# Portland Harbor Sample Receipt, Analysis, and Results Report

Tetra Tech, EM Inc.
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## Introduction

This report is part of a baseline fish tissue study at the Portland Harbor Superfund Site (Portland Harbor Site). The U.S. Environmental Protection Agency (EPA) is conducting this study as part of the Portland Harbor Remedial Investigation and Feasibility Study (RI/FS) and in conformance with the National Contingency Plan. The City of Portland is providing assistance at EPA's request.

The baseline fish tissue study is referred to as the Portland Harbor 2011 Baseline Smallmouth Bass Tissue Study. The study is intended to provide an up-to-date baseline of polychlorinated biphenyls (PCB), semivolatile organic compounds (SVOC), polycyclic aromatic hydrocarbons (PAH), and pesticides in smallmouth bass. EPA will use the updated baseline data as a point of comparison to future contaminant concentrations measured in smallmouth bass during and following remedy implementation. The area being investigated is referred to as the Portland Harbor Study Area (study area).

This report summarizes sample receipt, analysis, and results for 68 fish tissue samples collected during the baseline fish tissue study. The samples were collected in accordance with a sampling and analysis plan (SAP) prepared for the EPA by GSI Water Solutions, Inc. (GSI) (GSI 2011).

The report includes three main sections. The first section discusses the receipt of samples by EPA, subsequent sample processing, and sample shipment (to and from the analytical laboratories). The second section discusses the analysis of samples at each laboratory and provides a summary of data validation results. The final section discusses the sample results, including a discussion of data reduction steps used to calculate summed totals to be used in the RI/FS and risk assessments (RA). Tables of results and the data validation report are attached to this report.

This report was prepared by Tetra Tech under EPA contract number EP-W-07-078. Tetra Tech was responsible for subcontracting laboratory analysis to Pace Analytical Laboratories (Pace), preparing the data for database entry, and preparing this report. For more information, please see the Portland Harbor website: http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/ptldharbor.

## Sample Receipt

Samples were initially collected by GSI and brought to the EPA Manchester Laboratory (MEL) in Port Orchard, Washington. Samples were then sent to KAP Technologies Inc. (KAP) in The Woodlands, Texas, for homogenization and creation of two homogenized aliquots. KAP retained one aliquot for each sample. The other sample aliquot was shipped to Pace in Minneapolis, Minnesota, for analysis. The chains of custody are included in Appendix B to this report.

Originally, 82 fish samples were collected. Figure 1 shows the locations of the samples collected (more detailed location maps are included in the Field Sampling Report prepared by



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GSI). Of the 82 fish collected, 50 samples were prepared incorrectly by KAP, and were not analyzed. The error resulted in portions of the sample being discarded, so that it was impossible to reconstruct the sample aliquots correctly. The remaining 32 samples were prepared correctly, so that two samples were prepared for each fish sample; a fillet and a body without fillet. Each fish sample was processed into two separate samples; a 'fillet' sample and a 'body without fillet' sample (the remaining mass of the fish) in accordance with Appendix C of the SAP (GSI 2011). Each sample was homogenized for analysis. Table 1 summarizes the samples collected, and identifies which samples were not analyzed as a result of the preparation error noted above.

In addition to the fish samples, three rinsate blanks and one proof blank were prepared for analysis.

Pace analyzed each sample for the following analyte groups:

- PCB following SOW SOM01.2 and EPA Method 1668C.
- Lipids following SOW SOM01.2 and EPA Method 1668C.

After analysis and data validation were complete, the remaining sample volumes were returned from KAP and Pace to the MEL to be archived.

## Data Validation

EPA Region 10 quality assurance (QA) staff validated the data following Guidance on Environmental Data Verification and Validation (EPA 2002), EPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review (EPA 2008), and EPA Region 10 Standard Operating Procedure (SOP) for the Validation of Method 1668 Toxic, Dioxin-like PCB Data (EPA 1995). A Stage 4 data validation was conducted on all analytical data (EPA 2012).

Table 2 summarizes the results of the data validation (see tables attached to this report). The data validation report is included in Appendix B to this report.

EPA made very few data qualifications during the data validation process. Qualifications were made for method and proof blank contamination, chromatographic interferences, and chromatographic peak saturation.

Data validation included an assessment of blank samples, including four rinsate blank samples collected during sample homogenization. Several analytes were qualified as estimated or non-detect based on trace laboratory blank contamination. The rinsate blank samples were analyzed for PCB congeners, and the results were compared with associated samples. Although a few congeners were detected at trace levels, EPA did not qualify any samples based on rinsate blank contamination because no detected sample results were detected at concentrations within 5 times higher than the value in the associated rinsate blank (EPA 2012).

## Sample Results

In addition to the raw results, the SAP (GSI 2011) specifies two sets of rules for summing data and retaining or modifying qualifiers and reducing the data to a single value per sample and summation group. The two sets of rules include one for use in the RI and another for use in the RA and background data sets, in accordance with the Portland Harbor RI/FS guidelines (Kennedy/Jenks 2004).

Summation rules for the RI data set are as follows:

- For samples with at least one detected result for the summed analytes included in the total:
  - Detected concentrations are included in the calculated total.
  - Non-detected concentrations are not included in the calculated total (i.e., treated as zero).
- For samples with no detected results:
  - The highest detection limit is used for the summation. The calculated total result is indicated with a U to indicate it was not detected.

Summation rules for the RA and background data sets are as follows:

- For samples with at least one detected result for the summed analytes included in the total:
  - All detected concentrations are included in the calculated total
  - All non-detected results for analytes, if they were detected at least once in the RA data set within the study area for a given medium (in this case, fish tissue), are included in the calculated total at one-half the detection limit.
  - All non-detected results for analytes, if they were not detected in any sample within the RA data set within the study area for a given medium, are not included in the calculated total (i.e., treated as zero).
- For samples with no detected results, where some of the summation analytes are determined to be present within the study area:
  - The highest detection limit for analytes present within the study area is used for the summation. The calculated total result is indicated with a U to indicate it was not detected.

Data qualifiers were carried through the summation procedure. If all the analytes were not detected, a “U” qualifier is applied to the summed data to indicate that all results were reported as not detected. All calculated totals are flagged with a “T” qualifier to indicate that they are mathematically derived values.

Once the summations were complete, an overall concentration was calculated for each fish sample. These concentrations are reported as “whole body (calculated)” in the tissue field. The whole body concentrations were calculated only for the summation analytes (and not including the homolog summations), and were calculated using the following equation:

$$C_{wb} = \frac{(C_f \cdot M_f) + (C_{bwof} \cdot M_{bwof})}{(M_{fillet} + M_{bwof})}$$

where:

$C_{wb}$ = the calculated concentration of the whole body fish sample
$C_f$ = the measured concentration of the fillet fish sample
$C_{bwof}$ = the measured concentration of the body without fillet fish sample
$M_f$ = the mass of the fillet fish sample
$M_{bwof}$ = the mass of the body without fillet fish sample

Table 3 lists the summation group results to be calculated for each sample. Table 4 summarizes the laboratory data, including the summed totals as defined in Table 3 and the summation rules listed above.

## References


GSI Water Solutions, Inc. (GSI). 2011. Sampling and Analysis Plan, Portland Harbor 2011 Baseline Smallmouth Bass Tissue Study, Willamette River, Portland, Oregon. Prepared for U.S. Environmental Protection Agency. September.

GSI. 2012. Portland Harbor 2011 Baseline Smallmouth Bass Tissue Study, Field Sampling Report, Willamette River, Portland, Oregon. Prepared for U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, and City of Portland. June.

Kennedy/Jenks. 2004. Portland Harbor RI/FS Technical Memorandum: Guidelines for Data Averaging and the Treatment of Non-detected Values for the Round 1 Database. Prepared for the Lower Willamette Group, Portland OR. Kennedy/Jenks, Integral Consulting, Inc., Windward Environmental, LLC.

U.S. Environmental Protection Agency (EPA). 1995. EPA Region 10 SOP for the Validation of Method 1668 Toxic, Dioxin-like PCB Data. EPA Region 10, Environmental Services Division, Seattle, WA. December 8.

EPA. 2002. Guidance on Environmental Data Verification and Validation. EPA QA/G-8. EPA/240/R-02/004. EPA Office of Environmental Information, Washington DC. November.

EPA. 2008. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. USEPA-540-R-08-01. EPA Office of Superfund Remediation and Technology Innovation. June.

EPA. 2012. Memorandum. Subject: Data Validation Report for the full list of 209 Polychlorinated Biphenyl Congener (PCB Congeners) Analyses of Small-Mouthed Bass Tissue Samples Collected for the Portland Harbor RI/FS BACE Project Numbers: 10180829, 100180826, 101867, 101870. From: Ginna Grepo-Grove, R10 QA Manager, Office of Environmental Assessment, USEPA. To: Chip Humphrey and Matthew Lambert. June 13.

# Figures

# FIGURE 1

## Sample Locations Overview

## Portland Harbor Sample Receipt, Analysis, and Results Report

Willamette River
Portland, Oregon

**LEGEND**

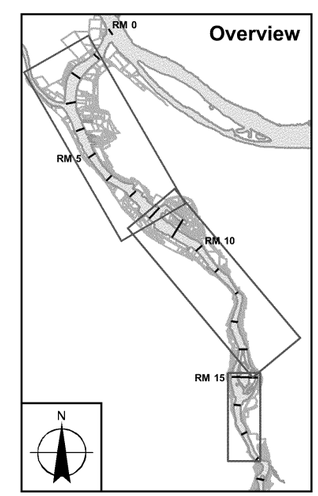
× Target SMB Sample Location

**Actual SMB Sample Locations**

- Analyzed Target
- Not Analyzed Target
- Analyzed Lifecycle

**All Other Data**

——— River Mile




**MAP NOTES:**

Projection: Oregon State Plane North
Datum: North American Datum of 1983
Date: September 11, 2012
1. The locations of all features shown are approximate.
2. RM = River Mile
3. SMB = Smallmouth Bass

1,400 0 1,400 2,800
1 inch = 2,800 feet

# Tables

**Table 1: Sample Locations**

Portland Harbor Sample Receipt, Analysis, and Results Report

| Location | Sample ID (EPA1-) | Collection Date | Sample Purpose | Analyzed? | Easting (NAD83) | Northing (NAD83) | Shipment |
|---|---|---|---|---|---|---|---|
| RM2E | EPA1-SB02E-01 | 9/22/2011 | Target | Not Analyzed | 7617559.5870 | 724490.8171 | EPA 1 |
| | EPA1-SB02E-04 | 9/15/2011 | Target | Not Analyzed | 7616831.9168 | 721677.8505 | EPA 1 |
| RM2W | EPA1-SB02W-02 | 9/16/2011 | Target | Not Analyzed | 7615381.2888 | 723941.6522 | EPA 1 |
| | EPA1-SB02W-05 | 9/16/2011 | Target | Not Analyzed | 7615077.7717 | 720994.6204 | EPA 1 |
| RM3E | EPA1-SB03E-04 | 9/15/2011 | Target | Not Analyzed | 7617951.5436 | 717347.3249 | EPA 1 |
| | EPA1-SB03E-05 | 9/20/2011 | Target | Not Analyzed | 7618807.7333 | 717284.6256 | EPA 1 |
| | EPA1-SB03E-08 | 9/22/2011 | Target | Not Analyzed | 7619736.8935 | 717037.2854 | EPA 1 |
| RM3W | EPA1-SB03W-01 | 9/16/2011 | Target | Not Analyzed | 7615068.6544 | 719538.6133 | EPA 1 |
| | EPA1-SB03W-03 | 9/16/2011 | Target | Not Analyzed | 7615813.7848 | 717984.5561 | EPA 1 |
| | EPA1-SB03W-05 | 9/16/2011 | Target | Not Analyzed | 7616463.1741 | 716444.7617 | EPA 1 |
| MC | EPA1-SBMC-01 | 9/15/2011 | Target | Not Analyzed | 7611620.6892 | 721658.7832 | EPA 1 |
| | EPA1-SBMC-03 | 9/15/2011 | Target | Not Analyzed | 7612397.2282 | 720301.7512 | EPA 1 |
| | EPA1-SBMC-04 | 9/15/2011 | Target | Not Analyzed | 7611374.3123 | 721259.7402 | EPA 1 |
| RM4E | EPA1-SB04E-02 | 9/29/2011 | Target | Analyzed | 7618740.3626 | 714962.8020 | EPA 2 |
| | EPA1-SB04E-06 | 9/29/2011 | Target | Analyzed | 7618995.0805 | 714296.5253 | EPA 2 |
| | EPA1-SB04E-08 | 9/14/2011 | Target | Not Analyzed | 7620447.4535 | 713407.5043 | EPA 1 |
| | EPA1-SB04E-10 | 9/14/2011 | Target | Not Analyzed | 7619734.6972 | 712843.0509 | EPA 1 |
| RM4W | EPA1-SB04W-02 | 9/16/2011 | Target | Not Analyzed | 7617350.9321 | 714289.1719 | EPA 1 |
| RM5E | EPA1-SB05E-01 | 9/14/2011 | Target | Not Analyzed | 7620479.9472 | 711431.5204 | EPA 1 |
| | EPA1-SB05E-02 | 10/3/2011 | Target | Analyzed | 7621025.9515 | 710385.5935 | EPA 2 |
| | EPA1-SB05E-03 | 10/3/2011 | Target | Analyzed | 7621611.1795 | 709354.4934 | EPA 2 |
| | EPA1-SB05E-04 | 10/6/2011 | Target | Analyzed | 7622425.6789 | 708300.1288 | EPA 2 |
| RM5W | EPA1-SB05W-02 | 10/2/2011 | Target | Analyzed | 7620011.5042 | 709612.5127 | EPA 2 |
| | EPA1-SB05W-03 | 9/28/2011 | Target | Analyzed | 7620605.9674 | 708796.5154 | EPA 2 |
| | EPA1-SB05W-04 | 9/22/2011 | Lifecycle | Analyzed | 7621193.7511 | 708165.8562 | USACE |

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Portland Harbor Sample Receipt, Analysis, and Results Report

| Location | Sample ID (EPA1-) | Collection Date | Sample Purpose | Analyzed? | Easting (NAD83) | Northing (NAD83) | Shipment |
|---|---|---|---|---|---|---|---|
| RM6E | EPA1-SB06E-01 | 9/12/2011 | Target | Not Analyzed | 7623765.1730 | 707139.9929 | EPA 1 |
| | EPA1-SB06E-02 | 10/3/2011 | Target | Analyzed | 7625302.7482 | 706147.4378 | EPA 2 |
| | EPA1-SB06E-03 | 9/12/2011 | Target | Not Analyzed | 7626095.4709 | 705927.5462 | EPA 1 |
| | EPA1-SB06E-04 | 9/21/2011 | Target | Not Analyzed | 7626744.2407 | 705806.6349 | EPA 1 |
| | EPA1-SB06E-05 | 9/12/2011 | Target | Not Analyzed | 7627396.9465 | 705617.3686 | EPA 1 |
| | EPA1-SB06E-06 | 9/16/2011 | Target | Not Analyzed | 7627142.7577 | 704779.2220 | EPA 1 |
| | EPA1-SB06E-08 | 10/8/2011 | Lifecycle | Analyzed | 7627751.0048 | 704513.7004 | USACE |
| | EPA1-SB06E-09 | 10/8/2011 | Lifecycle | Analyzed | 7627261.8801 | 704853.8424 | USACE |
| | EPA1-SB06E-10 | 10/8/2011 | Lifecycle | Analyzed | 7627239.7773 | 704870.1191 | USACE |
| | EPA1-SB06E-11 | 10/8/2011 | Lifecycle | Analyzed | 7627178.5231 | 704970.9609 | USACE |
| RM6W | EPA1-SB06W-01 | 10/7/2011 | Target | Analyzed | 7623259.7390 | 706089.1385 | EPA 2 |
| | EPA1-SB06W-02 | 9/21/2011 | Target | Not Analyzed | 7624486.3170 | 705395.1558 | EPA 1 |
| | EPA1-SB06W-04 | 10/6/2011 | Target | Analyzed | 7625793.9513 | 704637.7654 | EPA 2 |
| | EPA1-SB06W-05 | 9/20/2011 | Target | Not Analyzed | 7626390.2578 | 704033.1639 | EPA 1 |
| RM7E | EPA1-SB07E-01 | 9/22/2011 | Target | Not Analyzed | 7627963.1834 | 704313.4497 | EPA 1 |
| | EPA1-SB07E-02 | 9/12/2011 | Target | Not Analyzed | 7629007.5720 | 703478.0664 | EPA 1 |
| | EPA1-SB07E-04 | 10/3/2011 | Target | Analyzed | 7630501.7604 | 702199.7767 | EPA 2 |
| | EPA1-SB07E-05 | 10/3/2011 | Target | Analyzed | 7631760.2932 | 701577.0326 | EPA 2 |
| | EPA1-SB07E-06 | 10/3/2011 | Target | Analyzed | 7631349.4996 | 701694.0680 | EPA 2 |
| RM8E | EPA1-SB08E-01 | 9/19/2011 | Target | Not Analyzed | 7632509.7734 | 701744.1795 | EPA 1 |
| | EPA1-SB08E-04 | 9/12/2011 | Target | Not Analyzed | 7633809.8748 | 698774.8865 | EPA 1 |
| RM8W | EPA1-SB08W-01 | 9/27/2011 | Target | Analyzed | 7630437.2081 | 699436.5357 | EPA 2 |
| | EPA1-SB08W-05 | 9/27/2011 | Target | Analyzed | 7633514.5928 | 696771.2835 | EPA 2 |
| | EPA1-SB08W-06 | 10/7/2011 | Lifecycle | Analyzed | 7630400.5316 | 699535.9693 | USACE |
| SIL | EPA1-SBSIL-01 | 9/21/2011 | Target | Not Analyzed | 7633413.0652 | 701868.4090 | EPA 1 |
| RM9E | EPA1-SB09E-04 | 9/13/2011 | Target | Not Analyzed | 7638082.5826 | 695670.2471 | EPA 1 |
| | EPA1-SB09E-05 | 9/28/2011 | Target | Analyzed | 7639620.3431 | 694926.9917 | EPA 2 |
| RM9W | EPA1-SB09W-03 | 9/19/2011 | Target | Not Analyzed | 7636621.4442 | 694872.3983 | EPA 1 |

**Table 1: Sample Locations**

Portland Harbor Sample Receipt, Analysis, and Results Report

| Location | Sample ID (EPA1-) | Collection Date | Sample Purpose | Analyzed? | Easting (NAD83) | Northing (NAD83) | Shipment |
|---|---|---|---|---|---|---|---|
| RM10E | EPA1-SB10E-01 | 9/13/2011 | Target | Not Analyzed | 7640156.5257 | 694052.8473 | EPA 1 |
| | EPA1-SB10E-03 | 9/13/2011 | Target | Not Analyzed | 7641370.1634 | 692238.8199 | EPA 1 |
| | EPA1-SB10E-04 | 9/28/2011 | Target | Analyzed | 7641543.9453 | 692043.6338 | EPA 2 |
| | EPA1-SB10E-06 | 9/28/2011 | Lifecycle | Analyzed | 7640465.8526 | 693421.9495 | USACE |
| RM11E | EPA1-SB11E-01 | 9/19/2011 | Target | Not Analyzed | 7643282.6779 | 690004.2714 | EPA 1 |
| | EPA1-SB11E-02 | 9/13/2011 | Target | Not Analyzed | 7644492.4098 | 689157.4272 | EPA 1 |
| | EPA1-SB11E-03 | 9/13/2011 | Target | Not Analyzed | 7645051.2669 | 688194.8416 | EPA 1 |
| | EPA1-SB11E-04 | 9/13/2011 | Target | Not Analyzed | 7645545.6549 | 687339.7093 | EPA 1 |
| | EPA1-SB11E-05 | 9/13/2011 | Target | Not Analyzed | 7646028.5524 | 686729.8025 | EPA 1 |
| | EPA1-SB11E-06 | 9/13/2011 | Target | Not Analyzed | 7644188.9814 | 689349.8960 | EPA 1 |
| | EPA1-SB11E-07 | 9/19/2011 | Lifecycle | Analyzed | 7643279.6427 | 690016.3478 | USACE |
| | EPA1-SB11E-08 | 10/7/2011 | Lifecycle | Analyzed | 7644062.9295 | 689439.2818 | USACE |
| | EPA1-SB11E-09 | 10/7/2011 | Lifecycle | Analyzed | 7643687.4064 | 689713.2152 | USACE |
| | EPA1-SB11E-10 | 10/7/2011 | Lifecycle | Analyzed | 7643305.4448 | 689983.1343 | USACE |
| RM11W | EPA1-SB11W-04 | 9/16/2011 | Target | Not Analyzed | 7644463.1731 | 687488.7531 | EPA 1 |
| | EPA1-SB11W-05 | 9/28/2011 | Target | Analyzed | 7645552.1395 | 686305.2547 | EPA 2 |
| | EPA1-SB11W-06 | 9/16/2011 | Lifecycle | Analyzed | 7645637.3541 | 686200.0404 | USACE |
| | EPA1-SB11W-07 | 9/28/2011 | Lifecycle | Analyzed | 7643703.1530 | 688248.8439 | USACE |
| | EPA1-SB11W-08 | 9/28/2011 | Lifecycle | Analyzed | 7642440.5451 | 689464.8130 | USACE |
| RM15E | EPA1-SB15E-01 | 9/26/2011 | Target | Not Analyzed | 7646308.0338 | 668795.0119 | EPA 1 |
| | EPA1-SB15E-02 | 9/23/2011 | Target | Not Analyzed | 7647151.9207 | 668742.9954 | EPA 1 |
| | EPA1-SB15E-03 | 9/23/2011 | Target | Not Analyzed | 7646369.0729 | 668317.7888 | EPA 1 |
| | EPA1-SB15E-04 | 9/26/2011 | Target | Not Analyzed | 7646307.1184 | 668494.3107 | EPA 1 |
| | EPA1-SB15E-05 | 9/26/2011 | Target | Not Analyzed | 7647121.2253 | 667554.4248 | EPA 1 |
| RM16W | EPA1-SB16W-01 | 9/26/2011 | Target | Not Analyzed | 7646073.9461 | 662735.8685 | EPA 1 |
| | EPA1-SB16W-02 | 9/26/2011 | Target | Not Analyzed | 7646177.9411 | 662992.9936 | EPA 1 |
| RM17W | EPA1-SB17W-01 | 9/26/2011 | Target | Not Analyzed | 7648317.5271 | 657983.1762 | EPA 1 |
| | EPA1-SB17W-02 | 9/26/2011 | Target | Not Analyzed | 7648171.4210 | 658470.3637 | EPA 1 |
| | EPA1-SB17W-03 | 9/26/2011 | Target | Not Analyzed | 7647825.1467 | 659142.0138 | EPA 1 |

