-113	0.072	C90	0.030	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-114	0.0016	J q	0.0099	0.00071	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-115	0.084	C110 B	0.020	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-116	0.018	J q C85	0.030	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-117	0.018	J q C85	0.030	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-118	0.059		0.0099	0.00071	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-119	0.049	J C86	0.059	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-120	ND		0.0099	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-121	ND		0.0099	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-122	0.0015	J	0.0099	0.00087	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-123	0.0017	J B	0.0099	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-124	0.0031	J q C108	0.020	0.00077	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-125	0.049	J C86	0.059	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-126	ND		0.0099	0.00078	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-127	ND		0.0099	0.00075	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-128	0.019	J C	0.020	0.00098	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-129	0.13	C B	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-130	0.0075	J	0.0099	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-131	ND		0.0099	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-132	0.028		0.0099	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-133	ND		0.0099	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-134	0.0043	J q C	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-135	0.028	C B	0.020	0.000048	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-136	0.0084	J	0.0099	0.000034	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-137	0.0065	J	0.0099	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-138	0.13	C129 B	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-139	ND	C	0.020	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-140	ND	C139	0.020	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-141	0.021	B	0.0099	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-142	ND		0.0099	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-143	0.0043	J q C134	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-144	0.0037	J q	0.0099	0.000043	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-145	ND		0.0099	0.000033	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-146	0.018		0.0099	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-147	0.080	C B	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B466**

**Lab Sample ID: 580-78604-8**

**Date Collected: 07/02/18 15:34**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 55.4**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0099	0.000046	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-149</b>	<b>0.080</b>	<b>C147 B</b>	0.020	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-150	ND		0.0099	0.000031	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-151</b>	<b>0.028</b>	<b>C135 B</b>	0.020	0.000048	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-152	ND		0.0099	0.000034	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-153</b>	<b>0.098</b>	<b>C B</b>	0.020	0.00088	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-154	ND		0.0099	0.000037	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-155	ND		0.0099	0.000031	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-156</b>	<b>0.013</b>	<b>J C</b>	0.020	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-157</b>	<b>0.013</b>	<b>J C156</b>	0.020	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-158</b>	<b>0.010</b>	<b>q B</b>	0.0099	0.00080	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-159	ND		0.0099	0.00084	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-160</b>	<b>0.13</b>	<b>C129 B</b>	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-161	ND		0.0099	0.00084	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-162	ND		0.0099	0.00083	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-163</b>	<b>0.13</b>	<b>C129 B</b>	0.040	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-164</b>	<b>0.0067</b>	<b>J q B</b>	0.0099	0.00089	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-165	ND		0.0099	0.00095	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-166</b>	<b>0.019</b>	<b>J C128</b>	0.020	0.00098	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-167</b>	<b>0.0046</b>	<b>J</b>	0.0099	0.00057	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-168</b>	<b>0.098</b>	<b>C153 B</b>	0.020	0.00088	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-169	ND		0.0099	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-170</b>	<b>0.030</b>		0.0099	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-171</b>	<b>0.0093</b>	<b>J C B</b>	0.020	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-172</b>	<b>0.0064</b>	<b>J</b>	0.0099	0.00040	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-173</b>	<b>0.0093</b>	<b>J C171 B</b>	0.020	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-174</b>	<b>0.029</b>	<b>B</b>	0.0099	0.00038	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-175</b>	<b>0.0015</b>	<b>J</b>	0.0099	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-176</b>	<b>0.0033</b>	<b>J q</b>	0.0099	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-177</b>	<b>0.016</b>	<b>q</b>	0.0099	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-178</b>	<b>0.0076</b>	<b>J</b>	0.0099	0.00040	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-179</b>	<b>0.012</b>	<b>B</b>	0.0099	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-180</b>	<b>0.078</b>	<b>C B</b>	0.020	0.00031	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-181	ND		0.0099	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-182	ND		0.0099	0.00035	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-183</b>	<b>0.021</b>	<b>C</b>	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-184	ND		0.0099	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-185</b>	<b>0.021</b>	<b>C183</b>	0.020	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-186	ND		0.0099	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-187</b>	<b>0.041</b>	<b>B</b>	0.0099	0.00034	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-188	ND		0.0099	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-189	ND		0.0099	0.00085	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-190</b>	<b>0.0070</b>	<b>J q B</b>	0.0099	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-191</b>	<b>0.0016</b>	<b>J</b>	0.0099	0.00028	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-192	ND		0.0099	0.00031	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-193</b>	<b>0.078</b>	<b>C180 B</b>	0.020	0.00031	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-194</b>	<b>0.017</b>		0.0099	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-195</b>	<b>0.0088</b>	<b>J</b>	0.0099	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
<b>PCB-196</b>	<b>0.0077</b>	<b>J q</b>	0.0099	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B466**

**Lab Sample ID: 580-78604-8**

Date Collected: 07/02/18 15:34

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 55.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	0.0011	J	0.0099	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-198	0.020	C	0.020	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-199	0.020	C198	0.020	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-200	0.0028	J q	0.0099	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-201	0.0019	J q	0.0099	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-202	0.0059	J	0.0099	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-203	0.015		0.0099	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-204	ND		0.0099	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-205	ND		0.0099	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-206	0.0091	J q	0.0099	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-207	ND		0.0099	0.00093	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-208	0.0040	J	0.0099	0.00091	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1
PCB-209	0.027	B	0.0099	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 06:15	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-1L	86		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-3L	89		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-4L	78		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-15L	83		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-19L	99		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-37L	92		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-54L	68		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-77L	89		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-81L	89		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-104L	71		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-105L	92		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-114L	91		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-118L	90		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-123L	89		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-126L	87		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-155L	67		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-156L	69	C	30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-157L	69	C156	30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-167L	89		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-169L	93		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-170L	87		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-188L	90		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-189L	96		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-202L	89		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-205L	75		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-206L	73		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-208L	81		30 - 140	09/11/18 11:15	09/20/18 06:15	1
PCB-209L	65		30 - 140	09/11/18 11:15	09/20/18 06:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-28L	103		40 - 125	09/11/18 11:15	09/20/18 06:15	1
PCB-111L	86		40 - 125	09/11/18 11:15	09/20/18 06:15	1
PCB-178L	98		40 - 125	09/11/18 11:15	09/20/18 06:15	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B468**

**Lab Sample ID: 580-78604-9**

Date Collected: 07/02/18 16:33

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 61.9

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	0.00048	J q	0.0097	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-2	0.0020	J q	0.0097	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-3	0.00081	J q	0.0097	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-4	ND		0.019	0.0041	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-5	ND		0.0097	0.0034	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-6	ND		0.0097	0.0030	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-7	ND		0.0097	0.0030	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-8	0.0039	J q	0.019	0.0027	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-9	ND		0.0097	0.0031	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-10	ND		0.0097	0.0033	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-11	0.021		0.019	0.0029	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-12	ND	C	0.019	0.0030	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-13	ND	C12	0.019	0.0030	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-14	ND		0.0097	0.0025	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-15	ND		0.0097	0.0032	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-16	ND		0.0097	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-17	ND		0.0097	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-18	0.0074	J C	0.019	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-19	ND		0.0097	0.00050	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-20	0.012	J C	0.019	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-21	0.0038	J C	0.019	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-22	0.0035	J	0.0097	0.00047	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-23	ND		0.0097	0.00047	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-24	ND		0.0097	0.00034	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-25	ND		0.0097	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-26	ND	C	0.019	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-27	ND		0.0097	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-28	0.012	J C20	0.019	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-29	ND	C26	0.019	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-30	0.0074	J C18	0.019	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-31	0.0094	J	0.019	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-32	0.0019	J q	0.0097	0.00029	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-33	0.0038	J C21	0.019	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-34	ND		0.0097	0.00048	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-35	ND		0.0097	0.00047	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-36	ND		0.0097	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-37	0.0052	J	0.0097	0.00047	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-38	ND		0.0097	0.00049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-39	ND		0.0097	0.00044	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-40	0.0059	J C	0.029	0.000073	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-41	0.0059	J C40	0.029	0.000073	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-42	0.0033	J	0.0097	0.000073	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-43	ND	C	0.019	0.000068	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-44	0.012	J C B	0.029	0.000065	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-45	0.0011	J C B q	0.019	0.000077	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-46	ND		0.0097	0.000093	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-47	0.012	J B C44	0.029	0.000065	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-48	0.0021	J	0.0097	0.000073	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-49	0.0078	J C q	0.019	0.000060	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B468**

**Lab Sample ID: 580-78604-9**

Date Collected: 07/02/18 16:33

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 61.9

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0012	J C q	0.019	0.000071	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-51	0.0011	J C45 B q	0.019	0.000077	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-52	0.015		0.0097	0.000072	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-53	0.0012	J C50 q	0.019	0.000071	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-54	ND		0.0097	0.000025	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-55	0.00046	J q	0.0097	0.000053	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-56	0.0052	J	0.0097	0.000053	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-57	ND		0.0097	0.000054	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-58	ND		0.0097	0.000055	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-59	0.0010	J C q	0.029	0.000052	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-60	0.0021	J q	0.0097	0.000054	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-61	0.022	J C B	0.039	0.000051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-62	0.0010	J C59 q	0.029	0.000052	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-63	0.00054	J	0.0097	0.000049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-64	0.0043	J	0.0097	0.000049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-65	0.012	J B C44	0.029	0.000065	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-66	0.012	B q	0.0097	0.000051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-67	ND		0.0097	0.000047	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-68	0.00031	J B q	0.0097	0.000048	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-69	0.0078	J C49 q	0.019	0.000060	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-70	0.022	J C61 B	0.039	0.000051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-71	0.0059	J C40	0.029	0.000073	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-72	ND		0.0097	0.000053	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-73	ND	C43	0.019	0.000068	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-74	0.022	J C61 B	0.039	0.000051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-75	0.0010	J C59 q	0.029	0.000052	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-76	0.022	J C61 B	0.039	0.000051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-77	0.0016	J q	0.0097	0.000051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-78	ND		0.0097	0.000055	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-79	0.00080	J q	0.0097	0.000047	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-80	ND		0.0097	0.000046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-81	ND		0.0097	0.000050	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-82	0.0023	J q	0.0097	0.000021	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-83	0.020	C	0.019	0.000019	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-84	0.0053	J	0.0097	0.000021	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-85	0.0050	J C q	0.029	0.000015	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-86	0.020	J C	0.058	0.000016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-87	0.020	J C86	0.058	0.000016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-88	0.0022	J C q	0.019	0.000019	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-89	ND		0.0097	0.000020	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-90	0.026	J C	0.029	0.000016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-91	0.0022	J C88 q	0.019	0.000019	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-92	0.0025	J q	0.0097	0.000018	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-93	ND	C	0.019	0.000018	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-94	ND		0.0097	0.000020	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-95	0.018	q	0.0097	0.000020	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-96	ND		0.0097	0.000015	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-97	0.020	J C86	0.058	0.000016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-98	ND	C	0.019	0.000017	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1

TestAmerica Seattle



# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B468**

**Lab Sample ID: 580-78604-9**

**Date Collected: 07/02/18 16:33**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 61.9**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>PCB-99</b>	<b>0.020</b>	<b>C83</b>	0.019	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-100	ND	C93	0.019	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-101</b>	<b>0.026</b>	<b>J C90</b>	0.029	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-102	ND	C98	0.019	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-103	ND		0.0097	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-104	ND		0.0097	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-105</b>	<b>0.012</b>		0.0097	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-106	ND		0.0097	0.00048	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-107</b>	<b>0.0025</b>	<b>J q</b>	0.0097	0.00051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-108</b>	<b>0.0019</b>	<b>J C</b>	0.019	0.00049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-109</b>	<b>0.020</b>	<b>J C86</b>	0.058	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-110</b>	<b>0.035</b>	<b>C B q</b>	0.019	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-111	ND		0.0097	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-112	ND		0.0097	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-113</b>	<b>0.026</b>	<b>J C90</b>	0.029	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-114	ND		0.0097	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-115</b>	<b>0.035</b>	<b>B C110 q</b>	0.019	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-116</b>	<b>0.0050</b>	<b>J C85 q</b>	0.029	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-117</b>	<b>0.0050</b>	<b>J C85 q</b>	0.029	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-118</b>	<b>0.031</b>		0.0097	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-119</b>	<b>0.020</b>	<b>J C86</b>	0.058	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-120	ND		0.0097	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-121	ND		0.0097	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-122	ND		0.0097	0.00055	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-123	ND		0.0097	0.00049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-124</b>	<b>0.0019</b>	<b>J C108</b>	0.019	0.00049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-125</b>	<b>0.020</b>	<b>J C86</b>	0.058	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-126	ND		0.0097	0.00048	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-127	ND		0.0097	0.00048	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-128</b>	<b>0.0072</b>	<b>J C q</b>	0.019	0.00087	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-129</b>	<b>0.058</b>	<b>C B</b>	0.039	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-130</b>	<b>0.0036</b>	<b>J</b>	0.0097	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-131	ND		0.0097	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-132</b>	<b>0.011</b>	<b>q</b>	0.0097	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-133	ND		0.0097	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-134</b>	<b>0.0026</b>	<b>J C</b>	0.019	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-135</b>	<b>0.020</b>	<b>C B</b>	0.019	0.000033	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-136</b>	<b>0.0051</b>	<b>J</b>	0.0097	0.000024	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-137</b>	<b>0.0018</b>	<b>J q</b>	0.0097	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-138</b>	<b>0.058</b>	<b>B C129</b>	0.039	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-139	ND	C	0.019	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-140	ND	C139	0.019	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-141</b>	<b>0.010</b>	<b>B</b>	0.0097	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-142	ND		0.0097	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-143</b>	<b>0.0026</b>	<b>J C134</b>	0.019	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-144</b>	<b>0.0020</b>	<b>J</b>	0.0097	0.000030	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-145	ND		0.0097	0.000022	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-146</b>	<b>0.0070</b>	<b>J q</b>	0.0097	0.00099	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-147</b>	<b>0.033</b>	<b>C B q</b>	0.019	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B468**

**Lab Sample ID: 580-78604-9**

Date Collected: 07/02/18 16:33

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 61.9

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0097	0.000032	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-149</b>	<b>0.033</b>	<b>B C147 q</b>	0.019	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-150	ND		0.0097	0.000022	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-151</b>	<b>0.020</b>	<b>C135 B</b>	0.019	0.000033	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-152	ND		0.0097	0.000023	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-153</b>	<b>0.045</b>	<b>C B</b>	0.019	0.00078	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-154</b>	<b>0.0020</b>	<b>J</b>	0.0097	0.000026	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-155	ND		0.0097	0.000022	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-156</b>	<b>0.0065</b>	<b>J C</b>	0.019	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-157</b>	<b>0.0065</b>	<b>J C156</b>	0.019	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-158</b>	<b>0.0067</b>	<b>J B</b>	0.0097	0.00070	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-159	ND		0.0097	0.00075	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-160</b>	<b>0.058</b>	<b>B C129</b>	0.039	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-161	ND		0.0097	0.00074	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-162	ND		0.0097	0.00073	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-163</b>	<b>0.058</b>	<b>B C129</b>	0.039	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-164</b>	<b>0.0032</b>	<b>J B q</b>	0.0097	0.00078	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-165	ND		0.0097	0.00084	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-166</b>	<b>0.0072</b>	<b>J C128 q</b>	0.019	0.00087	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-167</b>	<b>0.0020</b>	<b>J q</b>	0.0097	0.00057	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-168</b>	<b>0.045</b>	<b>B C153</b>	0.019	0.00078	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-169	ND		0.0097	0.00053	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-170</b>	<b>0.014</b>	<b>q</b>	0.0097	0.00051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-171</b>	<b>0.0060</b>	<b>J C B</b>	0.019	0.00051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-172</b>	<b>0.0036</b>	<b>J</b>	0.0097	0.00051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-173</b>	<b>0.0060</b>	<b>J C171 B</b>	0.019	0.00051	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-174</b>	<b>0.017</b>	<b>B</b>	0.0097	0.00048	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-175	ND		0.0097	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-176</b>	<b>0.0013</b>	<b>J q</b>	0.0097	0.00035	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-177</b>	<b>0.0094</b>	<b>J q</b>	0.0097	0.00049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-178</b>	<b>0.0021</b>	<b>J q</b>	0.0097	0.00050	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-179</b>	<b>0.0073</b>	<b>J B q</b>	0.0097	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-180</b>	<b>0.037</b>	<b>C B</b>	0.019	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-181	ND		0.0097	0.00046	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-182	ND		0.0097	0.00044	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-183</b>	<b>0.0093</b>	<b>J C q</b>	0.019	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-184	ND		0.0097	0.00038	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-185</b>	<b>0.0093</b>	<b>J C183 q</b>	0.019	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-186	ND		0.0097	0.00037	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-187</b>	<b>0.023</b>	<b>B</b>	0.0097	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-188	ND		0.0097	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-189</b>	<b>0.00073</b>	<b>J B q</b>	0.0097	0.00049	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-190</b>	<b>0.0032</b>	<b>J B</b>	0.0097	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-191	ND		0.0097	0.00035	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-192	ND		0.0097	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-193</b>	<b>0.037</b>	<b>C180 B</b>	0.019	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-194</b>	<b>0.0083</b>	<b>J</b>	0.0097	0.00066	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-195</b>	<b>0.0039</b>	<b>J</b>	0.0097	0.00072	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-196</b>	<b>0.0038</b>	<b>J</b>	0.0097	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B468**

**Lab Sample ID: 580-78604-9**

Date Collected: 07/02/18 16:33

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 61.9

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	ND		0.0097	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-198</b>	<b>0.011</b>	<b>J C</b>	0.019	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-199</b>	<b>0.011</b>	<b>J C198</b>	0.019	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-200</b>	<b>0.0016</b>	<b>J</b>	0.0097	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-201</b>	<b>0.0012</b>	<b>J</b>	0.0097	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-202</b>	<b>0.0020</b>	<b>J q</b>	0.0097	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-203</b>	<b>0.0056</b>	<b>J q</b>	0.0097	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-204	ND		0.0097	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-205	ND		0.0097	0.00056	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-206</b>	<b>0.0059</b>	<b>J</b>	0.0097	0.00079	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
PCB-207	ND		0.0097	0.00058	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-208</b>	<b>0.0019</b>	<b>J q</b>	0.0097	0.00061	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
<b>PCB-209</b>	<b>0.040</b>	<b>B</b>	0.0097	0.00038	ng/g	☼	09/11/18 11:15	09/20/18 07:17	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	98		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-3L	93		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-4L	72		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-15L	74		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-19L	103		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-37L	97		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-54L	65		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-77L	117		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-81L	111		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-104L	94		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-105L	95		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-114L	92		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-118L	92		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-123L	90		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-126L	93		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-155L	72		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-156L	93	C	30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-157L	93	C156	30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-167L	91		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-169L	98		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-170L	85		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-188L	84		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-189L	91		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-202L	88		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-205L	78		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-206L	81		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-208L	80		30 - 140				09/11/18 11:15	09/20/18 07:17	1
PCB-209L	78		30 - 140				09/11/18 11:15	09/20/18 07:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-28L	104		40 - 125				09/11/18 11:15	09/20/18 07:17	1
PCB-111L	111		40 - 125				09/11/18 11:15	09/20/18 07:17	1
PCB-178L	95		40 - 125				09/11/18 11:15	09/20/18 07:17	1

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B429**

**Lab Sample ID: 580-78604-10**

Date Collected: 07/03/18 10:15

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	0.0023	J	0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-2	0.0027	J	0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-3	0.0024	J	0.0086	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-4	0.010	J q	0.017	0.0025	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-5	ND		0.0086	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-6	0.0061	J q	0.0086	0.0019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-7	ND		0.0086	0.0019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-8	0.022		0.017	0.0017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-9	ND		0.0086	0.0020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-10	ND		0.0086	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-11	0.032		0.017	0.0018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-12	0.0028	J C q	0.017	0.0019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-13	0.0028	J C12 q	0.017	0.0019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-14	ND		0.0086	0.0016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-15	0.014		0.0086	0.0021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-16	0.0078	J	0.0086	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-17	0.010		0.0086	0.00030	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-18	0.021	C q	0.017	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-19	0.0021	J q	0.0086	0.00036	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-20	0.031	C	0.017	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-21	0.014	J C	0.017	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-22	0.010		0.0086	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-23	ND		0.0086	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-24	0.00054	J q	0.0086	0.00025	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-25	0.0029	J	0.0086	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-26	0.0061	J C	0.017	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-27	0.0012	J q	0.0086	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-28	0.031	C20	0.017	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-29	0.0061	J C26	0.017	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-30	0.021	C18 q	0.017	0.00026	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-31	0.028		0.017	0.00041	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-32	0.0064	J q	0.0086	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-33	0.014	J C21	0.017	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-34	ND		0.0086	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-35	ND		0.0086	0.00044	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-36	ND		0.0086	0.00042	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-37	0.011		0.0086	0.00043	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-38	ND		0.0086	0.00045	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-39	ND		0.0086	0.00040	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-40	0.021	J C	0.026	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-41	0.021	J C40	0.026	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-42	0.010		0.0086	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-43	0.0019	J C q	0.017	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-44	0.063	C B	0.026	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-45	0.0068	J C B	0.017	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-46	0.0027	J	0.0086	0.00027	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-47	0.063	B C44	0.026	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-48	0.0070	J q	0.0086	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-49	0.041	C	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B429**