**Table 2: Data Validation Results**
Portland Harbor Sample Receipt, Analysis, and Results Report

| Analysis | Matrix | Number Qualified as Estimated | Number Qualified as Rejected | Total Number of Results | Percent Qualified as Estimated | Percent Qualified as Rejected |
|---|---|---|---|---|---|---|
| Polychlorinated Biphenyls | Fish Tissue | 39 | 0 | 11084 | 0.35% | 0.00% |
| Lipids | Fish Tissue | 0 | 0 | 64 | 0.00% | 0.00% |
| **Total Fish Tissue** | | 39 | 0 | 11148 | 0.35% | 0.00% |

**Table 3. Summary of Analyte Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| Summed Analyte | Analytes Included in the Summed Analyte Total | TEF | Summation Rules Used |
|---|---|---|---|
| Total PCB Congeners | All PCB congeners | 1 | RI Rules |
| Dioxin-like PCB congener TCDD toxicity equivalent (ND = 0) | PCB-77 | 0.0001 | RI Rules |
| | PCB-81 | 0.0003 | |
| | PCB-105 | 0.00003 | |
| | PCB-114 | 0.00003 | |
| | PCB-118 | 0.00003 | |
| | PCB-123 | 0.00003 | |
| | PCB-126 | 0.1 | |
| | PCB-156 | 0.00003 | |
| | PCB-157 | 0.00003 | |
| | PCB-167 | 0.00003 | |
| | PCB-169 | 0.03 | |
| | PCB-189 | 0.00003 | |
| Monochlorobiphenyl homologs | PCB-1 through PCB-3 | 1 | Risk Assessment Rules |
| Dichlorobiphenyl homologs | PCB-4 through PCB-15 | 1 | Risk Assessment Rules |
| Trichlorobiphenyl homologs | PCB-16 through PCB-39 | 1 | Risk Assessment Rules |
| Tetrachlorobiphenyl homologs | PCB-40 through PCB-81 | 1 | Risk Assessment Rules |
| Pentachlorobiphenyl homologs | PCB-82 through PCB-127 | 1 | Risk Assessment Rules |
| Hexachlorobiphenyl homologs | PCB-129 through PCB-169 | 1 | Risk Assessment Rules |
| Heptachlorobiphenyl homologs | PCB-170 through PCB-193 | 1 | Risk Assessment Rules |
| Octachlorobiphenyl homologs | PCB-194 through PCB-205 | 1 | Risk Assessment Rules |
| Nonachlorobiphenyl homologs | PCB-206 through PCB-208 | 1 | Risk Assessment Rules |
| Total PCB Congeners (calc'd) | All PCB congeners | 1 | Risk Assessment Rules |
| PCB TEQ - Mammals | PCB-77 | 0.0001 | Risk Assessment Rules |
| | PCB-81 | 0.0003 | |
| | PCB-105 | 0.00003 | |
| | PCB-114 | 0.00003 | |
| | PCB-118 | 0.00003 | |
| | PCB-123 | 0.00003 | |
| | PCB-126 | 0.1 | |
| | PCB-156 | 0.00003 | |
| | PCB-157 | 0.00003 | |
| | PCB-167 | 0.00003 | |
| | PCB-169 | 0.03 | |
| | PCB-189 | 0.00003 | |

**Table 3. Summary of Analyte Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| Summed Analyte | Analytes Included in the Summed Analyte Total | TEF | Summation Rules Used |
|---|---|---|---|
| PCB TEQ - Birds | PCB-77 | 0.05 | Risk Assessment Rules |
| | PCB-81 | 0.1 | |
| | PCB-105 | 0.0001 | |
| | PCB-114 | 0.0001 | |
| | PCB-118 | 0.00001 | |
| | PCB-123 | 0.00001 | |
| | PCB-126 | 0.1 | |
| | PCB-156 | 0.0001 | |
| | PCB-157 | 0.0001 | |
| | PCB-167 | 0.00001 | |
| | PCB-169 | 0.001 | |
| | PCB-189 | 0.00001 | |
| PCB TEQ - Fish | PCB-77 | 0.0001 | Risk Assessment Rules |
| | PCB-81 | 0.0005 | |
| | PCB-105 | 0.000005 | |
| | PCB-114 | 0.000005 | |
| | PCB-118 | 0.000005 | |
| | PCB-123 | 0.000005 | |
| | PCB-126 | 0.005 | |
| | PCB-156 | 0.000005 | |
| | PCB-157 | 0.000005 | |
| | PCB-167 | 0.000005 | |
| | PCB-169 | 0.00005 | |
| | PCB-189 | 0.000005 | |

**Notes:**

| | |
|---|---|
| PCB | Polychlorinated biphenyl |
| RI | Remedial investigation |
| TEF | Toxic equivalency factor |
| TEQ | Toxic equivalent |

RI rules for summation are as follows:

Calculated totals are the sum of all detected concentrations. Non-detected concentrations are treated as zero.

If none of the analytes are detected in a sample, the highest reporting limit is used for the calculated total, and a U qualifier is used to indicate the lack of detected values.

Risk assessment rules for summation are as follows:

Calculated totals are the sum of all detected concentrations. For any analyte detected at least once in the data set within the study area for a given medium, the result is included in the summation at one-half the detection limit.

If none of the analytes are detected in a sample, the highest reporting limit is used for the calculated total, and a U qualifier is used to indicate the lack of detected values.

Non-detect results for analytes that were never detected within a data set for a given medium were treated as zero.