**Lab Sample ID: 580-78604-10**

Date Collected: 07/03/18 10:15

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-50	0.0074	J C	0.017	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-51	0.0068	J C45 B	0.017	0.00023	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-52	0.13		0.0086	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-53	0.0074	J C50	0.017	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-54	ND		0.0086	0.000011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-55	0.0017	J q	0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-56	0.021		0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-57	ND		0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-58	ND		0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-59	0.0032	J C q	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-60	0.010		0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-61	0.12	C B	0.034	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-62	0.0032	J C59 q	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-63	0.0018	J	0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-64	0.023		0.0086	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-65	0.063	B C44	0.026	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-66	0.054	B	0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-67	0.0013	J	0.0086	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-68	0.0018	J B	0.0086	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-69	0.041	C49	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-70	0.12	C61 B	0.034	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-71	0.021	J C40	0.026	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-72	0.0010	J	0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-73	0.0019	J C43 q	0.017	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-74	0.12	C61 B	0.034	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-75	0.0032	J C59 q	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-76	0.12	C61 B	0.034	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-77	0.014		0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-78	ND		0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-79	0.0017	J	0.0086	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-80	ND		0.0086	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-81	ND		0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-82	0.033		0.0086	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-83	0.17	C	0.017	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-84	0.067		0.0086	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-85	0.049	C q	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-86	0.19	C	0.052	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-87	0.19	C86	0.052	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-88	0.035	C	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-89	0.0029	J q	0.0086	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-90	0.29	C	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-91	0.035	C88	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-92	0.053		0.0086	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-93	0.0037	J C	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-94	ND		0.0086	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-95	0.26		0.0086	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-96	ND		0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-97	0.19	C86	0.052	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-98	0.0097	J C	0.017	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B429**

**Lab Sample ID: 580-78604-10**

Date Collected: 07/03/18 10:15

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-99	0.17	C83	0.017	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-100	0.0037	J C93	0.017	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-101	0.29	C90	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-102	0.0097	J C98	0.017	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-103	ND		0.0086	0.00018	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-104	ND		0.0086	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-105	0.078		0.0086	0.00073	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-106	ND		0.0086	0.00078	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-107	0.018		0.0086	0.00084	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-108	0.0099	J C	0.017	0.00080	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-109	0.19	C86	0.052	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-110	0.35	C B	0.017	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-111	ND		0.0086	0.00012	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-112	ND		0.0086	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-113	0.29	C90	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-114	0.0043	J	0.0086	0.00072	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-115	0.35	B C110	0.017	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-116	0.049	C85 q	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-117	0.049	C85 q	0.026	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-118	0.20		0.0086	0.00076	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-119	0.19	C86	0.052	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-120	ND		0.0086	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-121	ND		0.0086	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-122	0.0038	J	0.0086	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-123	0.0048	J B q	0.0086	0.00081	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-124	0.0099	J C108	0.017	0.00080	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-125	0.19	C86	0.052	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-126	0.0037	J q	0.0086	0.00081	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-127	ND		0.0086	0.00078	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-128	0.061	C	0.017	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-129	0.37	C B	0.034	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-130	0.022	q	0.0086	0.0015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-131	ND		0.0086	0.0015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-132	0.10		0.0086	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-133	0.0045	J q	0.0086	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-134	0.018	C	0.017	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-135	0.053	C B q	0.017	0.000079	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-136	0.027	q	0.0086	0.000057	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-137	0.017		0.0086	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-138	0.37	B C129	0.034	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-139	0.0069	J C	0.017	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-140	0.0069	J C139	0.017	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-141	0.061	B	0.0086	0.0013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-142	ND		0.0086	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-143	0.018	C134	0.017	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-144	0.0099		0.0086	0.000071	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-145	ND		0.0086	0.000054	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-146	0.050		0.0086	0.0012	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-147	0.25	C B	0.017	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B429**

**Lab Sample ID: 580-78604-10**

**Date Collected: 07/03/18 10:15**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.4**

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-148	ND		0.0086	0.000076	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-149</b>	<b>0.25</b>	<b>B C147</b>	0.017	0.0014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-150	ND		0.0086	0.000052	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-151</b>	<b>0.053</b>	<b>C135 B q</b>	0.017	0.000079	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-152	ND		0.0086	0.000056	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-153</b>	<b>0.25</b>	<b>C B</b>	0.017	0.00096	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-154</b>	<b>0.0060</b>	<b>J q</b>	0.0086	0.000061	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-155	ND		0.0086	0.000052	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-156</b>	<b>0.036</b>	<b>C S</b>	0.017	0.0016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-157</b>	<b>0.036</b>	<b>C156 S</b>	0.017	0.0016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-158</b>	<b>0.037</b>	<b>B</b>	0.0086	0.00086	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-159</b>	<b>0.0024</b>	<b>J</b>	0.0086	0.00091	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-160</b>	<b>0.37</b>	<b>B C129</b>	0.034	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-161	ND		0.0086	0.00091	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-162	ND		0.0086	0.00090	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-163</b>	<b>0.37</b>	<b>B C129</b>	0.034	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-164</b>	<b>0.024</b>	<b>B</b>	0.0086	0.00096	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-165	ND		0.0086	0.0010	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-166</b>	<b>0.061</b>	<b>C128</b>	0.017	0.0011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-167</b>	<b>0.013</b>		0.0086	0.00057	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-168</b>	<b>0.25</b>	<b>B C153</b>	0.017	0.00096	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-169	ND		0.0086	0.00064	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-170</b>	<b>0.061</b>		0.0086	0.00024	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-171</b>	<b>0.019</b>	<b>C B</b>	0.017	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-172</b>	<b>0.011</b>		0.0086	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-173</b>	<b>0.019</b>	<b>C171 B</b>	0.017	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-174</b>	<b>0.059</b>	<b>B</b>	0.0086	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-175</b>	<b>0.0018</b>	<b>J q</b>	0.0086	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-176</b>	<b>0.0070</b>	<b>J</b>	0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-177</b>	<b>0.038</b>		0.0086	0.00021	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-178</b>	<b>0.012</b>	<b>q</b>	0.0086	0.00022	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-179</b>	<b>0.024</b>	<b>B</b>	0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-180</b>	<b>0.13</b>	<b>C B</b>	0.017	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-181	ND		0.0086	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-182	ND		0.0086	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-183</b>	<b>0.043</b>	<b>C</b>	0.017	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-184	ND		0.0086	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-185</b>	<b>0.043</b>	<b>C183</b>	0.017	0.00020	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-186	ND		0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-187</b>	<b>0.079</b>	<b>B</b>	0.0086	0.00019	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-188	ND		0.0086	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-189</b>	<b>0.0014</b>	<b>J B q</b>	0.0086	0.00065	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-190</b>	<b>0.011</b>	<b>B</b>	0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-191</b>	<b>0.0016</b>	<b>J q</b>	0.0086	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-192	ND		0.0086	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-193</b>	<b>0.13</b>	<b>C180 B</b>	0.017	0.00017	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-194</b>	<b>0.030</b>		0.0086	0.00069	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-195</b>	<b>0.012</b>	<b>q</b>	0.0086	0.00076	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
<b>PCB-196</b>	<b>0.014</b>		0.0086	0.00014	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1

TestAmerica Seattle

# Client Sample Results

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B429**

**Lab Sample ID: 580-78604-10**

Date Collected: 07/03/18 10:15

Matrix: Solid

Date Received: 07/05/18 14:59

Percent Solids: 57.4

**Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197	0.00067	J q	0.0086	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-198	0.036	C	0.017	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-199	0.036	C198	0.017	0.00015	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-200	0.0036	J	0.0086	0.000098	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-201	0.0028	J	0.0086	0.00010	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-202	0.0091		0.0086	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-203	0.021	q	0.0086	0.00013	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-204	ND		0.0086	0.00011	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-205	0.0015	J B	0.0086	0.00058	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-206	0.018	q	0.0086	0.00078	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-207	0.0013	J B q	0.0086	0.00039	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-208	0.010		0.0086	0.00033	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1
PCB-209	0.032	B q	0.0086	0.00016	ng/g	☼	09/11/18 11:15	09/20/18 08:18	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-1L	82		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-3L	85		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-4L	84		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-15L	78		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-19L	106		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-37L	93		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-54L	67		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-77L	97		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-81L	99		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-104L	70		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-105L	93		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-114L	90		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-118L	87		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-123L	86		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-126L	89		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-155L	79		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-156L	59	C S	30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-157L	59	C156 S	30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-167L	92		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-169L	94		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-170L	87		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-188L	92		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-189L	89		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-202L	99		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-205L	73		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-206L	63		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-208L	61		30 - 140	09/11/18 11:15	09/20/18 08:18	1
PCB-209L	53		30 - 140	09/11/18 11:15	09/20/18 08:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-28L	96		40 - 125	09/11/18 11:15	09/20/18 08:18	1
PCB-111L	89		40 - 125	09/11/18 11:15	09/20/18 08:18	1
PCB-178L	102		40 - 125	09/11/18 11:15	09/20/18 08:18	1



# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)