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB04E-02 | | | EPA1-SB04E-06 | | | EPA1-SB05E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7618740.363 | 7618740.363 | 7618740.363 | 7618995.081 | 7618995.081 | 7618995.081 | 7621025.952 | 7621025.952 | 7621025.952 |
| Y-coordinate | 714962.802 | 714962.802 | 714962.802 | 714296.5253 | 714296.5253 | 714296.5253 | 710385.5935 | 710385.5935 | 710385.5935 |
| RiverMile | 4.2 | 4.2 | 4.2 | 4.3 | 4.3 | 4.3 | 5.2 | 5.2 | 5.2 |
| Sample Date | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 18:34 | 18:34 | 18:34 | 17:10 | 17:10 | 17:10 | 9:54 | 9:54 | 9:54 |
| Sample Mass (g) | 198.45 | 148.75 | 347.2 | 184.84 | 171.54 | 356.38 | 252.22 | 226.9 | 479.12 |
| PCB001 | 21.6 U | 21.4 U | NC | 38.6 | 22.3 U | NC | 36.8 U | 15 U | NC |
| PCB002 | 26.8 U | 26.6 U | NC | 26.6 U | 27.6 U | NC | 45.6 U | 18.6 U | NC |
| PCB003 | 16.9 | 14 U | NC | 34.2 | 16.3 | NC | 24 U | 9.8 U | NC |
| PCB004 | 465 | 88.2 | NC | 757 | 151 | NC | 264 | 46.5 | NC |
| PCB005 | 26.8 U | 26.6 U | NC | 26.6 U | 27.6 U | NC | 45.6 U | 18.6 U | NC |
| PCB006 | 79.1 | 24.9 U | NC | 113 | 28.7 | NC | 42.6 U | 17.4 U | NC |
| PCB007 | 34 U | 33.7 U | NC | 33.7 U | 35 U | NC | 57.8 U | 23.6 U | NC |
| PCB008 | 384 | 93.1 | NC | 407 | 106 | NC | 130 U | 46.7 U | NC |
| PCB009 | 25.8 | 16.3 U | NC | 23.8 J | 16.9 U | NC | 27.9 U | 11.4 U | NC |
| PCB010 | 22.8 | 17.7 U | NC | 38.4 | 18.4 U | NC | 30.4 U | 12.4 U | NC |
| PCB011 | 241 | 172 | NC | 269 | 159 | NC | 239 U | 154 | NC |
| PCB012 & 013 | 23.9 U | 23.7 U | NC | 23.7 U | 24.7 U | NC | 40.7 U | 16.6 U | NC |
| PCB014 | 26.3 U | 26 U | NC | 26 U | 27 U | NC | 44.6 U | 18.2 U | NC |
| PCB015 | 170 | 57.2 | NC | 169 | 86.8 | NC | 67.2 U | 27.4 U | NC |
| PCB016 | 471 | 102 | NC | 382 | 108 | NC | 163 | 36.4 | NC |
| PCB017 | 942 | 181 | NC | 1,010 | 224 | NC | 418 | 67.6 | NC |
| PCB018 & 030 | 1,370 | 273 | NC | 1,250 | 327 | NC | 491 | 92.1 U | NC |
| PCB019 | 751 | 132 | NC | 687 | 146 | NC | 528 | 78.7 | NC |
| PCB020 & 028 | 5,770 | 1,110 | NC | 8,570 | 1,820 | NC | 2,150 | 348 U | NC |
| PCB021 & 033 | 1,090 | 249 | NC | 873 | 277 | NC | 367 | 90.2 U | NC |
| PCB022 | 1,310 | 269 | NC | 1,330 | 336 | NC | 418 | 79.3 | NC |
| PCB023 | 31.7 U | 31.4 U | NC | 31.4 U | 32.7 U | NC | 53.9 U | 22 U | NC |
| PCB024 | 27.3 | 19.1 U | NC | 28.5 | 19.9 U | NC | 32.8 U | 13.4 U | NC |
| PCB025 | 301 | 56.5 | NC | 326 | 69.5 | NC | 110 | 19.6 U | NC |
| PCB026 & 029 | 773 | 145 | NC | 787 | 170 | NC | 284 | 45.2 | NC |
| PCB027 | 162 | 31.9 | NC | 294 | 61.7 | NC | 97.8 | 19 U | NC |
| PCB031 | 3,140 | 616 | NC | 3,100 | 717 | NC | 1,010 | 183 U | NC |
| PCB032 | 497 | 97.1 U | NC | 1,420 | 283 | NC | 216 | 40.1 U | NC |
| PCB034 | 22.8 U | 22.6 U | NC | 24.2 | 23.5 U | NC | 38.7 U | 15.8 U | NC |
| PCB035 | 23.7 U | 23.4 U | NC | 23.4 U | 24.4 U | NC | 40.2 U | 16.4 U | NC |
| PCB036 | 25.1 U | 24.9 U | NC | 24.9 U | 25.8 U | NC | 42.6 U | 17.4 U | NC |
| PCB037 | 930 | 195 | NC | 482 | 195 | NC | 142 | 46.1 | NC |
| PCB038 | 18.2 U | 18 U | NC | 23 | 18.7 U | NC | 30.9 U | 12.6 U | NC |
| PCB039 | 22.8 U | 22.6 U | NC | 22.6 U | 23.5 U | NC | 38.7 U | 15.8 U | NC |
| PCB040 & 041 & 071 | 2,620 | 501 | NC | 10,600 | 1,920 | NC | 1,120 | 204 | NC |
| PCB042 | 2,160 | 403 | NC | 6,110 | 1,100 | NC | 878 | 145 | NC |
| PCB043 & 073 | 226 | 40.7 | NC | 672 | 119 | NC | 174 | 27.5 | NC |
| PCB044 & 047 & 065 | 10,600 | 1,890 | NC | 29,000 | 5,170 | NC | 5,550 | 928 | NC |
| PCB045 & 051 | 1,420 | 256 | NC | 3,010 | 516 | NC | 592 | 89.2 | NC |
| PCB046 | 273 | 71.4 U | NC | 669 | 120 | NC | 123 U | 50 U | NC |
| PCB048 | 1,240 | 223 | NC | 3,530 | 648 | NC | 513 | 90.2 | NC |
| PCB049 & 069 | 7,030 | 1,270 | NC | 21,100 | 3,770 | NC | 3,540 | 565 | NC |
| PCB050 & 053 | 908 | 159 | NC | 2,730 | 477 | NC | 432 | 63.7 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB04E-02 | | | EPA1-SB04E-06 | | | EPA1-SB05E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7618740.363 | 7618740.363 | 7618740.363 | 7618995.081 | 7618995.081 | 7618995.081 | 7621025.952 | 7621025.952 | 7621025.952 |
| Y-coordinate | 714962.802 | 714962.802 | 714962.802 | 714296.5253 | 714296.5253 | 714296.5253 | 710385.5935 | 710385.5935 | 710385.5935 |
| RiverMile | 4.2 | 4.2 | 4.2 | 4.3 | 4.3 | 4.3 | 5.2 | 5.2 | 5.2 |
| Sample Date | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 18:34 | 18:34 | 18:34 | 17:10 | 17:10 | 17:10 | 9:54 | 9:54 | 9:54 |
| Sample Mass (g) | 198.45 | 148.75 | 347.2 | 184.84 | 171.54 | 356.38 | 252.22 | 226.9 | 479.12 |
| PCB052 | 11,400 | 2,140 | NC | 35,700 | 6,610 | NC | 5,660 | 873 | NC |
| PCB054 | 120 | 22.5 | NC | 99.7 | 21.1 U | NC | 109 | 16.3 | NC |
| PCB055 | 21.6 U | 21.4 U | NC | 21.4 U | 22.3 U | NC | 36.8 U | 15 U | NC |
| PCB056 | 1,990 | 375 | NC | 5,910 | 1,090 | NC | 889 | 156 | NC |
| PCB057 | 47.7 | 18 U | NC | 87.1 | 18.7 U | NC | 30.9 U | 12.6 U | NC |
| PCB058 | 30.6 | 19.1 U | NC | 54.7 | 19.9 U | NC | 32.8 U | 13.4 U | NC |
| PCB059 & 062 & 075 | 872 | 214 U | NC | 2,190 | 369 | NC | 368 U | 150 U | NC |
| PCB060 | 2,010 | 377 | NC | 7,940 | 1,440 | NC | 1,270 | 207 | NC |
| PCB061 & 070 & 074 & 076 | 12,900 | 2,340 | NC | 36,600 | 6,250 | NC | 6,320 | 1,180 | NC |
| PCB063 | 511 | 88.5 | NC | 1,390 | 228 | NC | 269 | 53.1 | NC |
| PCB064 | 4,320 | 801 | NC | 14,600 | 2,600 | NC | 1,490 | 289 | NC |
| PCB066 | 9,640 | 1,770 | NC | 34,300 | 6,030 | NC | 6,490 | 1,030 | NC |
| PCB067 | 226 | 41.7 | NC | 366 | 63.6 | NC | 107 | 19.6 | NC |
| PCB068 | 109 | 57.1 U | NC | 128 | 59.4 U | NC | 98 U | 40 U | NC |
| PCB072 | 134 | 22.9 | NC | 232 | 38.6 | NC | 85.8 | 15.5 | NC |
| PCB073 | 31.7 U | 31.4 U | NC | 31.4 U | 32.7 U | NC | 53.9 U | 22 U | NC |
| PCB077 | 625 | 111 | NC | 1,140 | 198 | NC | 276 | 42.5 | NC |
| PCB078 | 13.3 U | 13.1 U | NC | 13.1 U | 13.7 U | NC | 22.5 U | 9.2 U | NC |
| PCB079 | 75.9 | 22.3 U | NC | 260 | 51.2 | NC | 47 | 15.6 U | NC |
| PCB080 | 21.3 U | 21.1 U | NC | 21.1 U | 22 U | NC | 36.3 U | 14.8 U | NC |
| PCB081 | 46 | 25.7 U | NC | 85.9 | 26.7 U | NC | 44.1 U | 18 U | NC |
| PCB082 | 1,010 | 185 | NC | 2,710 | 480 | NC | 663 | 103 | NC |
| PCB083 | 739 | 111 | NC | 1,580 | 274 | NC | 489 | 74.2 | NC |
| PCB084 | 2,620 | 467 | NC | 4,910 | 809 | NC | 1,230 | 200 | NC |
| PCB085 & 117 & 116 | 3,450 | 591 | NC | 10,700 | 1,980 | NC | 3,710 | 545 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 8,710 | 1,550 | NC | 22,800 | 4,090 | NC | 7,290 | 1,100 | NC |
| PCB088 & 091 | 2,380 | 407 | NC | 5,020 | 818 | NC | 1,170 | 228 | NC |
| PCB089 | 78.5 | 16.6 U | NC | 352 | 62.7 | NC | 48.4 | 11.6 U | NC |
| PCB090 & 101 & 113 | 17,000 | 2,980 | NC | 38,200 | 6,690 | NC | 16,300 | 2,380 | NC |
| PCB092 | 3,540 | 602 | NC | 7,800 | 1,310 | NC | 3,430 | 496 | NC |
| PCB093 & 098 & 100 & 102 | 983 | 329 U | NC | 1,620 | 342 U | NC | 942 | 230 U | NC |
| PCB094 | 79.5 | 71.4 U | NC | 140 | 74.3 U | NC | 123 U | 50 U | NC |
| PCB095 | 9,910 | 1,770 | NC | 18,200 | 3,010 | NC | 5,240 | 955 | NC |
| PCB096 | 91.7 | 32 U | NC | 254 | 42.7 | NC | 54.9 U | 22.4 U | NC |
| PCB099 | 9,460 | 1,660 | NC | 25,000 | 4,170 | NC | 11,600 | 1,680 | NC |
| PCB103 | 281 | 47.9 | NC | 321 | 57 | NC | 244 | 40.7 | NC |
| PCB104 | 43 U | 42.6 U | NC | 42.6 U | 44.3 U | NC | 73 U | 29.8 U | NC |
| PCB105 | 6,610 | 1,180 | NC | 19,400 | 3,440 | NC | 7,370 | 1,070 | NC |
| PCB106 | 42.7 U | 42.3 U | NC | 42.3 U | 44 U | NC | 72.5 U | 29.6 U | NC |
| PCB107 & 124 | 509 | 87.2 | NC | 1,050 | 182 | NC | 490 | 65.5 | NC |
| PCB109 | 1,360 | 232 | NC | 2,950 | 501 | NC | 1,660 | 230 | NC |
| PCB110 & 115 | 14,000 | 2,590 | NC | 32,900 | 5,890 | NC | 11,900 | 1,730 | NC |
| PCB111 | 21.3 U | 21.1 U | NC | 23.5 | 22 U | NC | 53.1 | 14.8 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB04E-02 | | | EPA1-SB04E-06 | | | EPA1-SB05E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7618740.363 | 7618740.363 | 7618740.363 | 7618995.081 | 7618995.081 | 7618995.081 | 7621025.952 | 7621025.952 | 7621025.952 |
| Y-coordinate | 714962.802 | 714962.802 | 714962.802 | 714296.5253 | 714296.5253 | 714296.5253 | 710385.5935 | 710385.5935 | 710385.5935 |
| RiverMile | 4.2 | 4.2 | 4.2 | 4.3 | 4.3 | 4.3 | 5.2 | 5.2 | 5.2 |
| Sample Date | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 18:34 | 18:34 | 18:34 | 17:10 | 17:10 | 17:10 | 9:54 | 9:54 | 9:54 |
| Sample Mass (g) | 198.45 | 148.75 | 347.2 | 184.84 | 171.54 | 356.38 | 252.22 | 226.9 | 479.12 |
| PCB112 | 31.7 U | 31.4 U | NC | 31.4 U | 32.7 U | NC | 53.9 U | 22 U | NC |
| PCB114 | 508 | 89.3 | NC | 1,390 | 251 | NC | 616 | 83.1 | NC |
| PCB118 | 19,800 | 3,520 | NC | 44,900 | 8,110 | NC | 23,100 | 3,180 | NC |
| PCB120 | 90.7 | 71.4 U | NC | 113 | 74.3 U | NC | 170 | 50 U | NC |
| PCB121 | 20.9 | 19.7 U | NC | 19.7 U | 20.5 U | NC | 38.9 | 13.8 U | NC |
| PCB122 | 117 | 26 U | NC | 217 | 42.1 | NC | 77.4 | 18.2 U | NC |
| PCB123 | 340 | 57.9 | NC | 918 | 162 | NC | 508 | 62.9 | NC |
| PCB126 | 41.5 | 38.6 U | NC | 77.3 | 40.1 U | NC | 66.2 U | 27 U | NC |
| PCB127 | 39.5 | 24.6 U | NC | 74.1 | 25.5 U | NC | 42.2 | 17.2 U | NC |
| PCB128 & 166 | 3,140 | 515 | NC | 5,890 | 968 | NC | 4,580 | 571 | NC |
| PCB129 & 138 & 163 | 29,500 | 4,780 | NC | 43,200 | 6,920 | NC | 45,700 | 5,500 | NC |
| PCB130 | 1,490 | 238 | NC | 2,090 | 323 | NC | 1,600 | 196 | NC |
| PCB131 | 149 | 26.8 | NC | 206 | 32.5 | NC | 140 | 20.6 | NC |
| PCB132 | 4,270 | 722 | NC | 5,260 | 799 | NC | 3,590 | 509 | NC |
| PCB133 | 521 | 83.6 | NC | 648 | 98 | NC | 1,260 | 152 | NC |
| PCB134 & 143 | 734 | 143 U | NC | 1,010 | 149 | NC | 710 | 100 U | NC |
| PCB135 & 151 | 7,610 | 1,300 | NC | 8,990 | 1,390 | NC | 10,400 | 1,370 | NC |
| PCB136 | 1,790 | 307 | NC | 2,270 | 357 | NC | 1,650 | 224 | NC |
| PCB137 | 1,480 | 226 | NC | 2,180 | 364 | NC | 1,760 | 215 | NC |
| PCB139 & 140 | 428 | 68.8 | NC | 790 | 117 | NC | 662 | 86.8 | NC |
| PCB141 | 4,100 | 692 | NC | 6,440 | 982 | NC | 5,440 | 668 | NC |
| PCB142 | 24.5 U | 24.3 U | NC | 24.3 U | 25.2 U | NC | 41.7 U | 17 U | NC |
| PCB144 | 897 | 145 | NC | 1,160 | 172 | NC | 825 | 109 | NC |
| PCB145 | 27.1 U | 26.9 U | NC | 26.9 U | 27.9 U | NC | 46.1 U | 18.8 U | NC |
| PCB146 | 5,070 | 818 | NC | 6,360 | 970 | NC | 11,700 | 1,410 | NC |
| PCB147 & 149 | 15,200 | 2,590 | NC | 16,000 | 2,430 | NC | 13,200 | 1,850 | NC |
| PCB148 | 69.1 | 42.9 U | NC | 70.6 | 44.6 U | NC | 108 | 30 U | NC |
| PCB150 | 47 | 30.9 U | NC | 39.3 | 32.1 U | NC | 52.9 U | 21.6 U | NC |
| PCB152 | 33.8 | 33.4 U | NC | 35.5 | 34.8 U | NC | 57.4 U | 23.4 U | NC |
| PCB153 & 168 | 29,000 | 4,640 | NC | 36,000 | 5,690 | NC | 52,400 | 6,210 | NC |
| PCB154 | 467 | 77.1 | NC | 572 | 84.8 | NC | 860 | 101 | NC |
| PCB155 | 35.5 | 35.1 U | NC | 35.1 U | 36.5 U | NC | 60.3 U | 24.6 U | NC |
| PCB156 & 157 | 2,920 | 502 | NC | 4,500 | 804 | NC | 4,660 | 599 | NC |
| PCB158 | 2,300 | 367 | NC | 4,030 | 652 | NC | 3,290 | 398 | NC |
| PCB159 | 72.1 U | 71.4 U | NC | 71.4 U | 74.3 U | NC | 123 U | 50 U | NC |
| PCB160 | 2.6 U | 2.57 U | NC | 2.57 U | 2.67 U | NC | 4.41 U | 1.8 U | NC |
| PCB161 | 34.3 U | 34 U | NC | 34 U | 35.3 U | NC | 58.3 U | 23.8 U | NC |
| PCB162 | 92.4 | 24.1 U | NC | 150 | 25.1 U | NC | 92.6 | 16.9 U | NC |
| PCB164 | 1,210 | 211 | NC | 1,970 | 301 | NC | 1,870 | 225 | NC |
| PCB165 | 34 U | 33.7 U | NC | 33.7 U | 35 U | NC | 68.5 | 23.6 U | NC |
| PCB167 | 1,210 | 201 | NC | 1,510 | 256 | NC | 1,710 | 205 | NC |
| PCB169 | 84.7 | 22.6 U | NC | 22.6 J | 23.5 U | NC | 38.8 U | 15.8 U | NC |
| PCB170 | 4,140 | 697 | NC | 4,090 | 827 | NC | 7,800 | 911 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB04E-02 | | | EPA1-SB04E-06 | | | EPA1-SB05E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7618740.363 | 7618740.363 | 7618740.363 | 7618995.081 | 7618995.081 | 7618995.081 | 7621025.952 | 7621025.952 | 7621025.952 |
| Y-coordinate | 714962.802 | 714962.802 | 714962.802 | 714296.5253 | 714296.5253 | 714296.5253 | 710385.5935 | 710385.5935 | 710385.5935 |
| RiverMile | 4.2 | 4.2 | 4.2 | 4.3 | 4.3 | 4.3 | 5.2 | 5.2 | 5.2 |
| Sample Date | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 18:34 | 18:34 | 18:34 | 17:10 | 17:10 | 17:10 | 9:54 | 9:54 | 9:54 |
| Sample Mass (g) | 198.45 | 148.75 | 347.2 | 184.84 | 171.54 | 356.38 | 252.22 | 226.9 | 479.12 |
| PCB171 & 173 | 1,520 | 241 | NC | 1,660 | 290 | NC | 2,610 | 312 | NC |
| PCB172 | 976 | 149 | NC | 954 | 167 | NC | 1,600 | 172 | NC |
| PCB174 | 3,640 | 603 | NC | 3,060 | 524 | NC | 3,400 | 420 | NC |
| PCB175 | 223 | 42 U | NC | 215 | 43.7 U | NC | 318 | 37.4 | NC |
| PCB176 | 406 | 63.2 | NC | 324 | 54.4 U | NC | 361 | 44.6 | NC |
| PCB177 | 2,970 | 484 | NC | 2,660 | 455 | NC | 3,730 | 446 | NC |
| PCB178 | 1,500 | 231 | NC | 1,460 | 236 | NC | 2,910 | 317 | NC |
| PCB179 | 1,740 | 286 | NC | 1,550 | 258 | NC | 2,070 | 265 | NC |
| PCB180 & 193 | 13,600 | 2,260 | NC | 11,200 | 2,190 | NC | 26,200 | 2,970 | NC |
| PCB181 | 65.9 | 38.3 U | NC | 68.7 | 39.8 U | NC | 103 | 26.8 U | NC |
| PCB182 | 37.1 | 26 U | NC | 44.4 | 27 U | NC | 44.6 U | 18.2 U | NC |
| PCB183 & 185 | 4,410 | 701 | NC | 4,220 | 718 | NC | 7,960 | 921 | NC |
| PCB184 | 31.4 U | 31.1 U | NC | 31.1 U | 32.4 U | NC | 53.4 U | 21.8 U | NC |
| PCB186 | 45.6 U | 45.1 U | NC | 45.1 U | 46.9 U | NC | 77.5 U | 31.6 U | NC |
| PCB187 | 10,200 | 1,640 | NC | 8,860 | 1,480 | NC | 23,700 | 2,490 | NC |
| PCB188 | 45.6 U | 36.3 U | NC | 36.3 U | 37.7 U | NC | 62.3 U | 25.4 U | NC |
| PCB189 | 191 | 30.1 | NC | 185 | 38 | NC | 434 | 46 | NC |
| PCB190 | 442 | 86.8 | NC | 432 | 120 | NC | 1,490 | 176 | NC |
| PCB191 | 209 | 36.3 U | NC | 208 | 37.7 U | NC | 375 | 41.6 | NC |
| PCB192 | 25.4 U | 25.1 U | NC | 25.1 U | 26.1 U | NC | 43.1 U | 17.6 U | NC |
| PCB194 | 1,540 | 286 | NC | 1,210 | 252 | NC | 3,570 | 343 | NC |
| PCB195 | 708 | 118 | NC | 619 | 115 | NC | 1,650 | 175 | NC |
| PCB196 | 918 | 163 | NC | 731 | 146 | NC | 1,920 | 203 | NC |
| PCB197 & 200 | 260 | 59.3 U | NC | 198 | 61.7 U | NC | 367 | 41.5 U | NC |
| PCB198 & 199 | 1,960 | 391 | NC | 1,450 | 334 | NC | 5,280 | 537 | NC |
| PCB201 | 328 | 51.3 | NC | 263 | 43.4 | NC | 595 | 63.5 | NC |
| PCB202 | 691 | 111 | NC | 578 | 106 | NC | 1,340 | 141 | NC |
| PCB203 | 1,570 | 264 | NC | 1,300 | 236 | NC | 2,860 | 310 | NC |
| PCB204 | 35.2 U | 34.8 U | NC | 34.8 U | 36.2 U | NC | 59.8 U | 24.4 U | NC |
| PCB205 | 91.7 | 34.7 U | NC | 81 | 36 U | NC | 223 | 24.3 U | NC |
| PCB206 | 710 | 142 | NC | 496 | 102 | NC | 2,560 | 294 | NC |