**Lab Sample ID: MB 140-23484/16-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-2	ND		0.010	0.00017	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-3	ND		0.010	0.00018	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-4	ND		0.020	0.0060	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-5	ND		0.010	0.0053	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-6	ND		0.010	0.0046	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-7	ND		0.010	0.0048	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-8	ND		0.020	0.0043	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-9	ND		0.010	0.0049	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-10	ND		0.010	0.0052	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-11	ND		0.020	0.0045	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-12	ND	C	0.020	0.0047	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-13	ND	C12	0.020	0.0047	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-14	ND		0.010	0.0040	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-15	ND		0.010	0.0053	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-16	ND		0.010	0.00081	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-17	ND		0.010	0.00073	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-18	ND	C	0.020	0.00064	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-19	ND		0.010	0.00089	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-20	ND	C	0.020	0.00077	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-21	ND	C	0.020	0.00075	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-22	ND		0.010	0.00079	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-23	ND		0.010	0.00078	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-24	ND		0.010	0.00061	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-25	ND		0.010	0.00071	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-26	ND	C	0.020	0.00075	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-27	ND		0.010	0.00053	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-28	ND	C20	0.020	0.00077	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-29	ND	C26	0.020	0.00075	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-30	ND	C18	0.020	0.00064	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-31	ND		0.020	0.00075	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-32	ND		0.010	0.00051	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-33	ND	C21	0.020	0.00075	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-34	ND		0.010	0.00081	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-35	ND		0.010	0.00079	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-36	ND		0.010	0.00076	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-37	ND		0.010	0.00078	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-38	ND		0.010	0.00082	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-39	ND		0.010	0.00073	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-40	ND	C	0.030	0.00040	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-41	ND	C40	0.030	0.00040	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-42	ND		0.010	0.00040	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-43	ND	C	0.020	0.00037	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-44	0.00306	J C	0.030	0.00035	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-45	0.000855	J q C	0.020	0.00042	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-46	ND		0.010	0.00051	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-47	0.00306	J C44	0.030	0.00035	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-48	ND		0.010	0.00040	ng/g		09/11/18 11:15	09/19/18 02:22	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23484/16-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-49	ND	C	0.020	0.00032	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-50	ND	C	0.020	0.00039	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-51	0.000855	J q C45	0.020	0.00042	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-52	ND		0.010	0.00039	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-53	ND	C50	0.020	0.00039	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-54	ND		0.010	0.00031	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-55	ND		0.010	0.00029	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-56	ND		0.010	0.00029	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-57	ND		0.010	0.00029	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-58	ND		0.010	0.00030	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-59	ND	C	0.030	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-60	ND		0.010	0.00030	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-61	0.00142	J q C	0.040	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-62	ND	C59	0.030	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-63	ND		0.010	0.00027	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-64	ND		0.010	0.00027	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-65	0.00306	J C44	0.030	0.00035	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-66	0.000752	J q	0.010	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-67	ND		0.010	0.00025	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-68	0.00102	J	0.010	0.00026	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-69	ND	C49	0.020	0.00032	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-70	0.00142	J q C61	0.040	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-71	ND	C40	0.030	0.00040	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-72	ND		0.010	0.00029	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-73	ND	C43	0.020	0.00037	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-74	0.00142	J q C61	0.040	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-75	ND	C59	0.030	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-76	0.00142	J q C61	0.040	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-77	ND		0.010	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-78	ND		0.010	0.00030	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-79	ND		0.010	0.00026	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-80	ND		0.010	0.00025	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-81	ND		0.010	0.00027	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-82	ND		0.010	0.00021	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-83	ND	C	0.020	0.00019	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-84	ND		0.010	0.00021	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-85	ND	C	0.030	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-86	ND	C	0.060	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-87	ND	C86	0.060	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-88	ND	C	0.020	0.00019	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-89	ND		0.010	0.00021	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-90	ND	C	0.030	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-91	ND	C88	0.020	0.00019	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-92	ND		0.010	0.00018	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-93	ND	C	0.020	0.00018	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-94	ND		0.010	0.00021	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-95	ND		0.010	0.00020	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-96	ND		0.010	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23484/16-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Analyte	MB MB		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-97	ND	C86	0.060	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-98	ND	C	0.020	0.00018	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-99	ND	C83	0.020	0.00019	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-100	ND	C93	0.020	0.00018	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-101	ND	C90	0.030	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-102	ND	C98	0.020	0.00018	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-103	ND		0.010	0.00018	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-104	ND		0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-105	ND		0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-106	ND		0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-107	ND		0.010	0.00015	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-108	ND	C	0.020	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-109	ND	C86	0.060	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-110	0.00185	J q C	0.020	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-111	ND		0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-112	ND		0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-113	ND	C90	0.030	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-114	ND		0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-115	0.00185	J q C110	0.020	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-116	ND	C85	0.030	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-117	ND	C85	0.030	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-118	ND		0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-119	ND	C86	0.060	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-120	ND		0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-121	ND		0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-122	ND		0.010	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-123	0.000861	J q	0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-124	ND	C108	0.020	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-125	ND	C86	0.060	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-126	ND		0.010	0.00015	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-127	0.000945	J q	0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-128	ND	C	0.020	0.00037	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-129	0.00239	J q C	0.040	0.00038	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-130	ND		0.010	0.00050	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-131	ND		0.010	0.00052	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-132	ND		0.010	0.00049	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-133	ND		0.010	0.00048	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-134	ND	C	0.020	0.00050	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-135	0.000975	J q C	0.020	0.000069	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-136	ND		0.010	0.000050	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-137	ND		0.010	0.00043	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-138	0.00239	J q C129	0.040	0.00038	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-139	ND	C	0.020	0.00042	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-140	ND	C139	0.020	0.00042	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-141	0.000949	J q	0.010	0.00044	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-142	ND		0.010	0.00047	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-143	ND	C134	0.020	0.00050	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-144	ND		0.010	0.000062	ng/g		09/11/18 11:15	09/19/18 02:22	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23484/16-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Analyte	MB	MB	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-145	ND		0.010	0.000047	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-146	ND		0.010	0.00042	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-147	0.00138	J q C	0.020	0.00048	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-148	ND		0.010	0.000067	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-149	0.00138	J q C147	0.020	0.00048	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-150	ND		0.010	0.000045	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-151	0.000975	J q C135	0.020	0.000069	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-152	ND		0.010	0.000049	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-153	0.00200	J q C	0.020	0.00033	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-154	ND		0.010	0.000054	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-155	ND		0.010	0.000045	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-156	ND	C	0.020	0.00042	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-157	ND	C156	0.020	0.00042	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-158	0.000590	J	0.010	0.00030	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-159	ND		0.010	0.00032	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-160	0.00239	J q C129	0.040	0.00038	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-161	ND		0.010	0.00031	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-162	ND		0.010	0.00031	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-163	0.00239	J q C129	0.040	0.00038	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-164	0.000744	J q	0.010	0.00033	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-165	ND		0.010	0.00036	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-166	ND	C128	0.020	0.00037	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-167	ND		0.010	0.00023	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-168	0.00200	J q C153	0.020	0.00033	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-169	ND		0.010	0.00024	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-170	ND		0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-171	0.00126	J C	0.020	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-172	ND		0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-173	0.00126	J C171	0.020	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-174	0.00175	J q	0.010	0.00012	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-175	ND		0.010	0.00012	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-176	ND		0.010	0.000088	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-177	ND		0.010	0.00012	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-178	ND		0.010	0.00013	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-179	0.000441	J q	0.010	0.000093	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-180	0.00219	J q C	0.020	0.000097	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-181	ND		0.010	0.00012	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-182	ND		0.010	0.00011	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-183	ND	C	0.020	0.00011	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-184	ND		0.010	0.000095	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-185	ND	C183	0.020	0.00011	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-186	ND		0.010	0.000093	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-187	0.000710	J q	0.010	0.00011	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-188	ND		0.010	0.000080	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-189	0.00200	J	0.010	0.00031	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-190	0.00127	J q	0.010	0.000084	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-191	ND		0.010	0.000088	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-192	ND		0.010	0.000098	ng/g		09/11/18 11:15	09/19/18 02:22	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23484/16-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Analyte	MB	MB	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-193	0.00219	J q C180	0.020	0.000097	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-194	ND		0.010	0.00032	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-195	ND		0.010	0.00035	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-196	ND		0.010	0.00040	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-197	ND		0.010	0.00031	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-198	ND	C	0.020	0.00041	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-199	ND	C198	0.020	0.00041	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-200	ND		0.010	0.00027	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-201	ND		0.010	0.00028	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-202	ND		0.010	0.00031	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-203	ND		0.010	0.00036	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-204	ND		0.010	0.00031	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-205	0.00208	J q	0.010	0.00027	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-206	ND		0.010	0.00022	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-207	0.000491	J q	0.010	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-208	ND		0.010	0.00016	ng/g		09/11/18 11:15	09/19/18 02:22	1
PCB-209	0.00214	J q	0.010	0.00014	ng/g		09/11/18 11:15	09/19/18 02:22	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-1L	77		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-3L	71		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-4L	76		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-15L	75		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-19L	82		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-37L	81		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-54L	75		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-77L	80		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-81L	81		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-104L	77		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-105L	88		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-114L	88		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-118L	85		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-123L	79		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-126L	82		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-155L	81		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-156L	87	C	30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-157L	87	C156	30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-167L	86		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-169L	90		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-170L	84		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-188L	89		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-189L	71		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-202L	96		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-205L	73		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-206L	82		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-208L	82		30 - 140	09/11/18 11:15	09/19/18 02:22	1
PCB-209L	88		30 - 140	09/11/18 11:15	09/19/18 02:22	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23484/16-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-28L	94		40 - 125	09/11/18 11:15	09/19/18 02:22	1
PCB-111L	91		40 - 125	09/11/18 11:15	09/19/18 02:22	1
PCB-178L	98		40 - 125	09/11/18 11:15	09/19/18 02:22	1

**Lab Sample ID: LCS 140-23484/17-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
PCB-1	0.500	0.441		ng/g		88	50 - 150
PCB-3	0.500	0.452		ng/g		90	50 - 150
PCB-4	0.500	0.532		ng/g		106	50 - 150
PCB-15	0.500	0.579		ng/g		116	50 - 150
PCB-19	0.500	0.559		ng/g		112	50 - 150
PCB-37	0.500	0.507		ng/g		101	50 - 150
PCB-54	0.500	0.571		ng/g		114	50 - 150
PCB-77	0.500	0.533		ng/g		107	50 - 150
PCB-81	0.500	0.516		ng/g		103	50 - 150
PCB-104	0.500	0.577		ng/g		115	50 - 150
PCB-105	0.500	0.549		ng/g		110	50 - 150
PCB-114	0.500	0.580		ng/g		116	50 - 150
PCB-118	0.500	0.547		ng/g		109	50 - 150
PCB-123	0.500	0.593		ng/g		119	50 - 150
PCB-126	0.500	0.555		ng/g		111	50 - 150
PCB-155	0.500	0.581		ng/g		116	50 - 150
PCB-156	1.00	1.10	C	ng/g		110	50 - 150
PCB-157	1.00	1.10	C156	ng/g		110	50 - 150
PCB-167	0.500	0.567		ng/g		113	50 - 150
PCB-169	0.500	0.494		ng/g		99	50 - 150
PCB-188	0.500	0.565		ng/g		113	50 - 150
PCB-189	0.500	0.548		ng/g		110	50 - 150
PCB-202	0.500	0.501		ng/g		100	50 - 150
PCB-205	0.500	0.626		ng/g		125	50 - 150
PCB-206	0.500	0.523		ng/g		105	50 - 150
PCB-208	0.500	0.566		ng/g		113	50 - 150
PCB-209	0.500	0.552		ng/g		110	50 - 150

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
PCB-1L	80		30 - 140
PCB-3L	74		30 - 140
PCB-4L	78		30 - 140
PCB-15L	82		30 - 140
PCB-19L	96		30 - 140
PCB-37L	91		30 - 140
PCB-54L	67	q	30 - 140
PCB-77L	82		30 - 140
PCB-81L	81		30 - 140
PCB-104L	84		30 - 140

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 140-23484/17-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

<i>Isotope Dilution</i>	<b>LCS LCS</b>		<b>Limits</b>
	<b>%Recovery</b>	<b>Qualifier</b>	
PCB-105L	87		30 - 140
PCB-114L	83		30 - 140
PCB-118L	83		30 - 140
PCB-123L	83		30 - 140
PCB-126L	83		30 - 140
PCB-155L	86		30 - 140
PCB-156L	89	C	30 - 140
PCB-157L	89	C156	30 - 140
PCB-167L	88		30 - 140
PCB-169L	95		30 - 140
PCB-170L	82		30 - 140
PCB-188L	84		30 - 140
PCB-189L	79		30 - 140
PCB-202L	92		30 - 140
PCB-205L	75		30 - 140
PCB-206L	89		30 - 140
PCB-208L	84		30 - 140
PCB-209L	89		30 - 140