| PCB207 | 113 | 68.6 U | NC | 78.8 | 71.3 U | NC | 313 | 48 U | NC |
| PCB208 | 300 | 69.8 U | NC | 194 | 72.6 U | NC | 866 | 97.2 | NC |
| PCB209 | 316 | 65.3 | NC | 208 | 51.3 | NC | 966 | 151 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB04E-02 | | | EPA1-SB04E-06 | | | EPA1-SB05E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7618740.363 | 7618740.363 | 7618740.363 | 7618995.081 | 7618995.081 | 7618995.081 | 7621025.952 | 7621025.952 | 7621025.952 |
| Y-coordinate | 714962.802 | 714962.802 | 714962.802 | 714296.5253 | 714296.5253 | 714296.5253 | 710385.5935 | 710385.5935 | 710385.5935 |
| RiverMile | 4.2 | 4.2 | 4.2 | 4.3 | 4.3 | 4.3 | 5.2 | 5.2 | 5.2 |
| Sample Date | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 29-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 18:34 | 18:34 | 18:34 | 17:10 | 17:10 | 17:10 | 9:54 | 9:54 | 9:54 |
| Sample Mass (g) | 198.45 | 148.75 | 347.2 | 184.84 | 171.54 | 356.38 | 252.22 | 226.9 | 479.12 |
| Monochlorobiphenyl homologs | 27.7 T | 26.6 UT | NC | 72.8 T | 27.5 T | NC | 45.6 UT | 18.6 UT | NC |
| Dichlorobiphenyl homologs | 1,390 T | 440 T | NC | 1,780 JT | 549 T | NC | 533 T | 258 T | NC |
| Trichlorobiphenyl homologs | 17,600 T | 3,450 T | NC | 20,600 T | 4,780 T | NC | 6,470 T | 778 T | NC |
| Tetrachlorobiphenyl homologs | 71,600 T | 13,100 T | NC | 219,000 T | 38,900 T | NC | 36,200 T | 6,160 T | NC |
| Pentachlorobiphenyl homologs | 104,000 T | 18,500 T | NC | 244,000 T | 42,700 T | NC | 98,500 T | 14,500 T | NC |
| Hexachlorobiphenyl homologs | 114,000 T | 18,700 T | NC | 151,000 JT | 24,000 T | NC | 168,000 T | 20,800 T | NC |
| Heptachlorobiphenyl homologs | 46,300 T | 7,580 T | NC | 41,200 T | 7,440 T | NC | 85,100 T | 9,620 T | NC |
| Octachlorobiphenyl homologs | 8,070 T | 1,430 T | NC | 6,430 T | 1,280 T | NC | 17,800 T | 1,810 T | NC |
| Nonachlorobiphenyl homologs | 1,120 T | 211 T | NC | 769 T | 174 T | NC | 3,740 T | 415 T | NC |
| Total PCB Congeners | 364,000 JT | 62,300 JT | 235,000 JT | 685,000 JT | 119,000 JT | 412,000 JT | 417,000 JT | 53,300 JT | 245,000 JT |
| Total PCB Congeners (calc'd) | 364,000 JT | 63,500 JT | 235,000 JT | 685,000 JT | 120,000 JT | 413,000 JT | 418,000 JT | 54,400 JT | 246,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 7.71 T | 0.179 JT | 4.49 JT | 10.7 JT | 0.412 JT | 5.76 JT | 1.18 JT | 0.162 JT | 0.697 JT |
| LWG RA Total PCB Congener TEQ 2005 | 7.71 T | 2.45 JT | 5.46 JT | 10.7 JT | 2.77 JT | 6.9 JT | 5.08 JT | 1.75 JT | 3.5 JT |
| LWG RA Total PCB Congener TEQ 1998 | 41.3 T | 8.99 JT | 27.5 JT | 76.3 JT | 13.8 JT | 46.2 JT | 20.9 JT | 4.59 JT | 13.2 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.455 T | 0.142 JT | 0.321 JT | 0.909 JT | 0.193 JT | 0.564 JT | 0.397 JT | 0.103 JT | 0.258 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05E-03 | | | EPA1-SB05E-04 | | | EPA1-SB05W-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7621611.18 | 7621611.18 | 7621611.18 | 7622425.679 | 7622425.679 | 7622425.679 | 7620011.504 | 7620011.504 | 7620011.504 |
| Y-coordinate | 709354.4934 | 709354.4934 | 709354.4934 | 708300.1288 | 708300.1288 | 708300.1288 | 709612.5127 | 709612.5127 | 709612.5127 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 5.2 | 5.2 | 5.2 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 | 2-Oct-11 | 2-Oct-11 | 2-Oct-11 |
| Sample Time | 9:32 | 9:32 | 9:32 | 18:10 | 18:10 | 18:10 | 12:50 | 12:50 | 12:50 |
| Sample Mass (g) | 198.04 | 155.69 | 353.73 | 278.69 | 235.07 | 513.76 | 416.91 | 346.59 | 763.5 |
| PCB001 | 21 U | 22.1 U | NC | 32.9 U | 35 U | NC | 27.3 | 21.8 U | NC |
| PCB002 | 26.1 U | 27.4 U | NC | 40.8 U | 43.5 U | NC | 27.4 U | 27.1 U | NC |
| PCB003 | 16.9 | 14.4 U | NC | 21.5 U | 22.9 U | NC | 15.9 | 14.3 U | NC |
| PCB004 | 500 | 154 | NC | 405 | 83.1 | NC | 606 | 183 | NC |
| PCB005 | 26.1 U | 27.4 U | NC | 40.8 U | 43.5 U | NC | 27.4 U | 27.1 U | NC |
| PCB006 | 48.2 | 25.6 U | NC | 44.8 | 40.7 U | NC | 91.1 | 27.9 | NC |
| PCB007 | 33.1 U | 34.7 U | NC | 51.8 U | 55.1 U | NC | 34.7 U | 34.4 U | NC |
| PCB008 | 204 | 95 | NC | 182 | 58.1 | NC | 447 | 138 | NC |
| PCB009 | 16 U | 16.8 U | NC | 25 U | 26.6 U | NC | 19.3 J | 16.6 U | NC |
| PCB010 | 19.5 | 18.2 U | NC | 27.2 U | 29 U | NC | 32.3 | 18.1 U | NC |
| PCB011 | 329 | 182 | NC | 308 | 228 U | NC | 292 | 177 | NC |
| PCB012 & 013 | 23.3 U | 24.4 U | NC | 36.4 U | 38.8 U | NC | 24.4 U | 24.2 U | NC |
| PCB014 | 25.5 U | 26.8 U | NC | 39.9 U | 42.5 U | NC | 26.8 U | 26.5 U | NC |
| PCB015 | 115 | 59.9 | NC | 79.5 | 64 U | NC | 111 | 48.3 | NC |
| PCB016 | 167 | 113 | NC | 224 | 51.4 U | NC | 279 | 91.6 | NC |
| PCB017 | 587 | 250 | NC | 627 | 114 | NC | 803 | 242 | NC |
| PCB018 & 030 | 528 U | 314 | NC | 737 | 149 U | NC | 892 | 294 | NC |
| PCB019 | 822 | 250 | NC | 712 | 142 | NC | 549 | 173 | NC |
| PCB020 & 028 | 1,840 | 1,340 | NC | 3,650 | 423 | NC | 4,250 | 1,290 | NC |
| PCB021 & 033 | 366 | 231 | NC | 444 | 211 U | NC | 775 | 268 | NC |
| PCB022 | 331 | 310 | NC | 781 | 87.9 | NC | 711 | 220 | NC |
| PCB023 | 30.8 U | 32.4 U | NC | 48.2 U | 51.4 U | NC | 32.4 U | 32 U | NC |
| PCB024 | 18.8 U | 19.7 U | NC | 29.4 U | 31.3 U | NC | 19.7 U | 19.5 U | NC |
| PCB025 | 121 | 86.7 | NC | 233 | 45.8 U | NC | 229 | 70.3 | NC |
| PCB026 & 029 | 282 | 195 | NC | 516 | 98.1 U | NC | 608 | 181 | NC |
| PCB027 | 127 | 42.8 | NC | 116 | 44.4 U | NC | 128 | 41.9 | NC |
| PCB031 | 930 | 812 | NC | 2,080 | 267 | NC | 1,980 | 620 | NC |
| PCB032 | 326 | 126 | NC | 288 | 66.7 | NC | 523 | 158 U | NC |
| PCB034 | 22.1 U | 23.2 U | NC | 34.6 U | 36.9 U | NC | 23.2 U | 23 U | NC |
| PCB035 | 23 U | 24.1 U | NC | 36 U | 38.3 U | NC | 24.1 U | 23.9 U | NC |
| PCB036 | 24.4 U | 25.6 U | NC | 38.2 U | 40.7 U | NC | 25.6 U | 25.3 U | NC |
| PCB037 | 239 | 148 | NC | 414 | 50.8 | NC | 180 | 75.3 | NC |
| PCB038 | 17.7 U | 18.5 U | NC | 27.6 U | 29.4 U | NC | 18.5 U | 18.3 U | NC |
| PCB039 | 22.1 U | 23.2 U | NC | 34.6 U | 36.9 U | NC | 23.2 U | 23 U | NC |
| PCB040 & 041 & 071 | 1,430 | 659 | NC | 1,850 | 274 | NC | 2,620 | 761 | NC |
| PCB042 | 725 | 602 | NC | 1,740 | 167 | NC | 1,860 | 532 | NC |
| PCB043 & 073 | 161 | 66.9 | NC | 194 | 51.4 U | NC | 205 | 63.1 | NC |
| PCB044 & 047 & 065 | 10,500 | 3,170 | NC | 9,620 | 1,090 | NC | 11,100 | 3,260 | NC |
| PCB045 & 051 | 1,760 | 439 | NC | 1,200 | 140 | NC | 1,000 | 301 | NC |
| PCB046 | 145 | 73.5 U | NC | 181 | 117 U | NC | 159 | 72.8 U | NC |
| PCB048 | 433 | 288 | NC | 816 | 91.6 | NC | 1,240 | 376 | NC |
| PCB049 & 069 | 5,330 | 2,190 | NC | 6,330 | 754 | NC | 8,400 | 2,530 | NC |
| PCB050 & 053 | 1,080 | 226 | NC | 597 | 103 | NC | 857 | 259 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05E-03 | | | EPA1-SB05E-04 | | | EPA1-SB05W-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7621611.18 | 7621611.18 | 7621611.18 | 7622425.679 | 7622425.679 | 7622425.679 | 7620011.504 | 7620011.504 | 7620011.504 |
| Y-coordinate | 709354.4934 | 709354.4934 | 709354.4934 | 708300.1288 | 708300.1288 | 708300.1288 | 709612.5127 | 709612.5127 | 709612.5127 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 5.2 | 5.2 | 5.2 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 | 2-Oct-11 | 2-Oct-11 | 2-Oct-11 |
| Sample Time | 9:32 | 9:32 | 9:32 | 18:10 | 18:10 | 18:10 | 12:50 | 12:50 | 12:50 |
| Sample Mass (g) | 198.04 | 155.69 | 353.73 | 278.69 | 235.07 | 513.76 | 416.91 | 346.59 | 763.5 |
| PCB052 | 7,150 | 3,270 | NC | 9,860 | 1,190 | NC | 12,500 | 3,730 | NC |
| PCB054 | 232 | 45.6 | NC | 136 | 33.2 U | NC | 105 | 31 | NC |
| PCB055 | 21 U | 22.1 U | NC | 32.9 U | 35 U | NC | 22.1 U | 21.8 U | NC |
| PCB056 | 611 | 656 | NC | 2,050 | 152 | NC | 1,390 | 432 | NC |
| PCB057 | 22.7 | 18.5 U | NC | 35.9 | 29.4 U | NC | 54.8 | 18.3 U | NC |
| PCB058 | 23.3 | 19.7 U | NC | 34.6 | 31.3 U | NC | 37.9 | 19.5 U | NC |
| PCB059 & 062 & 075 | 427 | 221 U | NC | 674 | 350 U | NC | 801 | 235 | NC |
| PCB060 | 710 | 509 | NC | 1,670 | 166 | NC | 2,290 | 687 | NC |
| PCB061 & 070 & 074 & 076 | 6,190 | 3,640 | NC | 11,600 | 1,210 | NC | 14,000 | 4,160 | NC |
| PCB063 | 278 | 120 | NC | 393 | 49.8 | NC | 657 | 189 | NC |
| PCB064 | 1,450 | 1,180 | NC | 3,500 | 352 | NC | 3,900 | 1,150 | NC |
| PCB066 | 5,170 | 2,500 | NC | 7,780 | 910 | NC | 12,200 | 3,630 | NC |
| PCB067 | 99 | 64.3 | NC | 210 | 28 U | NC | 199 | 56.8 | NC |
| PCB068 | 181 | 58.8 U | NC | 112 | 93.5 U | NC | 132 | 58.3 U | NC |
| PCB072 | 137 | 43.3 | NC | 133 | 21 U | NC | 187 | 53.6 | NC |
| PCB073 | 30.8 U | 32.4 U | NC | 194 | 0 U | NC | 32.4 U | 21.8 U | NC |
| PCB077 | 249 | 149 | NC | 535 | 48.7 | NC | 486 | 148 | NC |
| PCB078 | 12.9 U | 13.5 U | NC | 20.2 U | 21.5 U | NC | 13.5 U | 13.4 U | NC |
| PCB079 | 93.8 | 30.8 | NC | 94.8 | 36.4 U | NC | 92.1 | 34.8 | NC |
| PCB080 | 20.7 U | 21.8 U | NC | 32.5 U | 34.6 U | NC | 21.8 U | 21.6 U | NC |
| PCB081 | 25.7 | 26.5 U | NC | 53.6 | 42.1 U | NC | 38.7 | 26.2 U | NC |
| PCB082 | 612 | 330 | NC | 1,080 | 83.2 | NC | 911 | 260 | NC |
| PCB083 | 752 | 256 | NC | 632 | 67.2 | NC | 828 | 225 | NC |
| PCB084 | 1,850 | 904 | NC | 2,660 | 215 | NC | 2,040 | 579 | NC |
| PCB085 & 117 & 116 | 3,120 | 1,010 | NC | 3,290 | 444 | NC | 6,130 | 1,780 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 7,430 | 2,900 | NC | 9,420 | 887 | NC | 10,800 | 3,130 | NC |
| PCB088 & 091 | 2,130 | 846 | NC | 2,530 | 236 | NC | 2,400 | 675 | NC |
| PCB089 | 52.8 | 25.8 | NC | 72.5 | 27.1 U | NC | 84.9 | 25.5 | NC |
| PCB090 & 101 & 113 | 20,100 | 5,580 | NC | 18,000 | 1,970 | NC | 22,400 | 6,390 | NC |
| PCB092 | 4,520 | 1,140 | NC | 3,560 | 416 | NC | 4,990 | 1,410 | NC |
| PCB093 & 098 & 100 & 102 | 1,970 | 343 | NC | 1,070 | 537 U | NC | 1,130 | 335 U | NC |
| PCB094 | 129 | 73.5 U | NC | 110 U | 117 U | NC | 73.5 U | 72.8 U | NC |
| PCB095 | 10,100 | 3,090 | NC | 8,970 | 1,000 | NC | 10,000 | 2,860 | NC |
| PCB096 | 156 | 32.9 U | NC | 85.4 | 52.3 U | NC | 117 | 33.3 | NC |
| PCB099 | 12,700 | 2,810 | NC | 9,690 | 1,640 | NC | 16,700 | 4,740 | NC |
| PCB103 | 625 | 116 | NC | 331 | 43 U | NC | 327 | 92.9 | NC |
| PCB104 | 41.8 U | 43.8 U | NC | 65.4 U | 69.6 U | NC | 43.8 U | 43.4 U | NC |
| PCB105 | 5,330 | 1,760 | NC | 6,110 | 755 | NC | 12,100 | 3,560 | NC |
| PCB106 | 41.5 U | 43.5 U | NC | 64.9 U | 69.2 U | NC | 43.5 U | 43.1 U | NC |
| PCB107 & 124 | 349 | 146 | NC | 534 | 50.9 U | NC | 697 | 195 | NC |
| PCB109 | 1,500 | 373 | NC | 1,300 | 206 | NC | 2,250 | 631 | NC |
| PCB110 & 115 | 11,500 | 4,710 | NC | 15,300 | 1,520 | NC | 16,700 | 4,840 | NC |
| PCB111 | 67.3 | 21.8 U | NC | 32.5 U | 34.6 U | NC | 40.1 | 21.6 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05E-03 | | | EPA1-SB05E-04 | | | EPA1-SB05W-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7621611.18 | 7621611.18 | 7621611.18 | 7622425.679 | 7622425.679 | 7622425.679 | 7620011.504 | 7620011.504 | 7620011.504 |
| Y-coordinate | 709354.4934 | 709354.4934 | 709354.4934 | 708300.1288 | 708300.1288 | 708300.1288 | 709612.5127 | 709612.5127 | 709612.5127 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 5.2 | 5.2 | 5.2 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 | 2-Oct-11 | 2-Oct-11 | 2-Oct-11 |
| Sample Time | 9:32 | 9:32 | 9:32 | 18:10 | 18:10 | 18:10 | 12:50 | 12:50 | 12:50 |
| Sample Mass (g) | 198.04 | 155.69 | 353.73 | 278.69 | 235.07 | 513.76 | 416.91 | 346.59 | 763.5 |
| PCB112 | 30.8 U | 32.4 U | NC | 48.2 U | 51.4 U | NC | 32.4 U | 32 U | NC |
| PCB114 | 427 | 120 | NC | 429 | 57.5 U | NC | 983 | 275 | NC |
| PCB118 | 23,300 | 5,310 | NC | 18,600 | 2,740 | NC | 36,900 | 10,500 | NC |
| PCB120 | 235 | 73.5 U | NC | 110 U | 117 U | NC | 139 | 72.8 U | NC |
| PCB121 | 56.6 | 20.3 U | NC | 30.3 U | 32.2 U | NC | 31.8 | 20.1 U | NC |
| PCB122 | 25.5 U | 35.5 | NC | 141 | 42.5 U | NC | 116 | 32.4 | NC |
| PCB123 | 303 | 89.7 | NC | 426 | 56.2 | NC | 607 | 164 | NC |
| PCB126 | 49.7 | 39.7 U | NC | 59.2 U | 63.1 U | NC | 67.4 | 39.3 U | NC |
| PCB127 | 67.7 | 25.3 U | NC | 37.7 U | 40.2 U | NC | 87.3 | 33.9 | NC |
| PCB128 & 166 | 5,530 | 822 | NC | 3,020 | 406 | NC | 6,300 | 1,670 | NC |
| PCB129 & 138 & 163 | 74,900 | 8,120 | NC | 29,800 | 4,420 | NC | 54,200 | 13,900 | NC |
| PCB130 | 2,010 | 407 | NC | 1,530 | 157 | NC | 2,030 | 502 | NC |
| PCB131 | 155 | 56.5 | NC | 213 | 39.7 U | NC | 159 | 41.7 | NC |
| PCB132 | 4,330 | 1,440 | NC | 5,140 | 416 | NC | 3,990 | 1,000 | NC |
| PCB133 | 1,510 | 149 | NC | 580 | 153 | NC | 985 | 238 | NC |
| PCB134 & 143 | 937 | 236 | NC | 835 | 234 U | NC | 832 | 199 | NC |
| PCB135 & 151 | 16,100 | 2,420 | NC | 8,010 | 1,090 | NC | 9,400 | 2,390 | NC |
| PCB136 | 3,120 | 622 | NC | 1,880 | 216 | NC | 1,990 | 513 | NC |
| PCB137 | 2,100 | 326 | NC | 1,070 | 185 | NC | 3,150 | 767 | NC |
| PCB139 & 140 | 729 | 114 | NC | 426 | 67.3 | NC | 900 | 214 | NC |
| PCB141 | 10,400 | 1,220 | NC | 4,310 | 428 | NC | 6,180 | 1,510 | NC |
| PCB142 | 23.8 U | 25 U | NC | 37.3 U | 39.7 U | NC | 25 U | 24.8 U | NC |
| PCB144 | 1,340 | 264 | NC | 906 | 96.5 | NC | 941 | 249 | NC |
| PCB145 | 26.4 U | 27.6 U | NC | 41.2 U | 43.9 U | NC | 27.6 U | 27.4 U | NC |
| PCB146 | 14,100 | 1,470 | NC | 5,770 | 1,320 | NC | 8,530 | 2,140 | NC |
| PCB147 & 149 | 16,200 | 5,150 | NC | 17,300 | 1,630 | NC | 12,700 | 3,320 | NC |
| PCB148 | 168 | 44.1 U | NC | 82.5 | 70.1 U | NC | 93.2 | 43.7 U | NC |
| PCB150 | 72.8 | 31.8 U | NC | 63.5 | 50.5 U | NC | 39.5 | 31.5 U | NC |
| PCB152 | 93.8 | 34.4 U | NC | 51.3 U | 54.7 U | NC | 34.7 | 34.1 U | NC |
| PCB153 & 168 | 93,100 | 8,280 | NC | 31,000 | 5,500 | NC | 55,900 | 14,000 | NC |
| PCB154 | 1,510 | 153 | NC | 538 | 103 | NC | 850 | 220 | NC |
| PCB155 | 34.5 U | 36.2 U | NC | 53.9 U | 57.5 U | NC | 36.2 U | 35.8 U | NC |
| PCB156 & 157 | 6,410 | 680 | NC | 2,500 | 457 | NC | 5,980 | 1,700 | NC |
| PCB158 | 6,100 | 2.65 | NC | 2,210 | 319 | NC | 4,650 | 1,180 | NC |
| PCB159 | 91.6 | 73.5 U | NC | 110 U | 117 U | NC | 73.5 U | 72.8 U | NC |
| PCB160 | 2.52 U | 2.65 U | NC | 3.95 U | 4.21 U | NC | 2.65 U | 2.62 U | NC |
| PCB161 | 33.4 U | 35 U | NC | 52.2 U | 55.6 U | NC | 35 U | 34.7 U | NC |
| PCB162 | 201 | 24.9 U | NC | 73.5 | 39.5 U | NC | 158 | 40.3 | NC |
| PCB164 | 2,200 | 355 | NC | 1,410 | 150 | NC | 1,540 | 394 | NC |
| PCB165 | 82 | 34.7 U | NC | 51.8 U | 55.1 U | NC | 44.8 | 34.4 U | NC |
| PCB167 | 2,440 | 275 | NC | 1,120 | 177 | NC | 2,020 | 567 | NC |
| PCB169 | 318 | 0 J | NC | 57.5 U | 37 U | NC | 130 | 37.8 J | NC |
| PCB170 | 20,100 | 1,200 | NC | 4,320 | 856 | NC | 7,730 | 2,420 | NC |