<b>Surrogate</b>	<b>LCS LCS</b>		<b>Limits</b>
	<b>%Recovery</b>	<b>Qualifier</b>	
PCB-28L	96		40 - 125
PCB-111L	91		40 - 125
PCB-178L	93		40 - 125

**Lab Sample ID: LCSD 140-23484/18-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

<b>Analyte</b>	<b>Spike Added</b>	<b>LCSD Result</b>	<b>LCSD Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec.</b>		<b>RPD</b>	
							<b>Limits</b>	<b>RPD</b>	<b>Limit</b>	
PCB-1	0.500	0.413		ng/g		83	50 - 150	7	50	
PCB-3	0.500	0.444		ng/g		89	50 - 150	2	50	
PCB-4	0.500	0.525		ng/g		105	50 - 150	1	50	
PCB-15	0.500	0.586		ng/g		117	50 - 150	1	50	
PCB-19	0.500	0.608		ng/g		122	50 - 150	8	50	
PCB-37	0.500	0.509		ng/g		102	50 - 150	0	50	
PCB-54	0.500	0.525		ng/g		105	50 - 150	8	50	
PCB-77	0.500	0.533		ng/g		107	50 - 150	0	50	
PCB-81	0.500	0.507		ng/g		101	50 - 150	2	50	
PCB-104	0.500	0.569		ng/g		114	50 - 150	1	50	
PCB-105	0.500	0.538		ng/g		108	50 - 150	2	50	
PCB-114	0.500	0.545		ng/g		109	50 - 150	6	50	
PCB-118	0.500	0.510		ng/g		102	50 - 150	7	50	
PCB-123	0.500	0.548		ng/g		110	50 - 150	8	50	
PCB-126	0.500	0.562		ng/g		112	50 - 150	1	50	
PCB-155	0.500	0.560		ng/g		112	50 - 150	4	50	
PCB-156	1.00	1.12	C	ng/g		112	50 - 150	2	50	
PCB-157	1.00	1.12	C156	ng/g		112	50 - 150	2	50	
PCB-167	0.500	0.574		ng/g		115	50 - 150	1	50	

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: LCSD 140-23484/18-B**  
**Matrix: Solid**  
**Analysis Batch: 23724**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 23484**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-169	0.500	0.501		ng/g		100	50 - 150	1	50
PCB-188	0.500	0.538		ng/g		108	50 - 150	5	50
PCB-189	0.500	0.508		ng/g		102	50 - 150	8	50
PCB-202	0.500	0.520		ng/g		104	50 - 150	4	50
PCB-205	0.500	0.601		ng/g		120	50 - 150	4	50
PCB-206	0.500	0.506		ng/g		101	50 - 150	3	50
PCB-208	0.500	0.554		ng/g		111	50 - 150	2	50
PCB-209	0.500	0.576		ng/g		115	50 - 150	4	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
PCB-1L	80		30 - 140
PCB-3L	75		30 - 140
PCB-4L	79		30 - 140
PCB-15L	77		30 - 140
PCB-19L	82	q	30 - 140
PCB-37L	82		30 - 140
PCB-54L	77		30 - 140
PCB-77L	82		30 - 140
PCB-81L	81		30 - 140
PCB-104L	78		30 - 140
PCB-105L	89		30 - 140
PCB-114L	84		30 - 140
PCB-118L	79		30 - 140
PCB-123L	84		30 - 140
PCB-126L	84		30 - 140
PCB-155L	82		30 - 140
PCB-156L	86	C	30 - 140
PCB-157L	86	C156	30 - 140
PCB-167L	86		30 - 140
PCB-169L	92		30 - 140
PCB-170L	84		30 - 140
PCB-188L	89		30 - 140
PCB-189L	64		30 - 140
PCB-202L	96		30 - 140
PCB-205L	74		30 - 140
PCB-206L	88		30 - 140
PCB-208L	82		30 - 140
PCB-209L	88		30 - 140

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
PCB-28L	93		40 - 125
PCB-111L	92		40 - 125
PCB-178L	96		40 - 125



# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23946/5-B**  
**Matrix: Solid**  
**Analysis Batch: 24085**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23946**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		0.010	0.000078	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-2	ND		0.010	0.000089	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-3	ND		0.010	0.000096	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-4	ND		0.020	0.0049	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-5	ND		0.010	0.0040	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-6	ND		0.010	0.0035	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-7	ND		0.010	0.0036	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-8	ND		0.020	0.0032	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-9	ND		0.010	0.0037	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-10	ND		0.010	0.0039	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-11	0.00366	J q	0.020	0.0034	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-12	ND	C	0.020	0.0035	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-13	ND	C12	0.020	0.0035	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-14	ND		0.010	0.0030	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-15	ND		0.010	0.0037	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-16	ND		0.010	0.00097	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-17	ND		0.010	0.00087	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-18	ND	C	0.020	0.00077	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-19	ND		0.010	0.0011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-20	0.00582	J C	0.020	0.00068	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-21	ND	C	0.020	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-22	ND		0.010	0.00070	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-23	ND		0.010	0.00069	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-24	ND		0.010	0.00073	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-25	ND		0.010	0.00063	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-26	ND	C	0.020	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-27	ND		0.010	0.00064	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-28	0.00582	J C20	0.020	0.00068	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-29	ND	C26	0.020	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-30	ND	C18	0.020	0.00077	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-31	ND		0.020	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-32	ND		0.010	0.00061	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-33	ND	C21	0.020	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-34	ND		0.010	0.00072	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-35	ND		0.010	0.00070	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-36	ND		0.010	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-37	ND		0.010	0.00070	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-38	ND		0.010	0.00073	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-39	ND		0.010	0.00065	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-40	0.00232	J C	0.030	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-41	0.00232	J C40	0.030	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-42	ND		0.010	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-43	ND	C	0.020	0.00041	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-44	0.00750	J C	0.030	0.00039	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-45	0.00248	J C	0.020	0.00046	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-46	ND		0.010	0.00056	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-47	0.00750	J C44	0.030	0.00039	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-48	ND		0.010	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23946/5-B**  
**Matrix: Solid**  
**Analysis Batch: 24085**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23946**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-49	ND	C	0.020	0.00036	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-50	ND	C	0.020	0.00043	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-51	0.00248	J C45	0.020	0.00046	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-52	0.00262	J q	0.010	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-53	ND	C50	0.020	0.00043	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-54	ND		0.010	0.000046	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-55	ND		0.010	0.00032	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-56	ND		0.010	0.00032	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-57	ND		0.010	0.00033	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-58	ND		0.010	0.00033	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-59	ND	C	0.030	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-60	0.000849	J q	0.010	0.00033	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-61	0.00522	J C	0.040	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-62	ND	C59	0.030	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-63	ND		0.010	0.00030	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-64	0.00103	J q	0.010	0.00029	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-65	0.00750	J C44	0.030	0.00039	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-66	0.00257	J	0.010	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-67	ND		0.010	0.00028	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-68	0.00179	J	0.010	0.00029	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-69	ND	C49	0.020	0.00036	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-70	0.00522	J C61	0.040	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-71	0.00232	J C40	0.030	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-72	ND		0.010	0.00032	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-73	ND	C43	0.020	0.00041	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-74	0.00522	J C61	0.040	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-75	ND	C59	0.030	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-76	0.00522	J C61	0.040	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-77	0.000868	J q	0.010	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-78	ND		0.010	0.00033	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-79	ND		0.010	0.00029	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-80	ND		0.010	0.00028	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-81	ND		0.010	0.00030	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-82	ND		0.010	0.00016	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-83	ND	C	0.020	0.00015	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-84	ND		0.010	0.00016	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-85	ND	C	0.030	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-86	0.00273	J C	0.060	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-87	0.00273	J C86	0.060	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-88	ND	C	0.020	0.00015	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-89	ND		0.010	0.00016	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-90	ND	C	0.030	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-91	ND	C88	0.020	0.00015	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-92	ND		0.010	0.00014	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-93	ND	C	0.020	0.00014	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-94	ND		0.010	0.00016	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-95	0.00214	J	0.010	0.00015	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-96	ND		0.010	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23946/5-B**  
**Matrix: Solid**  
**Analysis Batch: 24085**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23946**

Analyte	MB	MB	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-97	0.00273	J C86	0.060	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-98	ND	C	0.020	0.00014	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-99	ND	C83	0.020	0.00015	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-100	ND	C93	0.020	0.00014	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-101	ND	C90	0.030	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-102	ND	C98	0.020	0.00014	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-103	ND		0.010	0.00014	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-104	ND		0.010	0.00011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-105	ND		0.010	0.00020	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-106	ND		0.010	0.00022	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-107	ND		0.010	0.00024	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-108	ND	C	0.020	0.00023	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-109	0.00273	J C86	0.060	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-110	0.00264	J C q	0.020	0.00010	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-111	ND		0.010	0.000099	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-112	ND		0.010	0.00010	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-113	ND	C90	0.030	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-114	ND		0.010	0.00021	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-115	0.00264	J C110 q	0.020	0.00010	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-116	ND	C85	0.030	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-117	ND	C85	0.030	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-118	0.00230	J q	0.010	0.00022	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-119	0.00273	J C86	0.060	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-120	ND		0.010	0.00010	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-121	ND		0.010	0.00010	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-122	ND		0.010	0.00026	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-123	ND		0.010	0.00023	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-124	ND	C108	0.020	0.00023	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-125	0.00273	J C86	0.060	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-126	0.00115	J	0.010	0.00023	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-127	ND		0.010	0.00022	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-128	ND	C	0.020	0.00051	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-129	ND	C	0.040	0.00053	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-130	ND		0.010	0.00070	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-131	ND		0.010	0.00073	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-132	ND		0.010	0.00068	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-133	ND		0.010	0.00066	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-134	ND	C	0.020	0.00069	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-135	ND	C	0.020	0.000057	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-136	ND		0.010	0.000041	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-137	ND		0.010	0.00060	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-138	ND	C129	0.040	0.00053	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-139	ND	C	0.020	0.00059	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-140	ND	C139	0.020	0.00059	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-141	ND		0.010	0.00062	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-142	ND		0.010	0.00066	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-143	ND	C134	0.020	0.00069	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-144	ND		0.010	0.000052	ng/g		09/26/18 07:20	10/01/18 12:29	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23946/5-B**  
**Matrix: Solid**  
**Analysis Batch: 24085**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23946**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-145	ND		0.010	0.000039	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-146	ND		0.010	0.00058	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-147	0.00120	J C q	0.020	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-148	ND		0.010	0.000055	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-149	0.00120	J C147 q	0.020	0.00067	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-150	ND		0.010	0.000037	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-151	ND	C135	0.020	0.000057	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-152	ND		0.010	0.000040	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-153	ND	C	0.020	0.00046	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-154	ND		0.010	0.000044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-155	ND		0.010	0.000037	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-156	0.00184	J C q	0.020	0.00054	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-157	0.00184	J C156 q	0.020	0.00054	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-158	ND		0.010	0.00042	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-159	ND		0.010	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-160	ND	C129	0.040	0.00053	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-161	ND		0.010	0.00044	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-162	ND		0.010	0.00043	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-163	ND	C129	0.040	0.00053	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-164	ND		0.010	0.00046	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-165	ND		0.010	0.00050	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-166	ND	C128	0.020	0.00051	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-167	ND		0.010	0.00036	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-168	ND	C153	0.020	0.00046	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-169	0.00124	J q	0.010	0.00033	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-170	ND		0.010	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-171	ND	C	0.020	0.00013	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-172	ND		0.010	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-173	ND	C171	0.020	0.00013	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-174	ND		0.010	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-175	ND		0.010	0.00011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-176	ND		0.010	0.000086	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-177	ND		0.010	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-178	ND		0.010	0.00012	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-179	ND		0.010	0.000091	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-180	ND	C	0.020	0.000095	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-181	ND		0.010	0.00011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-182	ND		0.010	0.00011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-183	ND	C	0.020	0.00011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-184	ND		0.010	0.000093	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-185	ND	C183	0.020	0.00011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-186	ND		0.010	0.000090	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-187	ND		0.010	0.00011	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-188	ND		0.010	0.000082	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-189	0.00114	J	0.010	0.00016	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-190	0.00109	J	0.010	0.000082	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-191	ND		0.010	0.000085	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-192	ND		0.010	0.000095	ng/g		09/26/18 07:20	10/01/18 12:29	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23946/5-B**  
**Matrix: Solid**  
**Analysis Batch: 24085**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23946**