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Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05E-03 | | | EPA1-SB05E-04 | | | EPA1-SB05W-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7621611.18 | 7621611.18 | 7621611.18 | 7622425.679 | 7622425.679 | 7622425.679 | 7620011.504 | 7620011.504 | 7620011.504 |
| Y-coordinate | 709354.4934 | 709354.4934 | 709354.4934 | 708300.1288 | 708300.1288 | 708300.1288 | 709612.5127 | 709612.5127 | 709612.5127 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 5.2 | 5.2 | 5.2 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 | 2-Oct-11 | 2-Oct-11 | 2-Oct-11 |
| Sample Time | 9:32 | 9:32 | 9:32 | 18:10 | 18:10 | 18:10 | 12:50 | 12:50 | 12:50 |
| Sample Mass (g) | 198.04 | 155.69 | 353.73 | 278.69 | 235.07 | 513.76 | 416.91 | 346.59 | 763.5 |
| PCB171 & 173 | 7,360 | 413 | NC | 1,420 | 257 | NC | 2,870 | 766 | NC |
| PCB172 | 3,850 | 261 | NC | 943 | 167 | NC | 1,540 | 426 | NC |
| PCB174 | 4,550 | 1,110 | NC | 3,630 | 333 | NC | 2,750 | 711 | NC |
| PCB175 | 633 | 62.3 | NC | 212 | 68.7 U | NC | 272 | 74.4 | NC |
| PCB176 | 470 | 134 | NC | 478 | 85.5 U | NC | 297 | 77 | NC |
| PCB177 | 5,660 | 885 | NC | 2,990 | 418 | NC | 2,900 | 753 | NC |
| PCB178 | 4,940 | 435 | NC | 1,480 | 339 | NC | 2,320 | 610 | NC |
| PCB179 | 3,090 | 554 | NC | 1,870 | 199 | NC | 1,730 | 459 | NC |
| PCB180 & 193 | 61,700 | 4,100 | NC | 13,500 | 4,080 | NC | 25,100 | 7,560 | NC |
| PCB181 | 174 | 39.4 U | NC | 58.8 U | 62.6 U | NC | 133 | 39 U | NC |
| PCB182 | 88.9 | 26.8 U | NC | 39.9 U | 42.5 U | NC | 83 | 26.5 U | NC |
| PCB183 & 185 | 18,200 | 1,280 | NC | 4,660 | 798 | NC | 7,270 | 1,970 | NC |
| PCB184 | 30.6 U | 32.1 U | NC | 47.8 U | 50.9 U | NC | 32.1 U | 31.7 U | NC |
| PCB186 | 44.3 U | 46.5 U | NC | 69.3 U | 73.8 U | NC | 46.5 U | 46 U | NC |
| PCB187 | 31,200 | 2,910 | NC | 10,100 | 2,830 | NC | 14,600 | 3,900 | NC |
| PCB188 | 58.4 | 37.4 U | NC | 55.7 U | 59.3 U | NC | 37.4 U | 37 U | NC |
| PCB189 | 1,010 | 48.7 | NC | 195 | 45.9 | NC | 376 | 104 | NC |
| PCB190 | 2,130 | 144 | NC | 650 | 162 | NC | 897 | 348 | NC |
| PCB191 | 1,180 | 58.7 | NC | 214 | 59.3 U | NC | 439 | 120 | NC |
| PCB192 | 24.7 U | 25.9 U | NC | 38.6 U | 41.1 U | NC | 25.9 U | 25.6 U | NC |
| PCB194 | 7,960 | 458 | NC | 1,670 | 1,140 | NC | 3,150 | 1,020 | NC |
| PCB195 | 4,150 | 196 | NC | 725 | 326 | NC | 1,450 | 447 | NC |
| PCB196 | 4,660 | 277 | NC | 1,010 | 603 | NC | 1,670 | 572 | NC |
| PCB197 & 200 | 672 | 77 | NC | 272 | 97 U | NC | 350 | 95 | NC |
| PCB198 & 199 | 6,070 | 679 | NC | 2,610 | 1,440 | NC | 2,860 | 1,000 | NC |
| PCB201 | 1,020 | 85.9 | NC | 310 | 143 | NC | 450 | 124 | NC |
| PCB202 | 1,940 | 195 | NC | 723 | 269 | NC | 1,150 | 333 | NC |
| PCB203 | 5,910 | 442 | NC | 1,620 | 589 | NC | 3,190 | 964 | NC |
| PCB204 | 34.2 U | 35.9 U | NC | 53.5 U | 57 U | NC | 35.9 U | 35.5 U | NC |
| PCB205 | 528 | 35.7 U | NC | 97.8 | 56.7 U | NC | 196 | 57.7 | NC |
| PCB206 | 2,090 | 340 | NC | 1,200 | 1,250 | NC | 1,380 | 450 | NC |
| PCB207 | 377 | 70.6 U | NC | 147 | 194 | NC | 221 | 70.1 | NC |
| PCB208 | 563 | 169 | NC | 597 | 458 | NC | 405 | 128 | NC |
| PCB209 | 618 | 201 | NC | 612 | 601 | NC | 573 | 173 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05E-03 | | | EPA1-SB05E-04 | | | EPA1-SB05W-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7621611.18 | 7621611.18 | 7621611.18 | 7622425.679 | 7622425.679 | 7622425.679 | 7620011.504 | 7620011.504 | 7620011.504 |
| Y-coordinate | 709354.4934 | 709354.4934 | 709354.4934 | 708300.1288 | 708300.1288 | 708300.1288 | 709612.5127 | 709612.5127 | 709612.5127 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 5.2 | 5.2 | 5.2 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 | 2-Oct-11 | 2-Oct-11 | 2-Oct-11 |
| Sample Time | 9:32 | 9:32 | 9:32 | 18:10 | 18:10 | 18:10 | 12:50 | 12:50 | 12:50 |
| Sample Mass (g) | 198.04 | 155.69 | 353.73 | 278.69 | 235.07 | 513.76 | 416.91 | 346.59 | 763.5 |
| Monochlorobiphenyl homologs | 27.4 T | 27.4 UT | NC | 40.8 UT | 43.5 UT | NC | 43.2 T | 27.1 UT | NC |
| Dichlorobiphenyl homologs | 1,220 T | 521 T | NC | 1,050 T | 335 T | NC | 1,600 JT | 592 T | NC |
| Trichlorobiphenyl homologs | 6,440 T | 4,260 T | NC | 10,900 T | 1,520 T | NC | 11,900 T | 3,690 T | NC |
| Tetrachlorobiphenyl homologs | 44,600 T | 20,100 T | NC | 61,600 T | 7,110 T | NC | 76,500 T | 22,700 T | NC |
| Pentachlorobiphenyl homologs | 109,000 T | 32,100 T | NC | 104,000 T | 12,900 T | NC | 150,000 T | 42,700 T | NC |
| Hexachlorobiphenyl homologs | 266,000 T | 32,700 JT | NC | 120,000 T | 17,700 T | NC | 184,000 T | 46,900 JT | NC |
| Heptachlorobiphenyl homologs | 166,000 T | 13,700 T | NC | 46,800 T | 10,700 T | NC | 71,300 T | 20,400 T | NC |
| Octachlorobiphenyl homologs | 32,900 T | 2,430 T | NC | 9,040 T | 4,590 T | NC | 14,500 T | 4,610 T | NC |
| Nonachlorobiphenyl homologs | 3,030 T | 544 T | NC | 1,940 T | 1,900 T | NC | 2,010 T | 648 T | NC |
| Total PCB Congeners | 631,000 JT | 106,000 JT | 400,000 JT | 356,000 JT | 55,000 JT | 218,000 JT | 512,000 JT | 142,000 JT | 344,000 JT |
| Total PCB Congeners (calc'd) | 631,000 JT | 106,000 JT | 400,000 JT | 356,000 JT | 57,300 JT | 220,000 JT | 512,000 JT | 142,000 JT | 344,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 15.7 T | 0.263 JT | 8.92 JT | 0.951 JT | 0.132 JT | 0.576 JT | 12.5 T | 1.65 JT | 7.56 JT |
| LWG RA Total PCB Congener TEQ 2005 | 15.7 T | 2.25 JT | 9.79 JT | 4.77 JT | 3.85 JT | 4.35 JT | 12.5 T | 3.62 JT | 8.45 JT |
| LWG RA Total PCB Congener TEQ 1998 | 21.8 T | 11.1 JT | 17.1 JT | 36.2 JT | 7.87 JT | 23.2 JT | 37.3 T | 11.4 JT | 25.6 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.498 T | 0.162 JT | 0.35 JT | 0.377 JT | 0.195 JT | 0.294 JT | 0.706 T | 0.206 JT | 0.479 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05W-03 | | | EPA1-SB05W-04 | | | EPA1-SB06E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7620605.967 | 7620605.967 | 7620605.967 | 7622425.679 | 7622425.679 | 7622425.679 | 7625302.748 | 7625302.748 | 7625302.748 |
| Y-coordinate | 708796.5154 | 708796.5154 | 708796.5154 | 708300.1288 | 708300.1288 | 708300.1288 | 706147.4378 | 706147.4378 | 706147.4378 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 6.4 | 6.4 | 6.4 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 22-Sep-11 | 22-Sep-11 | 22-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 15:11 | 15:11 | 15:11 | 12:01 | 12:01 | 12:01 | 17:30 | 17:30 | 17:30 |
| Sample Mass (g) | 137.44 | 108.01 | 245.45 | 460.92 | 348.52 | 809.44 | 431.95 | 295.78 | 727.73 |
| PCB001 | 14.2 U | 14.9 U | NC | 36.8 U | 36.4 U | NC | 35.4 U | 22.1 U | NC |
| PCB002 | 17.5 U | 18.4 U | NC | 45.6 U | 45.1 U | NC | 43.9 U | 27.4 U | NC |
| PCB003 | 9.25 U | 9.7 U | NC | 24 U | 23.8 U | NC | 23.1 U | 14.4 U | NC |
| PCB004 | 299 | 63.6 | NC | 300 | 73.8 U | NC | 1,080 | 346 | NC |
| PCB005 | 17.5 U | 18.4 U | NC | 45.6 U | 45.1 U | NC | 43.9 U | 27.4 U | NC |
| PCB006 | 45.9 | 17.2 U | NC | 46.8 | 42.2 U | NC | 41 U | 25.6 U | NC |
| PCB007 | 22.3 U | 23.4 U | NC | 57.8 U | 57.3 U | NC | 55.7 U | 34.7 U | NC |
| PCB008 | 192 U | 55.4 U | NC | 169 | 58.8 | NC | 148 | 54.9 | NC |
| PCB009 | 11.9 | 11.3 U | NC | 27.9 U | 27.7 U | NC | 26.9 U | 16.8 U | NC |
| PCB010 | 11.7 U | 12.3 U | NC | 30.4 U | 30.1 U | NC | 74.8 | 22.2 | NC |
| PCB011 | 212 | 125 | NC | 285 | 237 U | NC | 347 | 180 | NC |
| PCB012 & 013 | 15.7 U | 16.4 U | NC | 40.7 U | 40.3 U | NC | 39.2 U | 24.4 U | NC |
| PCB014 | 17.2 U | 18 U | NC | 44.6 U | 44.2 U | NC | 42.9 U | 26.8 U | NC |
| PCB015 | 77.2 | 28.3 | NC | 70.2 | 66.5 U | NC | 70 | 41 | NC |
| PCB016 | 163 | 40.4 | NC | 137 | 53.4 U | NC | 111 | 46.7 | NC |
| PCB017 | 410 | 91.1 | NC | 408 | 99.2 | NC | 513 | 164 | NC |
| PCB018 & 030 | 517 | 118 | NC | 504 | 127 U | NC | 404 | 126 U | NC |
| PCB019 | 454 | 83.8 | NC | 431 | 94.3 | NC | 2,210 | 625 | NC |
| PCB020 & 028 | 2,070 | 437 U | NC | 1,940 | 449 | NC | 1,580 | 515 | NC |
| PCB021 & 033 | 283 | 89.3 U | NC | 376 | 219 U | NC | 249 | 133 U | NC |
| PCB022 | 423 | 98.7 | NC | 341 | 89.8 | NC | 211 | 93.5 | NC |
| PCB023 | 20.8 U | 21.8 U | NC | 53.9 U | 53.4 U | NC | 51.9 U | 32.4 U | NC |
| PCB024 | 12.6 U | 13.3 U | NC | 32.8 U | 32.5 U | NC | 31.6 U | 19.7 U | NC |
| PCB025 | 131 | 28.2 | NC | 102 | 47.6 U | NC | 86 | 29.3 | NC |
| PCB026 & 029 | 303 | 63.2 | NC | 283 | 102 U | NC | 206 | 70.3 | NC |
| PCB027 | 85.9 | 18.8 U | NC | 79.1 | 46.1 U | NC | 189 | 53 | NC |
| PCB031 | 1,130 | 244 U | NC | 914 | 232 | NC | 613 | 229 | NC |
| PCB032 | 212 | 48.6 U | NC | 238 | 59.2 | NC | 233 | 77.9 U | NC |
| PCB034 | 14.9 U | 15.6 U | NC | 38.7 U | 38.3 U | NC | 37.3 U | 23.2 U | NC |
| PCB035 | 15.5 U | 16.2 U | NC | 40.2 U | 39.8 U | NC | 38.7 U | 24.1 U | NC |
| PCB036 | 16.4 U | 17.2 U | NC | 42.6 U | 42.2 U | NC | 41 U | 25.6 U | NC |
| PCB037 | 281 | 65.4 | NC | 151 | 48.7 | NC | 150 | 66.8 | NC |
| PCB038 | 11.9 U | 12.5 U | NC | 30.9 U | 30.6 U | NC | 29.7 U | 18.5 U | NC |
| PCB039 | 14.9 U | 15.6 U | NC | 38.7 U | 38.3 U | NC | 37.3 U | 23.2 U | NC |
| PCB040 & 041 & 071 | 1,010 | 191 | NC | 1,110 | 248 | NC | 1,030 | 340 | NC |
| PCB042 | 924 | 181 | NC | 771 | 152 | NC | 606 | 181 | NC |
| PCB043 & 073 | 176 | 23.3 U | NC | 96.1 | 53.4 U | NC | 96.8 | 35.1 | NC |
| PCB044 & 047 & 065 | 4,820 | 934 | NC | 5,130 | 1,070 | NC | 7,860 | 2,340 | NC |
| PCB045 & 051 | 557 | 117 | NC | 511 | 112 | NC | 891 | 291 | NC |
| PCB046 | 97.4 | 49.5 U | NC | 123 U | 121 U | NC | 118 U | 73.5 U | NC |
| PCB048 | 399 | 83.9 | NC | 438 | 95.7 | NC | 376 | 130 | NC |
| PCB049 & 069 | 3,220 | 612 | NC | 3,820 | 780 | NC | 5,190 | 1,550 | NC |
| PCB050 & 053 | 390 | 78.7 | NC | 447 | 96.4 | NC | 665 | 206 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05W-03 | | | EPA1-SB05W-04 | | | EPA1-SB06E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7620605.967 | 7620605.967 | 7620605.967 | 7622425.679 | 7622425.679 | 7622425.679 | 7625302.748 | 7625302.748 | 7625302.748 |
| Y-coordinate | 708796.5154 | 708796.5154 | 708796.5154 | 708300.1288 | 708300.1288 | 708300.1288 | 706147.4378 | 706147.4378 | 706147.4378 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 6.4 | 6.4 | 6.4 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 22-Sep-11 | 22-Sep-11 | 22-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 15:11 | 15:11 | 15:11 | 12:01 | 12:01 | 12:01 | 17:30 | 17:30 | 17:30 |
| Sample Mass (g) | 137.44 | 108.01 | 245.45 | 460.92 | 348.52 | 809.44 | 431.95 | 295.78 | 727.73 |
| PCB052 | 5,170 | 1,020 | NC | 5,890 | 1,300 | NC | 11,100 | 3,300 | NC |
| PCB054 | 76.5 | 14.7 | NC | 78.2 | 34.5 U | NC | 361 | 105 | NC |
| PCB055 | 14.2 U | 14.9 U | NC | 36.8 U | 36.4 U | NC | 35.4 U | 22.1 U | NC |
| PCB056 | 1,010 | 204 | NC | 760 | 158 | NC | 398 | 129 | NC |
| PCB057 | 12.6 | 12.5 U | NC | 30.9 U | 30.6 U | NC | 29.7 U | 18.5 U | NC |
| PCB058 | 17.3 | 13.3 U | NC | 32.8 U | 32.5 U | NC | 31.6 U | 19.7 U | NC |
| PCB059 & 062 & 075 | 339 | 149 U | NC | 368 U | 364 U | NC | 356 | 221 U | NC |
| PCB060 | 835 | 164 | NC | 1,220 | 238 | NC | 1,540 | 405 | NC |
| PCB061 & 070 & 074 & 076 | 5,950 | 1,120 | NC | 7,150 | 1,480 | NC | 8,460 | 2,420 | NC |
| PCB063 | 234 | 42.5 | NC | 333 | 65.6 | NC | 411 | 109 | NC |
| PCB064 | 1,750 | 341 | NC | 1,810 | 373 | NC | 2,180 | 637 | NC |
| PCB066 | 4,450 | 854 | NC | 6,050 | 1,230 | NC | 7,890 | 2,210 | NC |
| PCB067 | 101 | 19.7 | NC | 76.8 | 29.1 U | NC | 81.6 | 24.3 | NC |
| PCB068 | 61 | 39.6 U | NC | 98 U | 97.1 U | NC | 99.3 | 58.8 U | NC |
| PCB072 | 67.9 | 12.7 | NC | 96.9 | 21.8 U | NC | 91.8 | 27.3 | NC |
| PCB073 | 20.8 U | 21.8 U | NC | 53.9 U | 53.4 U | NC | 96.8 | 35.1 U | NC |
| PCB077 | 304 | 54.9 | NC | 260 | 52.4 | NC | 225 | 55.1 | NC |
| PCB078 | 8.68 U | 9.11 U | NC | 22.5 U | 22.3 U | NC | 21.7 U | 13.5 U | NC |
| PCB079 | 35.7 | 15.4 U | NC | 61 | 37.9 U | NC | 199 | 49.3 | NC |
| PCB080 | 14 U | 14.7 U | NC | 36.3 U | 35.9 U | NC | 34.9 U | 21.8 U | NC |
| PCB081 | 17.7 | 17.8 U | NC | 44.1 U | 43.7 U | NC | 62.4 | 26.5 U | NC |
| PCB082 | 544 | 97.8 | NC | 524 | 108 | NC | 1,390 | 368 | NC |
| PCB083 | 422 | 65.1 | NC | 421 | 82.4 | NC | 1,250 | 423 | NC |
| PCB084 | 1,390 | 257 | NC | 1,040 | 141 U | NC | 2,210 | 743 | NC |
| PCB085 & 117 & 116 | 1,740 | 299 | NC | 3,230 | 627 | NC | 9,390 | 2,550 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 4,600 | 822 | NC | 5,740 | 1,140 | NC | 22,400 | 6,000 | NC |
| PCB088 & 091 | 1,290 | 221 | NC | 1,140 | 57.3 U | NC | 2,880 | 918 | NC |
| PCB089 | 38.8 | 11.5 U | NC | 33 | 28.2 U | NC | 117 | 33.8 | NC |
| PCB090 & 101 & 113 | 9,070 | 1,600 | NC | 11,900 | 2,340 | NC | 42,800 | 11,400 | NC |
| PCB092 | 1,750 | 308 | NC | 2,520 | 496 | NC | 8,160 | 2,400 | NC |
| PCB093 & 098 & 100 & 102 | 456 | 228 U | NC | 601 | 558 U | NC | 1,540 | 468 | NC |
| PCB094 | 47.2 U | 49.5 U | NC | 123 U | 121 U | NC | 118 U | 73.5 U | NC |
| PCB095 | 4,880 | 878 | NC | 4,980 | 1,060 | NC | 12,200 | 4,100 | NC |
| PCB096 | 48.8 | 22.2 U | NC | 55.3 | 54.4 U | NC | 123 | 39.7 | NC |
| PCB099 | 5,270 | 917 | NC | 10,800 | 1,920 | NC | 30,800 | 8,020 | NC |
| PCB103 | 145 | 29.9 | NC | 165 | 44.7 U | NC | 311 | 100 | NC |
| PCB104 | 28.1 U | 29.5 U | NC | 73 U | 72.3 U | NC | 70.3 U | 43.8 U | NC |
| PCB105 | 2,960 | 534 | NC | 7,390 | 1,450 | NC | 24,300 | 6,130 | NC |
| PCB106 | 27.9 U | 29.3 U | NC | 72.5 U | 71.8 U | NC | 69.8 U | 43.5 U | NC |
| PCB107 & 124 | 238 | 42.9 | NC | 354 | 68.8 | NC | 349 | 88.7 | NC |
| PCB109 | 757 | 120 | NC | 1,340 | 269 | NC | 3,540 | 891 | NC |
| PCB110 & 115 | 7,230 | 1,330 | NC | 9,600 | 1,920 | NC | 38,700 | 9,930 | NC |
| PCB111 | 15.5 | 14.7 U | NC | 36.3 U | 35.9 U | NC | 43.5 | 21.8 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05W-03 | | | EPA1-SB05W-04 | | | EPA1-SB06E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7620605.967 | 7620605.967 | 7620605.967 | 7622425.679 | 7622425.679 | 7622425.679 | 7625302.748 | 7625302.748 | 7625302.748 |
| Y-coordinate | 708796.5154 | 708796.5154 | 708796.5154 | 708300.1288 | 708300.1288 | 708300.1288 | 706147.4378 | 706147.4378 | 706147.4378 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 6.4 | 6.4 | 6.4 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 22-Sep-11 | 22-Sep-11 | 22-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 15:11 | 15:11 | 15:11 | 12:01 | 12:01 | 12:01 | 17:30 | 17:30 | 17:30 |
| Sample Mass (g) | 137.44 | 108.01 | 245.45 | 460.92 | 348.52 | 809.44 | 431.95 | 295.78 | 727.73 |
| PCB112 | 20.8 U | 21.8 U | NC | 53.9 U | 53.4 U | NC | 51.9 U | 32.4 U | NC |
| PCB114 | 231 | 39.7 | NC | 606 | 117 | NC | 1,680 | 422 | NC |
| PCB118 | 9,030 | 1,620 | NC | 22,800 | 4,360 | NC | 69,700 | 17,200 | NC |
| PCB120 | 54 | 49.5 U | NC | 123 U | 121 U | NC | 158 | 73.5 U | NC |
| PCB121 | 13 U | 13.7 U | NC | 33.8 U | 33.5 U | NC | 44 | 20.3 U | NC |
| PCB122 | 50.3 | 18 U | NC | 67.3 | 44.2 U | NC | 42.9 U | 26.8 U | NC |
| PCB123 | 172 | 35.2 | NC | 482 | 91.5 | NC | 679 | 130 | NC |
| PCB126 | 25.5 U | 26.7 U | NC | 66.2 U | 65.5 U | NC | 63.7 U | 39.7 U | NC |
| PCB127 | 16.2 U | 17 U | NC | 49.8 | 41.7 U | NC | 165 | 39.6 | NC |
| PCB128 & 166 | 1,230 | 231 | NC | 3,500 | 692 | NC | 12,500 | 3,030 | NC |
| PCB129 & 138 & 163 | 13,100 | 2,480 | NC | 30,700 | 6,120 | NC | 94,400 | 23,600 | NC |
| PCB130 | 691 | 130 | NC | 1,110 | 220 | NC | 3,310 | 818 | NC |
| PCB131 | 91.8 | 17 | NC | 107 | 41.3 U | NC | 285 | 75.7 | NC |
| PCB132 | 2,150 | 427 | NC | 2,350 | 463 | NC | 6,590 | 1,910 | NC |
| PCB133 | 310 | 53.9 | NC | 661 | 127 | NC | 1,480 | 400 | NC |
| PCB134 & 143 | 381 | 99 U | NC | 463 | 243 U | NC | 1,340 | 385 | NC |
| PCB135 & 151 | 3,940 | 720 | NC | 5,490 | 1,060 | NC | 13,500 | 3,630 | NC |
| PCB136 | 955 | 174 | NC | 1,090 | 215 | NC | 3,510 | 1,010 | NC |
| PCB137 | 600 | 92.7 | NC | 1,540 | 278 | NC | 5,180 | 1,440 | NC |
| PCB139 & 140 | 205 | 35.4 | NC | 487 | 94.8 | NC | 1,670 | 469 | NC |
| PCB141 | 1,680 | 331 | NC | 2,970 | 571 | NC | 12,800 | 2,960 | NC |
| PCB142 | 16 U | 16.8 U | NC | 41.7 U | 41.3 U | NC | 40.1 U | 25 U | NC |
| PCB144 | 373 | 77.2 | NC | 512 | 96.1 | NC | 1,590 | 420 | NC |
| PCB145 | 17.7 U | 18.6 U | NC | 46.1 U | 45.6 U | NC | 44.3 U | 27.6 U | NC |
| PCB146 | 3,120 | 528 | NC | 6,220 | 1,200 | NC | 14,300 | 3,630 | NC |
| PCB147 & 149 | 6,450 | 1,520 | NC | 7,680 | 1,550 | NC | 11,200 | 3,260 | NC |
| PCB148 | 42.9 | 29.7 U | NC | 73.5 U | 72.8 U | NC | 105 | 44.1 U | NC |
| PCB150 | 31.7 | 21.4 U | NC | 52.9 U | 52.4 U | NC | 50.9 U | 31.8 U | NC |
| PCB152 | 22.1 U | 23.2 U | NC | 57.4 U | 56.8 U | NC | 77.2 | 34.4 U | NC |
| PCB153 & 168 | 14,100 | 2,600 | NC | 33,900 | 6,720 | NC | 95,500 | 24,800 | NC |
| PCB154 | 261 | 46.4 | NC | 588 | 111 | NC | 1,190 | 306 | NC |
| PCB155 | 23.2 U | 24.4 U | NC | 60.3 U | 59.7 U | NC | 58 U | 36.2 U | NC |
| PCB156 & 157 | 1,400 | 228 | NC | 3,820 | 744 | NC | 13,900 | 3,350 | NC |
| PCB158 | 877 | 163 | NC | 2,630 | 523 | NC | 9,830 | 2,330 | NC |
| PCB159 | 47.2 U | 49.5 U | NC | 123 U | 121 U | NC | 118 U | 73.5 U | NC |
| PCB160 | 1.7 U | 1.78 U | NC | 4.41 U | 4.37 U | NC | 4.25 U | 2.65 U | NC |
| PCB161 | 22.5 U | 23.6 U | NC | 58.3 U | 57.8 U | NC | 56.1 U | 35 U | NC |
| PCB162 | 17.5 | 16.7 U | NC | 129 | 41 U | NC | 310 | 75.7 | NC |
| PCB164 | 568 | 102 | NC | 945 | 198 | NC | 3,360 | 744 | NC |
| PCB165 | 22.3 U | 23.4 U | NC | 57.8 U | 57.3 U | NC | 69.2 | 34.7 U | NC |
| PCB167 | 577 | 91.5 | NC | 1,350 | 252 | NC | 3,230 | 736 | NC |
| PCB169 | 18.7 | 15.7 U | NC | 68.3 J | 38.4 U | NC | 182 U | 41.7 J | NC |
| PCB170 | 1,900 | 326 | NC | 5,540 | 1,080 | NC | 20,200 | 4,690 | NC |

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| LocationID | EPA1-SB05W-03 | | | EPA1-SB05W-04 | | | EPA1-SB06E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7620605.967 | 7620605.967 | 7620605.967 | 7622425.679 | 7622425.679 | 7622425.679 | 7625302.748 | 7625302.748 | 7625302.748 |
| Y-coordinate | 708796.5154 | 708796.5154 | 708796.5154 | 708300.1288 | 708300.1288 | 708300.1288 | 706147.4378 | 706147.4378 | 706147.4378 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 6.4 | 6.4 | 6.4 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 22-Sep-11 | 22-Sep-11 | 22-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 15:11 | 15:11 | 15:11 | 12:01 | 12:01 | 12:01 | 17:30 | 17:30 | 17:30 |
| Sample Mass (g) | 137.44 | 108.01 | 245.45 | 460.92 | 348.52 | 809.44 | 431.95 | 295.78 | 727.73 |
| PCB171 & 173 | 697 | 113 | NC | 1,730 | 345 | NC | 6,000 | 1,510 | NC |
| PCB172 | 492 | 73.5 | NC | 1,060 | 203 | NC | 3,430 | 781 | NC |
| PCB174 | 1,850 | 326 | NC | 1,800 | 333 | NC | 2,560 | 570 | NC |
| PCB175 | 116 | 29.1 U | NC | 189 | 71.4 U | NC | 503 | 113 | NC |
| PCB176 | 229 | 40.9 | NC | 220 | 88.8 U | NC | 246 | 64.9 | NC |
| PCB177 | 1,580 | 263 | NC | 2,020 | 389 | NC | 3,200 | 779 | NC |
| PCB178 | 795 | 132 | NC | 1,670 | 315 | NC | 3,990 | 956 | NC |
| PCB179 | 978 | 163 | NC | 1,150 | 222 | NC | 1,970 | 513 | NC |
| PCB180 & 193 | 6,800 | 1,070 | NC | 18,200 | 3,630 | NC | 59,700 | 14,000 | NC |
| PCB181 | 31.3 | 26.5 U | NC | 89.6 | 65 U | NC | 254 | 61.3 | NC |
| PCB182 | 17.2 U | 18 U | NC | 49.3 | 44.2 U | NC | 102 | 26.8 U | NC |
| PCB183 & 185 | 2,350 | 380 | NC | 4,540 | 925 | NC | 14,200 | 3,500 | NC |
| PCB184 | 20.6 U | 21.6 U | NC | 53.4 U | 52.9 U | NC | 51.4 U | 32.1 U | NC |
| PCB186 | 29.8 U | 31.3 U | NC | 77.5 U | 76.7 U | NC | 74.5 U | 46.5 U | NC |
| PCB187 | 5,750 | 935 | NC | 11,400 | 2,220 | NC | 21,300 | 4,900 | NC |
| PCB188 | 24 U | 25.1 U | NC | 62.3 U | 61.7 U | NC | 59.9 U | 37.4 U | NC |
| PCB189 | 120 | 18.6 | NC | 310 | 56.4 | NC | 1,100 | 246 | NC |
| PCB190 | 291 | 21.3 U | NC | 964 | 207 | NC | 2,670 | 612 | NC |
| PCB191 | 91.4 | 25.1 U | NC | 293 | 61.7 U | NC | 1,040 | 226 | NC |
| PCB192 | 16.6 U | 17.4 U | NC | 43.1 U | 42.7 U | NC | 41.5 U | 25.9 U | NC |
| PCB194 | 962 | 156 | NC | 2,500 | 518 | NC | 9,710 | 2,510 | NC |
| PCB195 | 28.2 U | 68.7 | NC | 1,130 | 233 | NC | 4,050 | 1,090 | NC |
| PCB196 | 406 | 85.1 | NC | 1,400 | 286 | NC | 5,190 | 1,330 | NC |
| PCB197 & 200 | 155 | 41.1 U | NC | 228 | 101 U | NC | 583 | 144 | NC |
| PCB198 & 199 | 31.7 U | 252 | NC | 2,630 | 555 | NC | 6,290 | 1,510 | NC |
| PCB201 | 194 | 33 | NC | 329 | 67.7 | NC | 776 | 189 | NC |
| PCB202 | 354 | 56.8 | NC | 871 | 178 | NC | 1,880 | 477 | NC |
| PCB203 | 629 | 125 | NC | 2,230 | 441 | NC | 6,680 | 1,660 | NC |
| PCB204 | 23 U | 24.1 U | NC | 59.8 U | 59.2 U | NC | 57.5 U | 35.9 U | NC |
| PCB205 | 57.4 | 24 U | NC | 145 | 58.9 U | NC | 579 | 140 | NC |
| PCB206 | 394 | 26.9 U | NC | 1,190 | 281 | NC | 2,480 | 627 | NC |
| PCB207 | 45.3 U | 47.5 U | NC | 172 | 117 U | NC | 369 | 95.9 | NC |
| PCB208 | 156 | 48.4 U | NC | 392 | 119 U | NC | 497 | 115 | NC |
| PCB209 | 205 | 46 | NC | 636 | 144 | NC | 605 | 163 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB05W-03 | | | EPA1-SB05W-04 | | | EPA1-SB06E-02 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7620605.967 | 7620605.967 | 7620605.967 | 7622425.679 | 7622425.679 | 7622425.679 | 7625302.748 | 7625302.748 | 7625302.748 |
| Y-coordinate | 708796.5154 | 708796.5154 | 708796.5154 | 708300.1288 | 708300.1288 | 708300.1288 | 706147.4378 | 706147.4378 | 706147.4378 |
| RiverMile | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 6.4 | 6.4 | 6.4 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 22-Sep-11 | 22-Sep-11 | 22-Sep-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 15:11 | 15:11 | 15:11 | 12:01 | 12:01 | 12:01 | 17:30 | 17:30 | 17:30 |
| Sample Mass (g) | 137.44 | 108.01 | 245.45 | 460.92 | 348.52 | 809.44 | 431.95 | 295.78 | 727.73 |
| Monochlorobiphenyl homologs | 17.5 UT | 18.4 UT | NC | 45.6 UT | 45.1 UT | NC | 43.9 UT | 27.4 UT | NC |
| Dichlorobiphenyl homologs | 748 T | 265 T | NC | 900 T | 297 T | NC | 1,750 T | 665 T | NC |
| Trichlorobiphenyl homologs | 6,490 T | 1,040 T | NC | 5,970 T | 1,440 T | NC | 6,820 T | 2,100 T | NC |
| Tetrachlorobiphenyl homologs | 32,000 T | 6,220 T | NC | 36,500 T | 7,910 T | NC | 50,400 T | 14,800 T | NC |
| Pentachlorobiphenyl homologs | 52,400 T | 9,460 T | NC | 86,100 T | 16,800 T | NC | 275,000 T | 72,500 T | NC |
| Hexachlorobiphenyl homologs | 53,200 T | 10,200 T | NC | 109,000 JT | 21,600 T | NC | 311,000 T | 79,500 JT | NC |
| Heptachlorobiphenyl homologs | 24,100 T | 3,920 T | NC | 51,300 T | 10,100 T | NC | 143,000 T | 33,600 T | NC |
| Octachlorobiphenyl homologs | 2,790 T | 809 T | NC | 11,500 T | 2,360 T | NC | 35,700 T | 9,050 T | NC |
| Nonachlorobiphenyl homologs | 573 T | 48.4 UT | NC | 1,750 T | 399 T | NC | 3,350 T | 838 T | NC |
| Total PCB Congeners | 172,000 JT | 30,800 JT | 110,000 JT | 302,000 JT | 58,500 JT | 197,000 JT | 827,000 JT | 212,000 JT | 577,000 JT |
| Total PCB Congeners (calc'd) | 173,000 JT | 32,000 JT | 111,000 JT | 303,000 JT | 61,100 JT | 199,000 JT | 828,000 JT | 213,000 JT | 578,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 1.03 JT | 0.0825 JT | 0.614 JT | 3.18 JT | 0.217 JT | 1.9 JT | 3.48 JT | 2.1 JT | 2.92 JT |
| LWG RA Total PCB Congener TEQ 2005 | 2.31 JT | 1.66 JT | 2.02 JT | 6.49 JT | 4.07 JT | 5.45 JT | 9.39 JT | 4.09 JT | 7.24 JT |
| LWG RA Total PCB Congener TEQ 1998 | 18.8 JT | 5.08 JT | 12.8 JT | 20 JT | 8.38 JT | 15 JT | 25.5 JT | 7.28 JT | 18.1 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.176 JT | 0.0899 JT | 0.138 JT | 0.39 JT | 0.216 JT | 0.315 JT | 0.79 JT | 0.255 JT | 0.573 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-08 | | | EPA1-SB06E-09 | | | EPA1-SB06E-10 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627751.005 | 7627751.005 | 7627751.005 | 7627261.88 | 7627261.88 | 7627261.88 | 7627239.777 | 7627239.777 | 7627239.777 |
| Y-coordinate | 704513.7004 | 704513.7004 | 704513.7004 | 704853.8424 | 704853.8424 | 704853.8424 | 704870.1191 | 704870.1191 | 704870.1191 |
| RiverMile | 6.9 | 6.9 | 6.9 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 |
| Sample Time | 14:40 | 14:40 | 14:40 | 15:49 | 15:49 | 15:49 | 16:10 | 16:10 | 16:10 |
| Sample Mass (g) | 217.45 | 165.25 | 382.7 | 212.8 | 154.51 | 367.31 | 450.65 | 349.44 | 800.09 |
| PCB001 | 35.4 U | 35.4 U | NC | 32.1 U | 35.7 U | NC | 36.4 U | 35 U | NC |
| PCB002 | 43.9 U | 43.9 U | NC | 39.7 U | 44.3 U | NC | 45.1 U | 43.5 U | NC |
| PCB003 | 23.1 U | 23.1 U | NC | 20.9 U | 23.3 U | NC | 23.8 U | 22.9 U | NC |
| PCB004 | 362 | 75.1 | NC | 227 | 72.4 U | NC | 237 | 71.5 | NC |
| PCB005 | 43.9 U | 43.9 U | NC | 39.7 U | 44.3 U | NC | 45.1 U | 43.5 U | NC |
| PCB006 | 41 U | 41 U | NC | 37.2 U | 41.4 U | NC | 63.6 | 40.7 U | NC |
| PCB007 | 55.7 U | 55.7 U | NC | 50.4 U | 56.2 U | NC | 57.3 U | 55.1 U | NC |
| PCB008 | 132 | 59.8 | NC | 85.5 | 57.9 | NC | 204 | 74.4 | NC |
| PCB009 | 26.9 U | 26.9 U | NC | 24.4 U | 27.1 U | NC | 27.7 U | 26.6 U | NC |
| PCB010 | 29.2 U | 29.2 U | NC | 26.5 U | 29.5 U | NC | 30.1 U | 29 U | NC |
| PCB011 | 260 | 230 U | NC | 209 U | 232 U | NC | 334 | 228 U | NC |
| PCB012 & 013 | 39.2 U | 39.2 U | NC | 35.5 U | 39.5 U | NC | 40.3 U | 38.8 U | NC |
| PCB014 | 42.9 U | 42.9 U | NC | 38.9 U | 43.3 U | NC | 44.2 U | 42.5 U | NC |
| PCB015 | 64.6 U | 64.6 U | NC | 58.5 U | 65.2 U | NC | 76 | 64 U | NC |
| PCB016 | 116 | 51.9 U | NC | 77.8 | 52.4 U | NC | 83.2 | 51.4 U | NC |
| PCB017 | 320 | 81.3 | NC | 273 | 73.3 | NC | 499 | 144 | NC |
| PCB018 & 030 | 352 | 107 | NC | 257 | 89.3 | NC | 545 | 167 | NC |
| PCB019 | 641 | 126 | NC | 560 | 110 | NC | 184 | 55.7 | NC |
| PCB020 & 028 | 1,310 | 290 | NC | 871 | 205 | NC | 1,490 | 465 | NC |
| PCB021 & 033 | 231 | 213 U | NC | 193 U | 215 U | NC | 219 U | 211 U | NC |
| PCB022 | 261 | 66.5 | NC | 149 | 47.6 U | NC | 224 | 78.6 | NC |
| PCB023 | 51.9 U | 51.9 U | NC | 47 U | 52.4 U | NC | 53.4 U | 51.4 U | NC |
| PCB024 | 31.6 U | 31.6 U | NC | 28.6 U | 31.9 U | NC | 32.5 U | 31.3 U | NC |
| PCB025 | 85.7 | 46.2 U | NC | 65.8 | 46.7 U | NC | 181 | 52.5 | NC |
| PCB026 & 029 | 189 | 99.1 U | NC | 143 | 100 U | NC | 439 | 133 | NC |
| PCB027 | 74.8 | 44.8 U | NC | 68.8 | 45.2 U | NC | 138 | 44.4 U | NC |
| PCB031 | 687 | 168 | NC | 426 | 118 | NC | 932 | 291 | NC |
| PCB032 | 158 | 43.5 | NC | 137 | 39.7 | NC | 377 | 112 | NC |
| PCB034 | 37.3 U | 37.3 U | NC | 33.8 U | 37.6 U | NC | 38.3 U | 36.9 U | NC |
| PCB035 | 38.7 U | 38.7 U | NC | 35 U | 39 U | NC | 39.8 U | 38.3 U | NC |
| PCB036 | 41 U | 41 U | NC | 37.2 U | 41.4 U | NC | 42.2 U | 40.7 U | NC |
| PCB037 | 170 | 43.9 | NC | 134 | 31.9 U | NC | 114 | 44.6 | NC |
| PCB038 | 29.7 U | 29.7 U | NC | 26.9 U | 30 U | NC | 30.6 U | 29.4 U | NC |
| PCB039 | 37.3 U | 37.3 U | NC | 33.8 U | 37.6 U | NC | 38.3 U | 36.9 U | NC |
| PCB040 & 041 & 071 | 680 | 128 | NC | 533 | 112 | NC | 1,110 | 340 | NC |
| PCB042 | 515 | 93.8 | NC | 310 | 61.6 | NC | 541 | 160 | NC |
| PCB043 & 073 | 57.2 | 51.9 U | NC | 55.5 | 52.4 U | NC | 82.4 | 51.4 U | NC |
| PCB044 & 047 & 065 | 4,140 | 717 | NC | 4,190 | 756 | NC | 3,260 | 975 | NC |
| PCB045 & 051 | 530 | 99.9 | NC | 490 | 94.6 | NC | 330 | 93.6 | NC |
| PCB046 | 118 U | 118 U | NC | 107 U | 119 U | NC | 121 U | 117 U | NC |
| PCB048 | 252 | 49 | NC | 174 | 36.4 | NC | 327 | 99.5 | NC |
| PCB049 & 069 | 2,320 | 396 | NC | 1,940 | 343 | NC | 2,820 | 819 | NC |
| PCB050 & 053 | 449 | 82.5 | NC | 430 | 78.5 | NC | 326 | 94.5 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-08 | | | EPA1-SB06E-09 | | | EPA1-SB06E-10 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627751.005 | 7627751.005 | 7627751.005 | 7627261.88 | 7627261.88 | 7627261.88 | 7627239.777 | 7627239.777 | 7627239.777 |
| Y-coordinate | 704513.7004 | 704513.7004 | 704513.7004 | 704853.8424 | 704853.8424 | 704853.8424 | 704870.1191 | 704870.1191 | 704870.1191 |
| RiverMile | 6.9 | 6.9 | 6.9 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 |
| Sample Time | 14:40 | 14:40 | 14:40 | 15:49 | 15:49 | 15:49 | 16:10 | 16:10 | 16:10 |
| Sample Mass (g) | 217.45 | 165.25 | 382.7 | 212.8 | 154.51 | 367.31 | 450.65 | 349.44 | 800.09 |
| PCB052 | 3,730 | 658 | NC | 2,850 | 534 | NC | 4,350 | 1,220 | NC |
| PCB054 | 111 | 33.5 U | NC | 112 | 33.8 U | NC | 34.5 U | 33.2 U | NC |
| PCB055 | 35.4 U | 35.4 U | NC | 32.1 U | 35.7 U | NC | 36.4 U | 35 U | NC |
| PCB056 | 579 | 109 | NC | 260 | 56.4 | NC | 512 | 163 | NC |
| PCB057 | 29.7 U | 29.7 U | NC | 26.9 U | 30 U | NC | 30.6 U | 29.4 U | NC |
| PCB058 | 31.6 U | 31.6 U | NC | 28.6 U | 31.9 U | NC | 32.5 U | 31.3 U | NC |
| PCB059 & 062 & 075 | 354 U | 354 U | NC | 321 U | 357 U | NC | 364 U | 350 U | NC |
| PCB060 | 552 | 98.8 | NC | 387 | 72.4 | NC | 711 | 211 | NC |
| PCB061 & 070 & 074 & 076 | 4,420 | 758 | NC | 3,450 | 640 | NC | 4,790 | 1,410 | NC |
| PCB063 | 181 | 30.2 | NC | 229 | 39.9 | NC | 197 | 58.2 | NC |
| PCB064 | 1,020 | 183 | NC | 598 | 119 U | NC | 1,270 | 382 | NC |
| PCB066 | 3,360 | 572 | NC | 3,430 | 606 | NC | 3,350 | 983 | NC |
| PCB067 | 73.1 | 28.3 U | NC | 74.3 | 28.6 U | NC | 47.4 | 28 U | NC |
| PCB068 | 94.3 U | 94.3 U | NC | 87.6 | 95.2 U | NC | 97.1 U | 93.5 U | NC |
| PCB072 | 66.7 | 21.2 U | NC | 64 | 21.4 U | NC | 71.4 | 21 U | NC |
| PCB073 | 51.9 U | 51.9 U | NC | 55.5 U | 52.4 U | NC | 53.4 U | 51.4 U | NC |
| PCB077 | 198 | 43.4 U | NC | 289 | 50.3 | NC | 149 | 44 | NC |
| PCB078 | 21.7 U | 21.7 U | NC | 19.7 U | 21.9 U | NC | 22.3 U | 21.5 U | NC |
| PCB079 | 40.1 | 36.8 U | NC | 33.3 U | 37.1 U | NC | 37.9 U | 36.4 U | NC |
| PCB080 | 34.9 U | 34.9 U | NC | 31.6 U | 35.2 U | NC | 35.9 U | 34.6 U | NC |
| PCB081 | 42.5 U | 42.5 U | NC | 38.5 U | 42.9 U | NC | 43.7 U | 42.1 U | NC |
| PCB082 | 420 | 71.9 | NC | 222 | 41.7 | NC | 355 | 106 | NC |
| PCB083 | 308 | 62.7 U | NC | 271 | 63.3 U | NC | 241 | 71.3 | NC |
| PCB084 | 957 | 164 | NC | 620 | 138 U | NC | 806 | 234 | NC |
| PCB085 & 117 & 116 | 1,750 | 288 | NC | 1,630 | 284 | NC | 1,850 | 573 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 4,150 | 708 U | NC | 3,320 | 714 U | NC | 3,800 | 1,110 | NC |
| PCB088 & 091 | 1,060 | 177 | NC | 780 | 136 | NC | 750 | 218 | NC |
| PCB089 | 27.4 U | 27.4 U | NC | 24.8 U | 27.6 U | NC | 40.3 | 27.1 U | NC |
| PCB090 & 101 & 113 | 9,060 | 1,470 | NC | 8,230 | 1,410 | NC | 6,840 | 2,010 | NC |
| PCB092 | 1,820 | 298 | NC | 1,730 | 290 | NC | 1,340 | 377 | NC |
| PCB093 & 098 & 100 & 102 | 782 | 542 U | NC | 2,040 | 548 U | NC | 558 U | 537 U | NC |
| PCB094 | 118 U | 118 U | NC | 107 U | 119 U | NC | 121 U | 117 U | NC |
| PCB095 | 4,110 | 707 | NC | 3,350 | 590 | NC | 2,810 | 830 | NC |
| PCB096 | 52.8 U | 52.8 U | NC | 49 | 53.3 U | NC | 54.4 U | 52.3 U | NC |
| PCB099 | 6,590 | 1,040 | NC | 7,860 | 1,290 | NC | 5,350 | 1,400 | NC |
| PCB103 | 227 | 43.4 U | NC | 215 | 43.8 U | NC | 63.7 | 43 U | NC |
| PCB104 | 70.3 U | 70.3 U | NC | 63.7 U | 71 U | NC | 72.3 U | 69.6 U | NC |
| PCB105 | 3,420 | 573 | NC | 3,390 | 586 | NC | 3,940 | 1,120 | NC |
| PCB106 | 69.8 U | 69.8 U | NC | 63.2 U | 70.5 U | NC | 71.8 U | 69.2 U | NC |
| PCB107 & 124 | 228 | 51.4 U | NC | 180 | 51.9 U | NC | 232 | 67.8 | NC |
| PCB109 | 933 | 153 | NC | 1,080 | 187 | NC | 660 | 207 | NC |
| PCB110 & 115 | 6,440 | 1,120 | NC | 4,850 | 859 | NC | 6,420 | 1,900 | NC |
| PCB111 | 34.9 U | 34.9 U | NC | 35.2 | 35.2 U | NC | 35.9 U | 34.6 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-08 | | | EPA1-SB06E-09 | | | EPA1-SB06E-10 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627751.005 | 7627751.005 | 7627751.005 | 7627261.88 | 7627261.88 | 7627261.88 | 7627239.777 | 7627239.777 | 7627239.777 |
| Y-coordinate | 704513.7004 | 704513.7004 | 704513.7004 | 704853.8424 | 704853.8424 | 704853.8424 | 704870.1191 | 704870.1191 | 704870.1191 |
| RiverMile | 6.9 | 6.9 | 6.9 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 |