Analyte	MB MB		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-193	ND	C180	0.020	0.000095	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-194	ND		0.010	0.00029	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-195	ND		0.010	0.00031	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-196	ND		0.010	0.000068	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-197	ND		0.010	0.000052	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-198	0.00147	J C q	0.020	0.000069	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-199	0.00147	J C198 q	0.020	0.000069	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-200	ND		0.010	0.000046	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-201	ND		0.010	0.000048	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-202	ND		0.010	0.000053	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-203	ND		0.010	0.000062	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-204	ND		0.010	0.000052	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-205	ND		0.010	0.00024	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-206	ND		0.010	0.0018	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-207	ND		0.010	0.0013	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-208	ND		0.010	0.0014	ng/g		09/26/18 07:20	10/01/18 12:29	1
PCB-209	ND		0.010	0.00017	ng/g		09/26/18 07:20	10/01/18 12:29	1

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-1L	60		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-3L	61		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-4L	76		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-15L	79		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-19L	86		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-37L	79		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-54L	80		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-77L	85		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-81L	85		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-104L	79		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-105L	89		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-114L	80		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-118L	80		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-123L	78		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-126L	86		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-155L	91		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-156L	90	C	30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-157L	90	C156	30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-167L	89		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-169L	97		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-170L	92		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-188L	90		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-189L	76		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-202L	107		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-205L	77		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-206L	98		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-208L	97		30 - 140	09/26/18 07:20	10/01/18 12:29	1
PCB-209L	102		30 - 140	09/26/18 07:20	10/01/18 12:29	1

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 140-23946/5-B**  
**Matrix: Solid**  
**Analysis Batch: 24085**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 23946**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-28L	96		40 - 125	09/26/18 07:20	10/01/18 12:29	1
PCB-111L	95		40 - 125	09/26/18 07:20	10/01/18 12:29	1
PCB-178L	96		40 - 125	09/26/18 07:20	10/01/18 12:29	1

**Lab Sample ID: LCS 140-23946/6-B**  
**Matrix: Solid**  
**Analysis Batch: 24085**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 23946**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
PCB-1	0.500	0.384		ng/g		77	50 - 150
PCB-3	0.500	0.400		ng/g		80	50 - 150
PCB-4	0.500	0.461		ng/g		92	50 - 150
PCB-15	0.500	0.446		ng/g		89	50 - 150
PCB-19	0.500	0.539		ng/g		108	50 - 150
PCB-37	0.500	0.465		ng/g		93	50 - 150
PCB-54	0.500	0.498		ng/g		100	50 - 150
PCB-77	0.500	0.446		ng/g		89	50 - 150
PCB-81	0.500	0.428		ng/g		86	50 - 150
PCB-104	0.500	0.501		ng/g		100	50 - 150
PCB-105	0.500	0.477		ng/g		95	50 - 150
PCB-114	0.500	0.526		ng/g		105	50 - 150
PCB-118	0.500	0.490		ng/g		98	50 - 150
PCB-123	0.500	0.535		ng/g		107	50 - 150
PCB-126	0.500	0.517		ng/g		103	50 - 150
PCB-155	0.500	0.516		ng/g		103	50 - 150
PCB-156	1.00	1.01	C	ng/g		101	50 - 150
PCB-157	1.00	1.01	C156	ng/g		101	50 - 150
PCB-167	0.500	0.501		ng/g		100	50 - 150
PCB-169	0.500	0.446		ng/g		89	50 - 150
PCB-188	0.500	0.493		ng/g		99	50 - 150
PCB-189	0.500	0.492		ng/g		98	50 - 150
PCB-202	0.500	0.458		ng/g		92	50 - 150
PCB-205	0.500	0.548		ng/g		110	50 - 150
PCB-206	0.500	0.496		ng/g		99	50 - 150
PCB-208	0.500	0.479		ng/g		96	50 - 150
PCB-209	0.500	0.525		ng/g		105	50 - 150

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
PCB-1L	60		30 - 140
PCB-3L	60		30 - 140
PCB-4L	74		30 - 140
PCB-15L	80		30 - 140
PCB-19L	83		30 - 140
PCB-37L	84		30 - 140
PCB-54L	83		30 - 140
PCB-77L	87		30 - 140
PCB-81L	86		30 - 140
PCB-104L	74		30 - 140

TestAmerica Seattle

# QC Sample Results

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 140-23946/6-B  
 Matrix: Solid  
 Analysis Batch: 24085

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 23946

<i>Isotope Dilution</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
PCB-105L	87		30 - 140
PCB-114L	83		30 - 140
PCB-118L	83		30 - 140
PCB-123L	82		30 - 140
PCB-126L	84		30 - 140
PCB-155L	85		30 - 140
PCB-156L	88	C	30 - 140
PCB-157L	88	C156	30 - 140
PCB-167L	87		30 - 140
PCB-169L	93		30 - 140
PCB-170L	87		30 - 140
PCB-188L	87		30 - 140
PCB-189L	73		30 - 140
PCB-202L	101		30 - 140
PCB-205L	75		30 - 140
PCB-206L	89		30 - 140
PCB-208L	90		30 - 140
PCB-209L	93		30 - 140

<i>Surrogate</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
PCB-28L	90		40 - 125
PCB-111L	88		40 - 125
PCB-178L	93		40 - 125

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# Lab Chronicle

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B458**

**Lab Sample ID: 580-78604-1**

**Date Collected: 07/02/18 11:00**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23946	09/26/18 07:20	BRS	TAL KNX
Total/NA	Cleanup	Split			23996	09/27/18 09:45	EBS	TAL KNX
Total/NA	Analysis	1668A		1	24085	10/01/18 13:30	JMN	TAL KNX

**Client Sample ID: PDI-SG-B470**

**Lab Sample ID: 580-78604-2**

**Date Collected: 07/02/18 15:20**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 58.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23741	09/19/18 17:05	JMN	TAL KNX

**Client Sample ID: PDI-SG-B469**

**Lab Sample ID: 580-78604-3**

**Date Collected: 07/02/18 16:30**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23741	09/19/18 18:06	JMN	TAL KNX

**Client Sample ID: PDI-SG-B456**

**Lab Sample ID: 580-78604-4**

**Date Collected: 07/02/18 10:19**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 58.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23741	09/19/18 19:08	JMN	TAL KNX

**Client Sample ID: PDI-SG-B462**

**Lab Sample ID: 580-78604-5**

**Date Collected: 07/02/18 11:56**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 54.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23741	09/19/18 20:09	JMN	TAL KNX



# Lab Chronicle

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

TestAmerica Job ID: 580-78604-9

**Client Sample ID: PDI-SG-B463**

**Lab Sample ID: 580-78604-6**

**Date Collected: 07/02/18 12:58**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 60.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23758	09/20/18 04:12	LKM	TAL KNX

**Client Sample ID: PDI-SG-B464**

**Lab Sample ID: 580-78604-7**

**Date Collected: 07/02/18 14:39**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 49.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23758	09/20/18 05:14	LKM	TAL KNX

**Client Sample ID: PDI-SG-B466**

**Lab Sample ID: 580-78604-8**

**Date Collected: 07/02/18 15:34**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 55.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23758	09/20/18 06:15	LKM	TAL KNX

**Client Sample ID: PDI-SG-B468**

**Lab Sample ID: 580-78604-9**

**Date Collected: 07/02/18 16:33**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 61.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23758	09/20/18 07:17	LKM	TAL KNX

**Client Sample ID: PDI-SG-B429**

**Lab Sample ID: 580-78604-10**

**Date Collected: 07/03/18 10:15**

**Matrix: Solid**

**Date Received: 07/05/18 14:59**

**Percent Solids: 57.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			23484	09/11/18 11:15	CLI	TAL KNX
Total/NA	Cleanup	Split			23561	09/12/18 17:30	SMM	TAL KNX
Total/NA	Analysis	1668A		1	23758	09/20/18 08:18	LKM	TAL KNX

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

TestAmerica Seattle

# Accreditation/Certification Summary

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

TestAmerica Job ID: 580-78604-9

## 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
Nevada	State Program	9	WA000502019-1	07-31-19
Oregon	NELAP	10	WA100007	11-05-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

## Laboratory: TestAmerica Knoxville

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
	AFCEE		N/A	
ANAB	DoD ELAP		L2311	02-13-19
Arkansas DEQ	State Program	6	88-0688	06-16-19
California	State Program	9	2423	06-30-19
Colorado	State Program	8	TN00009	02-28-19
Connecticut	State Program	1	PH-0223	09-30-19
Florida	NELAP	4	E87177	06-30-19
Georgia	State Program	4	906	04-13-20
Hawaii	State Program	9	N/A	04-13-19
Kansas	NELAP	7	E-10349	10-31-18
Kentucky (DW)	State Program	4	90101	12-31-18
Louisiana	NELAP	6	83979	06-30-19
Louisiana (DW)	NELAP	6	LA160005	12-31-18
Maryland	State Program	3	277	03-31-19
Michigan	State Program	5	9933	04-13-20
Nevada	State Program	9	TN00009	07-31-19
New Jersey	NELAP	2	TN001	06-30-19
New York	NELAP	2	10781	03-31-19
North Carolina (DW)	State Program	4	21705	07-31-19
North Carolina (WW/SW)	State Program	4	64	12-31-18
Ohio VAP	State Program	5	CL0059	08-28-20
Oklahoma	State Program	6	9415	08-31-19
Oregon	NELAP	10	TNI0189	01-01-19
Pennsylvania	NELAP	3	68-00576	12-31-18
Tennessee	State Program	4	2014	04-13-20
Texas	NELAP	6	T104704380-16-9	08-31-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-16-00262	08-20-19
Utah	NELAP	8	TN00009	07-31-18 *
Virginia	NELAP	3	460176	09-14-19
Washington	State Program	10	C593	01-19-19
West Virginia (DW)	State Program	3	9955C	12-31-18
West Virginia DEP	State Program	3	345	04-30-19
Wisconsin	State Program	5	998044300	08-31-19