| Sample Time | 14:40 | 14:40 | 14:40 | 15:49 | 15:49 | 15:49 | 16:10 | 16:10 | 16:10 |
| Sample Mass (g) | 217.45 | 165.25 | 382.7 | 212.8 | 154.51 | 367.31 | 450.65 | 349.44 | 800.09 |
| PCB112 | 51.9 U | 51.9 U | NC | 47 U | 52.4 U | NC | 53.4 U | 51.4 U | NC |
| PCB114 | 293 | 58 U | NC | 396 | 62.6 | NC | 294 | 82.5 | NC |
| PCB118 | 13,000 | 2,110 | NC | 15,800 | 2,650 | NC | 10,900 | 3,130 | NC |
| PCB120 | 118 U | 118 U | NC | 114 | 119 U | NC | 121 U | 117 U | NC |
| PCB121 | 32.5 U | 32.5 U | NC | 59.3 | 32.9 U | NC | 33.5 U | 32.2 U | NC |
| PCB122 | 57.5 | 42.9 U | NC | 38.9 U | 43.3 U | NC | 46.4 | 42.5 U | NC |
| PCB123 | 242 | 54.7 U | NC | 291 | 55.2 U | NC | 195 | 55.5 | NC |
| PCB126 | 63.7 U | 63.7 U | NC | 57.7 U | 64.3 U | NC | 65.5 U | 63.1 U | NC |
| PCB127 | 40.6 U | 40.6 U | NC | 36.8 U | 41 U | NC | 41.7 U | 40.2 U | NC |
| PCB128 & 166 | 1,990 | 299 | NC | 2,250 | 359 | NC | 1,740 | 476 | NC |
| PCB129 & 138 & 163 | 24,100 | 3,590 | NC | 36,000 | 5,510 | NC | 11,800 | 3,520 | NC |
| PCB130 | 1,040 | 157 | NC | 1,030 | 158 | NC | 519 | 156 | NC |
| PCB131 | 89.1 | 40.1 U | NC | 64.5 | 40.5 U | NC | 73.2 | 39.7 U | NC |
| PCB132 | 2,490 | 380 | NC | 1,830 | 295 | NC | 1,450 | 431 | NC |
| PCB133 | 606 | 87.3 | NC | 922 | 137 | NC | 213 | 60.2 | NC |
| PCB134 & 143 | 458 | 236 U | NC | 384 | 238 U | NC | 266 | 234 U | NC |
| PCB135 & 151 | 5,620 | 830 | NC | 6,870 | 1,080 | NC | 1,970 | 604 | NC |
| PCB136 | 1,160 | 174 | NC | 1,230 | 202 | NC | 556 | 163 | NC |
| PCB137 | 1,100 | 146 | NC | 1,500 | 233 | NC | 736 | 217 | NC |
| PCB139 & 140 | 305 | 56.6 U | NC | 387 | 59.8 | NC | 229 | 65.7 | NC |
| PCB141 | 2,570 | 405 | NC | 4,390 | 656 | NC | 1,170 | 359 | NC |
| PCB142 | 40.1 U | 40.1 U | NC | 36.3 U | 40.5 U | NC | 41.3 U | 39.7 U | NC |
| PCB144 | 611 | 89.7 | NC | 669 | 101 | NC | 225 | 70.1 U | NC |
| PCB145 | 44.3 U | 44.3 U | NC | 40.2 U | 44.8 U | NC | 45.6 U | 43.9 U | NC |
| PCB146 | 5,910 | 869 | NC | 8,690 | 1,320 | NC | 1,980 | 542 | NC |
| PCB147 & 149 | 10,100 | 1,500 | NC | 7,100 | 1,130 | NC | 3,670 | 1,100 | NC |
| PCB148 | 87 | 70.8 U | NC | 91.5 | 71.4 U | NC | 72.8 U | 70.1 U | NC |
| PCB150 | 50.9 U | 50.9 U | NC | 46.2 U | 51.4 U | NC | 52.4 U | 50.5 U | NC |
| PCB152 | 55.2 U | 55.2 U | NC | 50 U | 55.7 U | NC | 56.8 U | 54.7 U | NC |
| PCB153 & 168 | 29,800 | 4,350 | NC | 52,800 | 8,030 | NC | 11,600 | 3,260 | NC |
| PCB154 | 554 | 76.2 | NC | 902 | 132 | NC | 191 | 55.2 | NC |
| PCB155 | 58 U | 58 U | NC | 75.1 | 58.6 U | NC | 59.7 U | 57.5 U | NC |
| PCB156 & 157 | 2,240 | 370 | NC | 3,880 | 629 | NC | 1,670 | 465 | NC |
| PCB158 | 1,700 | 261 | NC | 2,910 | 444 | NC | 1,090 | 303 | NC |
| PCB159 | 118 U | 118 U | NC | 107 U | 119 U | NC | 121 U | 117 U | NC |
| PCB160 | 4.25 U | 4.25 U | NC | 3.85 U | 4.29 U | NC | 4.37 U | 4.21 U | NC |
| PCB161 | 56.1 U | 56.1 U | NC | 50.9 U | 56.7 U | NC | 57.8 U | 55.6 U | NC |
| PCB162 | 77.3 | 39.9 U | NC | 90.5 | 40.2 U | NC | 45.4 | 39.5 U | NC |
| PCB164 | 831 | 128 | NC | 1,040 | 161 | NC | 448 | 125 | NC |
| PCB165 | 55.7 U | 55.7 U | NC | 64.8 | 56.2 U | NC | 57.3 U | 55.1 U | NC |
| PCB167 | 987 | 154 | NC | 1,380 | 226 | NC | 528 | 143 | NC |
| PCB169 | 37.4 U | 37.4 U | NC | 56.4 U | 37.7 U | NC | 38.4 U | 37 U | NC |
| PCB170 | 3,800 | 670 | NC | 11,400 | 1,910 | NC | 1,460 | 368 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-08 | | | EPA1-SB06E-09 | | | EPA1-SB06E-10 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627751.005 | 7627751.005 | 7627751.005 | 7627261.88 | 7627261.88 | 7627261.88 | 7627239.777 | 7627239.777 | 7627239.777 |
| Y-coordinate | 704513.7004 | 704513.7004 | 704513.7004 | 704853.8424 | 704853.8424 | 704853.8424 | 704870.1191 | 704870.1191 | 704870.1191 |
| RiverMile | 6.9 | 6.9 | 6.9 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 |
| Sample Time | 14:40 | 14:40 | 14:40 | 15:49 | 15:49 | 15:49 | 16:10 | 16:10 | 16:10 |
| Sample Mass (g) | 217.45 | 165.25 | 382.7 | 212.8 | 154.51 | 367.31 | 450.65 | 349.44 | 800.09 |
| PCB171 & 173 | 1,290 | 205 | NC | 3,560 | 539 | NC | 481 | 127 | NC |
| PCB172 | 800 | 126 | NC | 2,150 | 319 | NC | 280 | 71 | NC |
| PCB174 | 2,370 | 382 | NC | 2,330 | 390 | NC | 561 | 149 | NC |
| PCB175 | 200 | 69.3 U | NC | 370 | 70 U | NC | 71.4 U | 68.7 U | NC |
| PCB176 | 278 | 86.3 U | NC | 226 | 87.1 U | NC | 88.8 U | 85.5 U | NC |
| PCB177 | 2,400 | 388 | NC | 3,000 | 480 | NC | 622 | 168 | NC |
| PCB178 | 1,420 | 222 | NC | 2,870 | 448 | NC | 461 | 126 | NC |
| PCB179 | 1,120 | 176 | NC | 1,500 | 235 | NC | 410 | 117 | NC |
| PCB180 & 193 | 13,300 | 2,330 | NC | 36,900 | 6,210 | NC | 4,390 | 1,120 | NC |
| PCB181 | 63.2 U | 63.2 U | NC | 117 | 63.8 U | NC | 65 U | 62.6 U | NC |
| PCB182 | 42.9 U | 42.9 U | NC | 50.6 | 43.3 U | NC | 44.2 U | 42.5 U | NC |
| PCB183 & 185 | 3,950 | 604 | NC | 9,810 | 1,470 | NC | 1,180 | 315 | NC |
| PCB184 | 51.4 U | 51.4 U | NC | 46.6 U | 51.9 U | NC | 52.9 U | 50.9 U | NC |
| PCB186 | 74.5 U | 74.5 U | NC | 67.5 U | 75.2 U | NC | 76.7 U | 73.8 U | NC |
| PCB187 | 10,600 | 1,680 | NC | 17,000 | 2,750 | NC | 3,010 | 806 | NC |
| PCB188 | 59.9 U | 59.9 U | NC | 54.3 U | 60.5 U | NC | 61.7 U | 59.3 U | NC |
| PCB189 | 213 | 34.1 U | NC | 640 | 100 | NC | 82.5 | 33.8 U | NC |
| PCB190 | 482 | 123 | NC | 1,390 | 307 | NC | 146 | 57.6 | NC |
| PCB191 | 220 | 59.9 U | NC | 673 | 100 | NC | 65.9 | 59.3 U | NC |
| PCB192 | 41.5 U | 41.5 U | NC | 37.6 U | 41.9 U | NC | 42.7 U | 41.1 U | NC |
| PCB194 | 1,690 | 270 | NC | 6,360 | 1,050 | NC | 582 | 175 U | NC |
| PCB195 | 819 | 127 | NC | 3,090 | 455 | NC | 257 | 69.9 U | NC |
| PCB196 | 920 | 164 | NC | 3,000 | 539 | NC | 278 | 74 | NC |
| PCB197 & 200 | 208 | 97.9 U | NC | 411 | 98.9 U | NC | 101 U | 97 U | NC |
| PCB198 & 199 | 1,790 | 344 | NC | 3,710 | 707 | NC | 631 | 174 | NC |
| PCB201 | 338 | 48.1 | NC | 678 | 98.3 | NC | 83.7 | 39 U | NC |
| PCB202 | 563 | 84.9 | NC | 1,230 | 182 | NC | 251 | 74.4 U | NC |
| PCB203 | 1,260 | 215 | NC | 3,890 | 618 | NC | 470 | 134 | NC |
| PCB204 | 57.5 U | 57.5 U | NC | 52.1 U | 58 U | NC | 59.2 U | 57 U | NC |
| PCB205 | 98.7 | 57.2 U | NC | 362 | 57.8 U | NC | 58.9 U | 56.7 U | NC |
| PCB206 | 532 | 91 | NC | 1,360 | 217 | NC | 260 | 71.9 | NC |
| PCB207 | 113 U | 113 U | NC | 235 | 114 U | NC | 117 U | 112 U | NC |
| PCB208 | 193 | 115 U | NC | 296 | 116 U | NC | 119 U | 114 U | NC |
| PCB209 | 286 | 53 | NC | 397 | 81.2 | NC | 164 | 51.6 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-08 | | | EPA1-SB06E-09 | | | EPA1-SB06E-10 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627751.005 | 7627751.005 | 7627751.005 | 7627261.88 | 7627261.88 | 7627261.88 | 7627239.777 | 7627239.777 | 7627239.777 |
| Y-coordinate | 704513.7004 | 704513.7004 | 704513.7004 | 704853.8424 | 704853.8424 | 704853.8424 | 704870.1191 | 704870.1191 | 704870.1191 |
| RiverMile | 6.9 | 6.9 | 6.9 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 |
| Sample Time | 14:40 | 14:40 | 14:40 | 15:49 | 15:49 | 15:49 | 16:10 | 16:10 | 16:10 |
| Sample Mass (g) | 217.45 | 165.25 | 382.7 | 212.8 | 154.51 | 367.31 | 450.65 | 349.44 | 800.09 |
| Monochlorobiphenyl homologs | 43.9 UT | 43.9 UT | NC | 39.7 UT | 44.3 UT | NC | 45.1 UT | 43.5 UT | NC |
| Dichlorobiphenyl homologs | 835 T | 331 T | NC | 490 T | 292 T | NC | 944 T | 340 T | NC |
| Trichlorobiphenyl homologs | 4,660 T | 1,220 T | NC | 3,320 T | 973 T | NC | 5,390 T | 1,760 T | NC |
| Tetrachlorobiphenyl homologs | 23,600 T | 4,440 T | NC | 20,300 T | 3,990 T | NC | 24,700 T | 7,500 T | NC |
| Pentachlorobiphenyl homologs | 56,100 T | 9,230 T | NC | 56,700 T | 9,500 T | NC | 47,500 T | 14,100 T | NC |
| Hexachlorobiphenyl homologs | 94,600 T | 14,300 T | NC | 137,000 T | 21,200 T | NC | 42,400 T | 12,500 T | NC |
| Heptachlorobiphenyl homologs | 42,600 T | 7,140 T | NC | 94,000 T | 15,400 T | NC | 13,300 T | 3,660 T | NC |
| Octachlorobiphenyl homologs | 7,690 T | 1,330 T | NC | 22,700 T | 3,730 T | NC | 2,630 T | 638 T | NC |
| Nonachlorobiphenyl homologs | 782 T | 205 T | NC | 1,890 T | 332 T | NC | 378 T | 185 T | NC |
| Total PCB Congeners | 230,000 JT | 35,400 JT | 146,000 JT | 335,000 JT | 52,600 JT | 217,000 JT | 136,000 JT | 38,200 JT | 93,000 JT |
| Total PCB Congeners (calc'd) | 231,000 JT | 38,300 JT | 148,000 JT | 337,000 JT | 55,600 JT | 218,000 JT | 137,000 JT | 40,700 JT | 95,200 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 0.632 JT | 0.0962 JT | 0.4 JT | 0.802 JT | 0.133 JT | 0.521 JT | 0.543 JT | 0.154 JT | 0.373 JT |
| LWG RA Total PCB Congener TEQ 2005 | 4.38 JT | 3.85 JT | 4.15 JT | 4.54 JT | 3.92 JT | 4.28 JT | 4.4 JT | 3.87 JT | 4.17 JT |
| LWG RA Total PCB Congener TEQ 1998 | 16 JT | 6.53 JT | 11.9 JT | 20.2 JT | 8.05 JT | 15.1 JT | 13.6 JT | 7.68 JT | 11 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.293 JT | 0.189 JT | 0.248 JT | 0.313 JT | 0.199 JT | 0.265 JT | 0.279 JT | 0.199 JT | 0.244 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-11 | | | EPA1-SB06W-01 | | | EPA1-SB06W-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627178.523 | 7627178.523 | 7627178.523 | 7623259.739 | 7623259.739 | 7623259.739 | 7625793.951 | 7625793.951 | 7625793.951 |
| Y-coordinate | 704970.9609 | 704970.9609 | 704970.9609 | 706089.1385 | 706089.1385 | 706089.1385 | 704637.7654 | 704637.7654 | 704637.7654 |
| RiverMile | 6.8 | 6.8 | 6.8 | 6.1 | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 8:20 | 8:20 | 8:20 | 16:45 | 16:45 | 16:45 |
| Sample Mass (g) | 110.7 | 93.53 | 204.23 | 332.83 | 284.8 | 617.63 | 116.8 | 96.49 | 213.29 |
| PCB001 | 34.1 U | 36.4 U | NC | 35.7 U | 34.1 U | NC | 36.8 U | 37.1 U | NC |
| PCB002 | 42.3 U | 45.1 U | NC | 44.3 U | 42.3 U | NC | 45.6 U | 46 U | NC |
| PCB003 | 22.3 U | 23.8 U | NC | 23.3 U | 22.3 U | NC | 24 U | 24.3 U | NC |
| PCB004 | 863 | 151 | NC | 233 J | 69.1 U | NC | 598 | 105 | NC |
| PCB005 | 42.3 U | 45.1 U | NC | 44.3 U | 42.3 U | NC | 45.6 U | 46 U | NC |
| PCB006 | 39.5 U | 42.2 U | NC | 46.9 | 39.5 U | NC | 184 | 43.1 U | NC |
| PCB007 | 53.6 U | 57.3 U | NC | 56.2 U | 53.6 U | NC | 57.8 U | 58.4 U | NC |
| PCB008 | 151 | 70.4 | NC | 180 | 59.4 | NC | 502 | 95 | NC |
| PCB009 | 25.9 U | 27.7 U | NC | 27.1 U | 25.9 U | NC | 37.1 | 28.2 U | NC |
| PCB010 | 89.5 | 30.1 U | NC | 29.5 U | 28.2 U | NC | 30.4 U | 30.7 U | NC |
| PCB011 | 222 U | 237 U | NC | 232 U | 222 U | NC | 333 | 242 U | NC |
| PCB012 & 013 | 37.7 U | 40.3 U | NC | 39.5 U | 37.7 U | NC | 40.7 U | 41.1 U | NC |
| PCB014 | 41.4 U | 44.2 U | NC | 43.3 U | 41.4 U | NC | 44.6 U | 45 U | NC |
| PCB015 | 62.3 U | 66.5 U | NC | 65.2 U | 62.3 U | NC | 178 | 67.8 U | NC |
| PCB016 | 163 | 56.7 | NC | 52.4 | 50 U | NC | 420 | 83.7 | NC |
| PCB017 | 588 | 131 | NC | 58.6 | 121 | NC | 1,400 | 233 | NC |
| PCB018 & 030 | 495 | 139 | NC | 2.86 | 153 U | NC | 1,950 | 316 U | NC |
| PCB019 | 2,100 | 365 | NC | 45.7 | 93.3 | NC | 679 | 110 | NC |
| PCB020 & 028 | 1,600 | 353 | NC | 2,210 | 597 | NC | 14,200 | 2,480 | NC |
| PCB021 & 033 | 269 | 219 U | NC | 429 | 205 U | NC | 809 | 223 U | NC |
| PCB022 | 338 | 84.3 | NC | 456 | 127 | NC | 1,490 | 261 | NC |
| PCB023 | 50 U | 53.4 U | NC | 52.4 U | 50 U | NC | 53.9 U | 54.5 U | NC |
| PCB024 | 30.5 U | 32.5 U | NC | 31.9 U | 30.5 U | NC | 32.8 U | 33.2 U | NC |
| PCB025 | 131 | 47.6 U | NC | 151 | 44.5 U | NC | 340 | 59.9 | NC |
| PCB026 & 029 | 262 | 102 U | NC | 325 | 95.5 U | NC | 943 | 163 | NC |
| PCB027 | 166 | 46.1 U | NC | 45.2 | 43.2 U | NC | 374 | 58.4 | NC |
| PCB031 | 941 | 223 | NC | 1,130 | 309 | NC | 3,400 | 587 | NC |
| PCB032 | 248 | 64.1 | NC | 20.5 | 75.2 | NC | 1,740 | 290 | NC |
| PCB034 | 35.9 U | 38.3 U | NC | 37.6 U | 35.9 U | NC | 38.7 U | 39.1 U | NC |
| PCB035 | 37.3 U | 39.8 U | NC | 39 U | 37.3 U | NC | 40.2 U | 40.6 U | NC |
| PCB036 | 39.5 U | 42.2 U | NC | 41.4 U | 39.5 U | NC | 42.6 U | 43.1 U | NC |
| PCB037 | 182 | 41.6 | NC | 147 | 53 | NC | 660 | 107 | NC |
| PCB038 | 28.6 U | 30.6 U | NC | 30 U | 28.6 U | NC | 44 | 31.2 U | NC |
| PCB039 | 35.9 U | 38.3 U | NC | 37.6 U | 35.9 U | NC | 55.2 | 39.1 U | NC |
| PCB040 & 041 & 071 | 807 | 155 | NC | 1,580 | 418 | NC | 21,000 | 3,780 | NC |
| PCB042 | 616 | 116 | NC | 1,150 | 306 | NC | 16,000 | 2,800 | NC |
| PCB043 & 073 | 99.7 | 53.4 U | NC | 125 | 50 U | NC | 1,610 | 270 | NC |
| PCB044 & 047 & 065 | 5,520 | 983 | NC | 6,840 | 1,690 | NC | 79,700 | 13,200 | NC |
| PCB045 & 051 | 842 | 150 | NC | 712 | 181 | NC | 4,380 | 741 | NC |
| PCB046 | 114 U | 121 U | NC | 119 U | 114 U | NC | 978 | 171 | NC |
| PCB048 | 317 | 61.9 | NC | 591 | 156 | NC | 7,420 | 1,280 | NC |
| PCB049 & 069 | 2,970 | 524 | NC | 4,580 | 1,110 | NC | 58,600 | 9,550 | NC |
| PCB050 & 053 | 561 | 97.4 | NC | 638 | 164 | NC | 3,730 | 623 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-11 | | | EPA1-SB06W-01 | | | EPA1-SB06W-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627178.523 | 7627178.523 | 7627178.523 | 7623259.739 | 7623259.739 | 7623259.739 | 7625793.951 | 7625793.951 | 7625793.951 |
| Y-coordinate | 704970.9609 | 704970.9609 | 704970.9609 | 706089.1385 | 706089.1385 | 706089.1385 | 704637.7654 | 704637.7654 | 704637.7654 |
| RiverMile | 6.8 | 6.8 | 6.8 | 6.1 | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 8:20 | 8:20 | 8:20 | 16:45 | 16:45 | 16:45 |
| Sample Mass (g) | 110.7 | 93.53 | 204.23 | 332.83 | 284.8 | 617.63 | 116.8 | 96.49 | 213.29 |
| PCB052 | 4,380 | 789 | NC | 7,110 | 1,750 | NC | 95,300 | 15,500 | NC |
| PCB054 | 274 | 45.2 | NC | 75.7 | 32.3 U | NC | 97.6 | 35.1 U | NC |
| PCB055 | 34.1 U | 36.4 U | NC | 35.7 U | 34.1 U | NC | 36.8 U | 37.1 U | NC |
| PCB056 | 704 | 132 | NC | 1,150 | 277 | NC | 8,500 | 1,370 | NC |
| PCB057 | 28.6 U | 30.6 U | NC | 30 U | 28.6 U | NC | 154 | 31.2 U | NC |
| PCB058 | 30.5 U | 32.5 U | NC | 31.9 U | 30.5 U | NC | 130 | 33.2 U | NC |
| PCB059 & 062 & 075 | 341 U | 364 U | NC | 411 | 341 U | NC | 5,540 | 919 | NC |
| PCB060 | 589 | 104 | NC | 1,260 | 303 | NC | 26,300 | 4,260 | NC |
| PCB061 & 070 & 074 & 076 | 4,710 | 847 | NC | 7,320 | 1,780 | NC | 76,600 | 12,300 | NC |