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

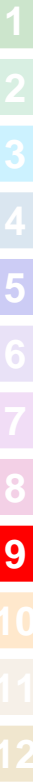
# Sample Summary

Client: AECOM

TestAmerica Job ID: 580-78604-9

Project/Site: Portland Harbor Pre-Remedial Design

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-78604-1	PDI-SG-B458	Solid	07/02/18 11:00	07/05/18 14:59
580-78604-2	PDI-SG-B470	Solid	07/02/18 15:20	07/05/18 14:59
580-78604-3	PDI-SG-B469	Solid	07/02/18 16:30	07/05/18 14:59
580-78604-4	PDI-SG-B456	Solid	07/02/18 10:19	07/05/18 14:59
580-78604-5	PDI-SG-B462	Solid	07/02/18 11:56	07/05/18 14:59
580-78604-6	PDI-SG-B463	Solid	07/02/18 12:58	07/05/18 14:59
580-78604-7	PDI-SG-B464	Solid	07/02/18 14:39	07/05/18 14:59
580-78604-8	PDI-SG-B466	Solid	07/02/18 15:34	07/05/18 14:59
580-78604-9	PDI-SG-B468	Solid	07/02/18 16:33	07/05/18 14:59
580-78604-10	PDI-SG-B429	Solid	07/03/18 10:15	07/05/18 14:59



580-78604



580-78604 Chain of Custody

TestAmerica-Seattle							SURFACE SEDIMENT CHAIN OF CUSTODY																				
5755-8th-Street-East Tacoma, WA 98424-1317 Ph: 253-922-2310 Fax: 253-922-5047							Project Contact: Amy Dahl / Chelsey Cook Tel: (206) 438-2261 / (206) 438-2010							Site Contact: Jennifer Ray Laboratory Contact: Elaine-Walker							7/5/2018 COC No: 1						
Client Contact AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1-(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Surface Sediment Sample Type: D/U							Analysis Turnaround Time Calendar (C) or Work Days (W) <input type="checkbox"/> 21 days <input checked="" type="checkbox"/> Other _ASAP_ (sediments only)							Carrier: Courier							1 of 1 pages						
Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	PCB Congeners 1668A	PCDD/Fs 1613B	TPH Dissol. Metals, Mercury NWTPH-Dx, 6020B, 7471A	Grain size ASTM D7928/D6913	Total organic carbon, Total solids 9060 (104C & 70C)	Archive Archive -20 C	PAHs, BEHP, Tributyltin, 8270-SIM, 8270-LL, Kron/Unger	Atterberg Limits ASTM D4318	WQ - PCB Congeners 1668A	WQ - PCDD/Fs 1613B	TPH Diesel, Metals, Mercury NWTPH-Dx, 6020B, 7471A	WQ - Total Organic Carbon SM6510B	WQ - PAHs 8270-SIM	WQ - BEHP EPA 8270D-LL	WQ - Tributyltin Kron/Unger	Sample Specific Notes:				
PDI-SG-B458	7/2/2018	11:00	SS		AC	7		H	H	H	x	H	H	H													
PDI-SG-B470	7/2/2018	15:20	SS		AC	8		H	H	H	x	H	H	H	H												
PDI-SG-B469	7/2/2018	16:30	SS		AC	8		H	H	H	x	H	H	H	H												
PDI-SG-B456	7/2/2018	10:19	SS		SH	7		H	H	H	x	H	H	H													
PDI-SG-B462	7/2/2018	11:56	SS		SH	8		H	H	H	x	H	H	H	H												
PDI-SG-B463	7/2/2018	12:58	SS	MS/MSD	SH	14		H	H	H	x	H	H	H	H												
PDI-SG-B464	7/2/2018	14:39	SS		SH	8		H	H	H	x	H	H	H	H												
PDI-SG-B466	7/2/2018	15:34	SS		SH	8		H	H	x*	x*	x*	H	H	H												
PDI-SG-B468	7/2/2018	14:02 14:33	SS		SH	8		H	H	H	x	H	H	H	H												
PDI-SG-B429	7/3/2018	10:15	SS		SH	7		H	H	H	x	H	H	H													
RB-VV-180703-1720	7/3/2018	17:20	W		SH	14										x	x	x	x	x	x	x					

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

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

Special Instructions/QC Requirements & Comments:  
 Separate reports for each lab.  
 x\* - Analyze for grain size, metals (6020B analytes only), and TOC (9060 @ 104C & 70C) ASAP. Rush TAT for these take precedent over remaining rush grain size analyses requested ASAP.  
 H - Hold analyses pending further instruction.

Relinquished by: <i>[Signature]</i>	Company: <i>M.E.</i>	Date/Time: <i>7/5/18 1234</i>	Received by: <i>[Signature]</i>	Company: <i>M.E.</i>	Date/Time: <i>7/5/18 1235</i>
Relinquished by: <i>[Signature]</i>	Company: <i>M.E.</i>	Date/Time: <i>7/5/18 1500</i>	Received by: <i>[Signature]</i>	Company: <i>TAPOR</i>	Date/Time: <i>7/5/18 1500</i>
Relinquished by: <i>[Signature]</i>	Company: <i>TAPOR</i>	Date/Time: <i>7/5/18 1700</i>	Received by: <i>[Signature]</i>	Company: <i>SFA TO</i>	Date/Time: <i>7/6/18 0930</i>

0.7, 1.02, 0.3

= 0.8 / 0.8 w/cs

IR5 = 0.7 / 0.7 w/cs

= -1.9 / -1.9 w/cs

Revised CSL

580-78604



580-78604 Chain of Custody

### SURFACE SEDIMENT CHAIN OF CUSTODY

Site Contact: Jennifer Roy  
Laboratory Contact: Elaine Walker

Project Contact: Amy Dahl / Chesley Cook  
Tel: (206) 438-2151 / (206) 438-2010

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

Project #: 60566335 Study: Surface Sediment  
Sample Type: D/U

Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.
7/2/2018	11:00	SS		AC	7
7/2/2018	15:20	SS		AC	8
7/2/2018	16:30	SS		AC	8
7/2/2018	10:19	SS		SH	7
7/2/2018	11:36	SS		SH	8
7/2/2018	12:58	SS	MS/MSD	SH	14
7/2/2018	14:39	SS		SH	8
7/2/2018	15:34	SS		SH	8
7/2/2018	14:01/1:38	SS		SH	8
7/2/2018	10:15	SS		SH	7
7/2/2018	17:20	W		SH	14

Calendar (C) or Work Days (W)  
21 days  
Other \_ASAP\_ (sediments only)

Carrier Container	QC	Analysis	Method	Reference
WQ - PCB Congeners 168A	X	X	X	X
WQ - PCB Congeners 1613B	X	X	X	X
WQ - Total Organic Carbon SMC310B	X	X	X	X
WQ - PAHs 4270-SIM	X	X	X	X
WQ - BERT EPA 8270-LI	X	X	X	X
WQ - Tributyltin Kresel/Inger	X	X	X	X

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

Container Types: MRG=Wyle Mouth Glass Jar, P=HDPE, PF=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)

Special Instructions/QC Requirements & Comments:  
Separate reports for each lab.  
X\* - Analyze for grain size, metals (6020B analytes only), and TOC (9060 @ 104C & 70C) ASAP. Rush TAT for these take precedent over remaining rush grain size analytes requested ASAP.  
H - Hold analytes pending further instruction.

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[Signature]	M.E.	7/5/18 12:34	[Signature]	M.E.	7/5/18 12:35
[Signature]	M.E.	7/5/18 15:00	[Signature]	JAPOR	7/5/18 15:00
[Signature]	JAPOR	7/5/18 17:00	[Signature]	SFP TO	7/6/18 09:30

\*\* \* Metals PCB, Solids activated  
Mon hold samples Per Secor  
7/19/18 (FD)  
Revised corrected  
Changed Sample ID - 1720  
Add PDS -  
Add remove (K) Per Nelson  
7/22/18

IR5 = 0.7 / 10.7 w/c.s.  
= -1.9 / -1.9 w/c.s.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

# Chain of Custody Record



580-78604 Chain of Custody

Client Information (Sub Contract Lab)		Lab Piv:	Walker, Elaine M	
Client Contact:		Phone:	E-Mail:	
Shipping/Receiving		elaine.walker@testamerica.com		
Company:		TestAmerica Laboratories, Inc.		
Address:		5815 Middlebrook Pike,		
City:		Knoxville		
State, Zip:		TN, 37921		
Phone:		865-291-3000(Tel) 865-584-4315(Fax)		
Email:		WO #:		
Project Name:		58012120		
Site:		SSOW#:		
Due Date Requested:		7/24/2018		
TAT Requested (days):				
Sample Date		Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Solid, O=Other)
Sample Date		Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Solid, O=Other)
PDI-SG-B458 (580-78604-1)	7/2/18	11:00 Pacific	Solid	Solid
PDI-SG-B470 (580-78604-2)	7/2/18	15:20 Pacific	Solid	Solid
PDI-SG-B469 (580-78604-3)	7/2/18	16:30 Pacific	Solid	Solid
PDI-SG-B456 (580-78604-4)	7/2/18	10:19 Pacific	Solid	Solid
PDI-SG-B462 (580-78604-5)	7/2/18	11:56 Pacific	Solid	Solid
PDI-SG-B463 (580-78604-6)	7/2/18	12:58 Pacific	Solid	Solid
PDI-SG-B464 (580-78604-7)	7/2/18	14:39 Pacific	Solid	Solid
PDI-SG-B466 (580-78604-8)	7/2/18	15:34 Pacific	Solid	Solid
PDI-SG-B468 (580-78604-9)	7/2/18	16:33 Pacific	Solid	Solid

Analysis Requested	Field Filtered Sample (Yes or No)	Performance (MSD) (Yes or No)	1668A/1668_P_Sox (MOD) 209 PCBs plus Totals	1668A/1668_Split (MOD) 209 PCBs plus Totals	Screen 1668/Screen_PCB_P_9	1668A/1668_P_Sep (MOD) 209 PCBs plus Totals	Total Number of Containers	Special Instructions/Note:
	X	X	X	X	X	X	1	RT: 16°C CT: 1.6°C
	X	X	X	X	X	X	1	Custody seal intact
	X	X	X	X	X	X	1	1 cooler, FedEx Po
	X	X	X	X	X	X	1	TA# 4428 0750 3888
	X	X	X	X	X	X	1	AW 77718
	X	X	X	X	X	X	1	RC-ND, AW 77718

Special Instructions/Note: RT: 16°C CT: 1.6°C  
Custody seal intact  
1 cooler, FedEx Po  
TA# 4428 0750 3888  
AW 77718  
RC-ND, AW 77718

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our 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/test/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 compliance to TestAmerica Laboratories, Inc.



TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	/			<input type="checkbox"/> Containers, Broken	
2. Were ambient air containers received intact?			/	<input type="checkbox"/> Checked in lab	
3. The coolers/containers custody seal if present, is it intact?	/			<input type="checkbox"/> Yes <input type="checkbox"/> NA	
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID: <u>SLC 67</u> Correction factor: <u>0.07</u>	/			<input type="checkbox"/> Cooler Out of Temp, Client Contacted, Proceed/Cancel <input type="checkbox"/> Cooler Out of Temp, Same Day Receipt	
5. Were all of the sample containers received intact?	/			<input type="checkbox"/> Containers, Broken	
6. Were samples received in appropriate containers?	/			<input type="checkbox"/> Containers, Improper; Client Contacted; Proceed/Cancel	
7. Do sample container labels match COC? (IDs, Dates, Times)	/			<input type="checkbox"/> COC & Samples Do Not Match <input type="checkbox"/> COC Incorrect/Incomplete <input type="checkbox"/> COC Not Received	
8. Were all of the samples listed on the COC received?	/			<input type="checkbox"/> Sample Received, Not on COC <input type="checkbox"/> Sample on COC, Not Received	
9. Is the date/time of sample collection noted?	/			<input type="checkbox"/> COC; No Date/Time; Client Contacted	Labeling Verified by: _____ Date: _____
10. Was the sampler identified on the COC?	/		/	<input type="checkbox"/> Sampler Not Listed on COC	pH test strip lot number: _____
11. Is the client and project name/# identified?	/			<input type="checkbox"/> COC Incorrect/Incomplete	
12. Are tests/parameters listed for each sample?	/			<input type="checkbox"/> COC No tests on COC	
13. Is the matrix of the samples noted?	/			<input type="checkbox"/> COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	/			<input type="checkbox"/> COC Incorrect/Incomplete	Box 16A: pH Preservation Box 18A: Residual Chlorine
15. Were samples received within holding time?	/			<input type="checkbox"/> Holding Time - Receipt	Preservative: _____
16. Were samples received with correct chemical preservative (excluding Encore)?	/		/	<input type="checkbox"/> pH Adjusted, pH Included (See box 16A) <input type="checkbox"/> Incorrect Preservative	Lot Number: _____ Exp Date: _____ Analyst: _____ Date: _____ Time: _____
17. Were VOA samples received without headspace?	/		/	<input type="checkbox"/> Headspace (VOA only)	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: <u>71922020104</u>	/			<input type="checkbox"/> Residual Chlorine	
19. For 1613B water samples is pH<9?	/		/	<input type="checkbox"/> If no, lab will adjust	
20. For rad samples was sample activity info. Provided?	/		/	<input type="checkbox"/> Project missing info	

Project #: \_\_\_\_\_ PM Instructions: \_\_\_\_\_  
 Sample Receiving Associate: [Signature] Date: 7/7/18  
 QA026R30.doc, 080916





# Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-78604-9

**Login Number: 78604**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: O'Connell, Jason I**

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Isotope Dilution Summary

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PCB1L (30-140)	PCB3L (30-140)	PCB4L (30-140)	PCB15L (30-140)	PCB19L (30-140)	PCB37L (30-140)	PCB54L (30-140)	PCB77L (30-140)
580-78604-1	PDI-SG-B458	58	54	75	80	86	82	81	88
580-78604-2	PDI-SG-B470	67	72	79	87	95	96	96	95
580-78604-3	PDI-SG-B469	68	72	78	83	93	87	95	91
580-78604-4	PDI-SG-B456	65	69	78	83	94	97	95	90
580-78604-5	PDI-SG-B462	70	69	80	80	89	85	94	91
580-78604-6	PDI-SG-B463	89	91	87	86	91	94	72	90
580-78604-7	PDI-SG-B464	83	89	82	87	97	103	77	87
580-78604-8	PDI-SG-B466	86	89	78	83	99	92	68	89
580-78604-9	PDI-SG-B468	98	93	72	74	103	97	65	117
580-78604-10	PDI-SG-B429	82	85	84	78	106	93	67	97
LCS 140-23484/17-B	Lab Control Sample	80	74	78	82	96	91	67 q	82
LCS 140-23946/6-B	Lab Control Sample	60	60	74	80	83	84	83	87
LCSD 140-23484/18-B	Lab Control Sample Dup	80	75	79	77	82 q	82	77	82
MB 140-23484/16-B	Method Blank	77	71	76	75	82	81	75	80
MB 140-23946/5-B	Method Blank	60	61	76	79	86	79	80	85

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PCB81L (30-140)	PCB104L (30-140)	PCB105L (30-140)	P114L (30-140)	PCB118L (30-140)	PCB123L (30-140)	PCB126L (30-140)	PCB155L (30-140)
580-78604-1	PDI-SG-B458	85	78	87	88	88	86	84	88
580-78604-2	PDI-SG-B470	96	84	97	99	96	92	90	104
580-78604-3	PDI-SG-B469	91	76	90	91	90	90	90	93
580-78604-4	PDI-SG-B456	88	85	87	84	83	83	84	98
580-78604-5	PDI-SG-B462	84	84	91	93	90	86	95	100
580-78604-6	PDI-SG-B463	91	84	91	90	88	86	89	80
580-78604-7	PDI-SG-B464	87	89	93	87	87	85	90	81
580-78604-8	PDI-SG-B466	89	71	92	91	90	89	87	67
580-78604-9	PDI-SG-B468	111	94	95	92	92	90	93	72
580-78604-10	PDI-SG-B429	99	70	93	90	87	86	89	79
LCS 140-23484/17-B	Lab Control Sample	81	84	87	83	83	83	83	86
LCS 140-23946/6-B	Lab Control Sample	86	74	87	83	83	82	84	85
LCSD 140-23484/18-B	Lab Control Sample Dup	81	78	89	84	79	84	84	82
MB 140-23484/16-B	Method Blank	81	77	88	88	85	79	82	81
MB 140-23946/5-B	Method Blank	85	79	89	80	80	78	86	91

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PCB156L (30-140)	PCB157L (30-140)	PCB167L (30-140)	PCB169L (30-140)	PCB170L (30-140)	PCB188L (30-140)	PCB189L (30-140)	PCB202L (30-140)
580-78604-1	PDI-SG-B458	92 C	92 C156	91	96	87	89	74	105
580-78604-2	PDI-SG-B470	67 C	67 C156	94	93	87	97	90	103
580-78604-3	PDI-SG-B469	66 C	66 C156	84	84	84	95	85	101
580-78604-4	PDI-SG-B456	76 C	76 C156	87	95	89	93	82	103
580-78604-5	PDI-SG-B462	76 C	76 C156	94	100	87	90	73	98
580-78604-6	PDI-SG-B463	73 C S	73 C156	90	90	91	90	95	103
580-78604-7	PDI-SG-B464	59 C S	59 C156	89	98	88	90	95	93
580-78604-8	PDI-SG-B466	69 C	69 C156	89	93	87	90	96	89
580-78604-9	PDI-SG-B468	93 C	93 C156	91	98	85	84	91	88
580-78604-10	PDI-SG-B429	59 C S	59 C156	92	94	87	92	89	99

TestAmerica Seattle

# Isotope Dilution Summary

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

TestAmerica Job ID: 580-78604-9

## Method: 1668A - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Matrix: Solid

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB156L	PCB157L	PCB167L	PCB169L	PCB170L	PCB188L	PCB189L	PCB202L
		(30-140)	(30-140)	(30-140)	(30-140)	(30-140)	(30-140)	(30-140)	(30-140)
LCS 140-23484/17-B	Lab Control Sample	89 C	89 C156	88	95	82	84	79	92
LCS 140-23946/6-B	Lab Control Sample	88 C	88 C156	87	93	87	87	73	101
LCSD 140-23484/18-B	Lab Control Sample Dup	86 C	86 C156	86	92	84	89	64	96
MB 140-23484/16-B	Method Blank	87 C	87 C156	86	90	84	89	71	96
MB 140-23946/5-B	Method Blank	90 C	90 C156	89	97	92	90	76	107

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB205L	PCB206L	PCB208L	PCB209L
		(30-140)	(30-140)	(30-140)	(30-140)
580-78604-1	PDI-SG-B458	76	92	93	92
580-78604-2	PDI-SG-B470	76	73	86	68
580-78604-3	PDI-SG-B469	73	70	73	59
580-78604-4	PDI-SG-B456	73	77	81	69
580-78604-5	PDI-SG-B462	75	78	66	69
580-78604-6	PDI-SG-B463	77	78	75	69
580-78604-7	PDI-SG-B464	78	79	61	67
580-78604-8	PDI-SG-B466	75	73	81	65
580-78604-9	PDI-SG-B468	78	81	80	78
580-78604-10	PDI-SG-B429	73	63	61	53
LCS 140-23484/17-B	Lab Control Sample	75	89	84	89
LCS 140-23946/6-B	Lab Control Sample	75	89	90	93
LCSD 140-23484/18-B	Lab Control Sample Dup	74	88	82	88
MB 140-23484/16-B	Method Blank	73	82	82	88
MB 140-23946/5-B	Method Blank	77	98	97	102

### Surrogate Legend

- PCB1L = PCB-1L
- PCB3L = PCB-3L
- PCB4L = PCB-4L
- PCB15L = PCB-15L
- PCB19L = PCB-19L
- PCB37L = PCB-37L
- PCB54L = PCB-54L
- PCB77L = PCB-77L
- PCB81L = PCB-81L
- PCB104L = PCB-104L
- PCB105L = PCB-105L
- P114L = PCB-114L
- PCB118L = PCB-118L
- PCB123L = PCB-123L
- PCB126L = PCB-126L
- PCB155L = PCB-155L
- PCB156L = PCB-156L
- PCB157L = PCB-157L
- PCB167L = PCB-167L
- PCB169L = PCB-169L
- PCB170L = PCB-170L
- PCB188L = PCB-188L
- PCB189L = PCB-189L
- PCB202L = PCB-202L

TestAmerica Seattle

# Isotope Dilution Summary

Client: AECOM

Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-78604-9

PCB205L = PCB-205L

PCB206L = PCB-206L

PCB208L = PCB-208L

PCB209L = PCB-209L

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