| PCB063 | 164 | 28.6 U | NC | 351 | 81 | NC | 4,040 | 642 | NC |
| PCB064 | 1,250 | 225 | NC | 2,260 | 561 | NC | 37,900 | 6,380 | NC |
| PCB066 | 3,260 | 565 | NC | 6,640 | 1,630 | NC | 93,500 | 15,300 | NC |
| PCB067 | 83.4 | 29.1 U | NC | 119 | 28.9 | NC | 490 | 77.5 | NC |
| PCB068 | 90.9 U | 97.1 U | NC | 104 | 90.9 U | NC | 163 | 99 U | NC |
| PCB072 | 67.8 | 21.8 U | NC | 127 | 29.7 | NC | 504 | 81.7 | NC |
| PCB073 | 99.7 U | 53.4 U | NC | 52.4 U | 50 U | NC | 1,610 | 270 | NC |
| PCB077 | 215 | 44.7 U | NC | 263 | 62.4 | NC | 1,810 | 278 | NC |
| PCB078 | 20.9 U | 22.3 U | NC | 21.9 U | 20.9 U | NC | 22.5 U | 22.8 U | NC |
| PCB079 | 35.6 | 37.9 U | NC | 67.6 | 35.5 U | NC | 491 | 78.5 | NC |
| PCB080 | 34.1 U | 35.9 U | NC | 35.2 U | 33.6 U | NC | 36.3 U | 36.6 U | NC |
| PCB081 | 40.9 U | 43.7 U | NC | 43.1 | 40.9 U | NC | 210 | 44.6 U | NC |
| PCB082 | 395 | 70.5 | NC | 898 | 212 | NC | 6,630 | 1,100 | NC |
| PCB083 | 273 | 64.6 U | NC | 595 | 118 | NC | 3,730 | 743 | NC |
| PCB084 | 1,090 | 192 | NC | 1,640 | 395 | NC | 10,700 | 1,780 | NC |
| PCB085 & 117 & 116 | 1,670 | 280 | NC | 3,470 | 801 | NC | 28,800 | 4,610 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 4,150 | 728 U | NC | 7,870 | 1,850 | NC | 60,300 | 9,710 | NC |
| PCB088 & 091 | 1,170 | 206 | NC | 2,070 | 487 | NC | 11,900 | 1,910 | NC |
| PCB089 | 26.8 | 28.2 U | NC | 57.8 | 26.4 U | NC | 828 | 141 | NC |
| PCB090 & 101 & 113 | 8,700 | 1,500 | NC | 17,100 | 3,990 | NC | 92,200 | 14,900 | NC |
| PCB092 | 1,840 | 318 | NC | 3,490 | 812 | NC | 18,300 | 2,930 | NC |
| PCB093 & 098 & 100 & 102 | 1,070 | 558 U | NC | 1,100 | 523 U | NC | 2,660 | 569 U | NC |
| PCB094 | 114 U | 121 U | NC | 119 U | 114 U | NC | 245 | 124 U | NC |
| PCB095 | 4,440 | 786 | NC | 7,590 | 1,820 | NC | 37,100 | 6,110 | NC |
| PCB096 | 56.7 | 54.4 U | NC | 79.8 | 50.9 U | NC | 532 | 87.2 | NC |
| PCB099 | 6,110 | 1,020 | NC | 10,900 | 2,650 | NC | 62,800 | 10,600 | NC |
| PCB103 | 254 | 44.7 U | NC | 324 | 75.8 | NC | 680 | 107 | NC |
| PCB104 | 67.7 U | 72.3 U | NC | 71 U | 67.7 U | NC | 73 U | 73.8 U | NC |
| PCB105 | 2,990 | 518 | NC | 6,770 | 1,550 | NC | 50,200 | 7,130 | NC |
| PCB106 | 67.3 U | 71.8 U | NC | 70.5 U | 67.3 U | NC | 72.5 U | 73.3 U | NC |
| PCB107 & 124 | 233 | 52.9 U | NC | 435 | 97.5 | NC | 1,550 | 239 | NC |
| PCB109 | 703 | 120 | NC | 1,400 | 340 | NC | 6,710 | 1,060 | NC |
| PCB110 & 115 | 6,900 | 1,220 | NC | 12,700 | 2,980 | NC | 80,300 | 13,200 | NC |
| PCB111 | 33.6 U | 35.9 U | NC | 38.7 | 33.6 U | NC | 38.1 | 36.6 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-11 | | | EPA1-SB06W-01 | | | EPA1-SB06W-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627178.523 | 7627178.523 | 7627178.523 | 7623259.739 | 7623259.739 | 7623259.739 | 7625793.951 | 7625793.951 | 7625793.951 |
| Y-coordinate | 704970.9609 | 704970.9609 | 704970.9609 | 706089.1385 | 706089.1385 | 706089.1385 | 704637.7654 | 704637.7654 | 704637.7654 |
| RiverMile | 6.8 | 6.8 | 6.8 | 6.1 | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 8:20 | 8:20 | 8:20 | 16:45 | 16:45 | 16:45 |
| Sample Mass (g) | 110.7 | 93.53 | 204.23 | 332.83 | 284.8 | 617.63 | 116.8 | 96.49 | 213.29 |
| PCB112 | 50 U | 53.4 U | NC | 52.4 U | 50 U | NC | 53.9 U | 54.5 U | NC |
| PCB114 | 225 | 59.7 U | NC | 525 | 118 | NC | 3,740 | 552 | NC |
| PCB118 | 10,700 | 1,850 | NC | 21,400 | 5,100 | NC | 106,000 | 15,800 | NC |
| PCB120 | 114 U | 121 U | NC | 143 | 114 U | NC | 190 | 124 U | NC |
| PCB121 | 31.4 U | 33.5 U | NC | 34.5 | 31.4 U | NC | 33.8 U | 34.2 U | NC |
| PCB122 | 53.2 | 44.2 U | NC | 102 | 41.4 U | NC | 273 | 68.9 | NC |
| PCB123 | 237 | 56.3 U | NC | 526 | 108 | NC | 2,460 | 424 | NC |
| PCB126 | 61.4 U | 65.5 U | NC | 64.3 U | 61.4 U | NC | 142 | 66.8 U | NC |
| PCB127 | 39.1 U | 41.7 U | NC | 41 U | 39.1 U | NC | 94.7 | 42.6 U | NC |
| PCB128 & 166 | 1,910 | 293 | NC | 3,820 | 807 | NC | 8,590 | 1,140 | NC |
| PCB129 & 138 & 163 | 20,400 | 3,030 | NC | 39,900 | 8,130 | NC | 65,400 | 8,830 | NC |
| PCB130 | 781 | 113 | NC | 1,660 | 337 | NC | 3,440 | 504 | NC |
| PCB131 | 81.8 | 41.3 U | NC | 155 | 38.6 U | NC | 412 | 63.1 | NC |
| PCB132 | 2,330 | 359 | NC | 4,270 | 942 | NC | 9,070 | 1,420 | NC |
| PCB133 | 477 | 69.8 | NC | 883 | 172 | NC | 936 | 140 | NC |
| PCB134 & 143 | 404 | 243 U | NC | 771 | 227 U | NC | 1,950 | 289 | NC |
| PCB135 & 151 | 5,340 | 793 | NC | 9,140 | 1,940 | NC | 14,900 | 2,410 | NC |
| PCB136 | 1,160 | 180 | NC | 1,820 | 413 | NC | 3,830 | 622 | NC |
| PCB137 | 783 | 141 U | NC | 1,160 | 272 | NC | 3,300 | 535 | NC |
| PCB139 & 140 | 297 | 58.3 U | NC | 547 | 111 | NC | 1,270 | 193 | NC |
| PCB141 | 2,720 | 407 | NC | 4,920 | 987 | NC | 10,800 | 1,550 | NC |
| PCB142 | 38.6 U | 41.3 U | NC | 40.5 U | 38.6 U | NC | 41.7 U | 42.1 U | NC |
| PCB144 | 532 | 79.6 | NC | 972 | 206 | NC | 1,960 | 313 | NC |
| PCB145 | 42.7 U | 45.6 U | NC | 44.8 U | 42.7 U | NC | 46.1 U | 46.5 U | NC |
| PCB146 | 4,330 | 631 | NC | 8,050 | 1,680 | NC | 9,850 | 1,490 | NC |
| PCB147 & 149 | 9,040 | 1,370 | NC | 17,400 | 3,650 | NC | 24,200 | 3,750 | NC |
| PCB148 | 78.8 | 72.8 U | NC | 144 | 68.2 U | NC | 79.1 | 74.3 U | NC |
| PCB150 | 49.1 U | 52.4 U | NC | 74.9 | 49.1 U | NC | 52.9 U | 53.5 U | NC |
| PCB152 | 53.2 U | 56.8 U | NC | 55.7 U | 53.2 U | NC | 61.4 | 57.9 U | NC |
| PCB153 & 168 | 25,000 | 3,630 | NC | 45,200 | 9,020 | NC | 53,000 | 7,870 | NC |
| PCB154 | 534 | 78.2 | NC | 863 | 179 | NC | 705 | 111 | NC |
| PCB155 | 55.9 U | 59.7 U | NC | 58.6 U | 55.9 U | NC | 60.3 U | 60.9 U | NC |
| PCB156 & 157 | 1,940 | 315 | NC | 3,710 | 805 | NC | 7,580 | 1,130 | NC |
| PCB158 | 1,640 | 242 | NC | 3,180 | 645 | NC | 5,930 | 785 | NC |
| PCB159 | 114 U | 121 U | NC | 119 U | 114 U | NC | 123 U | 124 U | NC |
| PCB160 | 4.09 U | 4.37 U | NC | 4.29 U | 4.09 U | NC | 4.41 U | 4.46 U | NC |
| PCB161 | 54.1 U | 57.8 U | NC | 56.7 U | 54.1 U | NC | 58.3 U | 58.9 U | NC |
| PCB162 | 62.9 | 41 U | NC | 298 | 58 | NC | 207 | 41.8 U | NC |
| PCB164 | 838 | 130 | NC | 1,630 | 294 | NC | 3,320 | 467 | NC |
| PCB165 | 53.6 U | 57.3 U | NC | 56.2 U | 53.6 U | NC | 57.8 U | 58.4 U | NC |
| PCB167 | 774 | 126 | NC | 1,510 | 316 | NC | 2,100 | 317 | NC |
| PCB169 | 36 U | 38.4 U | NC | 95.8 U | 36 U | NC | 66.1 U | 39.2 U | NC |
| PCB170 | 4,010 | 715 | NC | 8,710 | 1,890 | NC | 6,410 | 935 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-11 | | | EPA1-SB06W-01 | | | EPA1-SB06W-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627178.523 | 7627178.523 | 7627178.523 | 7623259.739 | 7623259.739 | 7623259.739 | 7625793.951 | 7625793.951 | 7625793.951 |
| Y-coordinate | 704970.9609 | 704970.9609 | 704970.9609 | 706089.1385 | 706089.1385 | 706089.1385 | 704637.7654 | 704637.7654 | 704637.7654 |
| RiverMile | 6.8 | 6.8 | 6.8 | 6.1 | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 8:20 | 8:20 | 8:20 | 16:45 | 16:45 | 16:45 |
| Sample Mass (g) | 110.7 | 93.53 | 204.23 | 332.83 | 284.8 | 617.63 | 116.8 | 96.49 | 213.29 |
| PCB171 & 173 | 1,340 | 206 | NC | 2,760 | 597 | NC | 2,380 | 330 | NC |
| PCB172 | 755 | 119 | NC | 1,730 | 362 | NC | 1,410 | 195 | NC |
| PCB174 | 2,150 | 354 | NC | 4,850 | 1,010 | NC | 4,740 | 628 | NC |
| PCB175 | 163 | 71.4 U | NC | 361 | 71.3 | NC | 318 | 72.8 U | NC |
| PCB176 | 234 | 88.8 U | NC | 600 | 114 | NC | 528 | 90.6 U | NC |
| PCB177 | 1,870 | 303 | NC | 4,570 | 939 | NC | 3,840 | 527 | NC |
| PCB178 | 1,230 | 185 | NC | 2,590 | 500 | NC | 2,060 | 297 | NC |
| PCB179 | 1,100 | 181 | NC | 2,330 | 469 | NC | 2,770 | 412 | NC |
| PCB180 & 193 | 12,700 | 2,270 | NC | 25,500 | 5,550 | NC | 17,000 | 2,470 | NC |
| PCB181 | 60.9 U | 65 U | NC | 115 | 60.9 U | NC | 108 U | 66.3 U | NC |
| PCB182 | 41.4 U | 44.2 U | NC | 65.4 | 41.4 U | NC | 44.6 U | 45 U | NC |
| PCB183 & 185 | 3,740 | 578 | NC | 7,960 | 1,620 | NC | 6,520 | 876 | NC |
| PCB184 | 49.5 U | 52.9 U | NC | 51.9 U | 49.5 U | NC | 53.4 U | 54 U | NC |
| PCB186 | 71.8 U | 76.7 U | NC | 75.2 U | 71.8 U | NC | 77.5 U | 78.2 U | NC |
| PCB187 | 7,920 | 1,250 | NC | 15,700 | 3,130 | NC | 12,700 | 1,740 | NC |
| PCB188 | 57.7 U | 61.7 U | NC | 60.5 U | 57.7 U | NC | 62.3 U | 62.9 U | NC |
| PCB189 | 193 | 35.1 U | NC | 412 | 78.9 | NC | 291 | 43.4 | NC |
| PCB190 | 554 | 122 | NC | 1,390 | 349 | NC | 1,080 | 187 | NC |
| PCB191 | 223 | 61.7 U | NC | 440 | 88 | NC | 309 | 62.9 U | NC |
| PCB192 | 40 U | 42.7 U | NC | 41.9 U | 40 U | NC | 43.1 U | 43.6 U | NC |
| PCB194 | 1,640 | 287 | NC | 3,980 | 920 | NC | 1,900 | 325 | NC |
| PCB195 | 806 | 137 | NC | 1,830 | 394 | NC | 941 | 156 | NC |
| PCB196 | 951 | 173 | NC | 2,130 | 469 | NC | 1,140 | 186 | NC |
| PCB197 & 200 | 181 | 101 U | NC | 453 | 94.6 | NC | 304 | 103 U | NC |
| PCB198 & 199 | 1,610 | 327 | NC | 4,230 | 973 | NC | 2,730 | 451 | NC |
| PCB201 | 238 | 40.5 U | NC | 555 | 113 | NC | 346 | 55 | NC |
| PCB202 | 526 | 88.2 | NC | 1,270 | 259 | NC | 811 | 127 | NC |
| PCB203 | 1,430 | 256 | NC | 3,200 | 714 | NC | 1,990 | 329 | NC |
| PCB204 | 55.4 U | 59.2 U | NC | 58 U | 55.4 U | NC | 59.8 U | 60.3 U | NC |
| PCB205 | 97.1 | 58.9 U | NC | 233 | 55.1 U | NC | 128 | 60 U | NC |
| PCB206 | 547 | 104 | NC | 1,430 | 341 | NC | 687 | 128 | NC |
| PCB207 | 109 U | 117 U | NC | 202 | 109 U | NC | 118 U | 119 U | NC |
| PCB208 | 201 | 119 U | NC | 510 | 112 | NC | 248 | 121 U | NC |
| PCB209 | 271 | 62 | NC | 661 | 169 | NC | 230 | 54.7 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB06E-11 | | | EPA1-SB06W-01 | | | EPA1-SB06W-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7627178.523 | 7627178.523 | 7627178.523 | 7623259.739 | 7623259.739 | 7623259.739 | 7625793.951 | 7625793.951 | 7625793.951 |
| Y-coordinate | 704970.9609 | 704970.9609 | 704970.9609 | 706089.1385 | 706089.1385 | 706089.1385 | 704637.7654 | 704637.7654 | 704637.7654 |
| RiverMile | 6.8 | 6.8 | 6.8 | 6.1 | 6.1 | 6.1 | 6.6 | 6.6 | 6.6 |
| Sample Date | 8-Oct-11 | 8-Oct-11 | 8-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 6-Oct-11 | 6-Oct-11 | 6-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 8:20 | 8:20 | 8:20 | 16:45 | 16:45 | 16:45 |
| Sample Mass (g) | 110.7 | 93.53 | 204.23 | 332.83 | 284.8 | 617.63 | 116.8 | 96.49 | 213.29 |
| Monochlorobiphenyl homologs | 42.3 UT | 45.1 UT | NC | 44.3 UT | 42.3 UT | NC | 45.6 UT | 46 UT | NC |
| Dichlorobiphenyl homologs | 1,280 T | 423 T | NC | 637 JT | 283 T | NC | 1,850 T | 406 T | NC |
| Trichlorobiphenyl homologs | 7,550 T | 1,730 T | NC | 5,140 T | 1,740 T | NC | 28,500 T | 4,770 T | NC |
| Tetrachlorobiphenyl homologs | 27,800 T | 5,270 T | NC | 43,600 T | 10,900 T | NC | 547,000 T | 90,000 T | NC |
| Pentachlorobiphenyl homologs | 53,500 T | 9,170 T | NC | 101,000 T | 24,100 T | NC | 589,000 T | 93,700 T | NC |
| Hexachlorobiphenyl homologs | 81,600 T | 12,300 T | NC | 152,000 T | 31,300 T | NC | 233,000 T | 34,200 T | NC |
| Heptachlorobiphenyl homologs | 38,300 T | 6,520 T | NC | 80,100 T | 16,900 T | NC | 62,500 T | 8,870 T | NC |
| Octachlorobiphenyl homologs | 7,480 T | 1,370 T | NC | 17,900 T | 3,960 T | NC | 10,300 T | 1,710 T | NC |
| Nonachlorobiphenyl homologs | 803 T | 222 T | NC | 2,140 T | 508 T | NC | 994 T | 248 T | NC |
| Total PCB Congeners | 217,000 JT | 34,100 JT | 134,000 JT | 403,000 JT | 87,800 JT | 258,000 JT | 1,470,000 JT | 232,000 JT | 912,000 JT |
| Total PCB Congeners (calc'd) | 219,000 JT | 37,100 JT | 136,000 JT | 404,000 JT | 89,900 JT | 259,000 JT | 1,470,000 JT | 234,000 JT | 913,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 0.533 JT | 0.0843 JT | 0.328 JT | 1.08 JT | 0.249 JT | 0.699 JT | 19.6 JT | 0.79 JT | 11.1 JT |
| LWG RA Total PCB Congener TEQ 2005 | 4.15 JT | 3.95 JT | 4.06 JT | 5.74 JT | 3.86 JT | 4.87 JT | 20.6 JT | 4.72 JT | 13.4 JT |
| LWG RA Total PCB Congener TEQ 1998 | 16.5 JT | 6.7 JT | 12 JT | 22.1 JT | 8.56 JT | 15.8 JT | 133 JT | 20.5 JT | 82.1 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.271 JT | 0.192 JT | 0.235 JT | 0.385 JT | 0.211 JT | 0.305 JT | 1.86 JT | 0.334 JT | 1.17 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB07E-04 | | | EPA1-SB07E-05 | | | EPA1-SB07E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630501.76 | 7630501.76 | 7630501.76 | 7631760.293 | 7631760.293 | 7631760.293 | 7631349.5 | 7631349.5 | 7631349.5 |
| Y-coordinate | 702199.7767 | 702199.7767 | 702199.7767 | 701577.0326 | 701577.0326 | 701577.0326 | 701694.068 | 701694.068 | 701694.068 |
| RiverMile | 7.6 | 7.6 | 7.6 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 15:30 | 15:30 | 15:30 | 15:42 | 15:42 | 15:42 |
| Sample Mass (g) | 154.94 | 133.25 | 288.19 | 115.92 | 84.2 | 200.12 | 259.45 | 215.09 | 474.54 |
| PCB001 | 36.4 U | 36.4 U | NC | 35.4 U | 21.4 U | NC | 37.1 U | 35 U | NC |
| PCB002 | 45.1 U | 45.1 U | NC | 43.9 U | 26.6 U | NC | 46 U | 43.5 U | NC |
| PCB003 | 23.8 U | 23.8 U | NC | 23.1 U | 14.4 | NC | 24.3 U | 22.9 U | NC |
| PCB004 | 340 | 73.8 U | NC | 236 | 45.6 | NC | 379 | 75.7 | NC |
| PCB005 | 45.1 U | 45.1 U | NC | 43.9 U | 26.6 U | NC | 46 U | 43.5 U | NC |
| PCB006 | 44 | 42.2 U | NC | 41 U | 24.9 U | NC | 52.4 | 40.7 U | NC |
| PCB007 | 57.3 U | 57.3 U | NC | 55.7 U | 33.7 U | NC | 58.4 U | 55.1 U | NC |
| PCB008 | 171 | 47.6 U | NC | 147 | 50.3 | NC | 208 | 45.8 U | NC |
| PCB009 | 27.7 U | 27.7 U | NC | 26.9 U | 16.3 U | NC | 28.2 U | 26.6 U | NC |
| PCB010 | 30.1 U | 30.1 U | NC | 29.2 U | 17.7 U | NC | 30.7 U | 29 U | NC |
| PCB011 | 408 | 237 U | NC | 230 U | 139 U | NC | 242 U | 228 U | NC |
| PCB012 & 013 | 40.3 U | 40.3 U | NC | 39.2 U | 23.7 U | NC | 41.1 U | 38.8 U | NC |
| PCB014 | 44.2 U | 44.2 U | NC | 42.9 U | 26 U | NC | 45 U | 42.5 U | NC |
| PCB015 | 84.8 | 66.5 U | NC | 68.2 | 39.1 U | NC | 87.6 | 64 U | NC |
| PCB016 | 145 | 53.4 U | NC | 158 | 49.6 | NC | 185 | 51.4 U | NC |
| PCB017 | 412 | 86.9 | NC | 452 | 92.7 | NC | 559 | 91.5 | NC |
| PCB018 & 030 | 442 | 99.2 U | NC | 472 | 106 U | NC | 679 | 90.8 | NC |
| PCB019 | 598 | 110 | NC | 466 | 78.6 | NC | 736 | 118 | NC |
| PCB020 & 028 | 1,660 | 357 | NC | 1,850 | 323 | NC | 2,210 | 277 | NC |
| PCB021 & 033 | 261 | 219 U | NC | 250 | 129 U | NC | 377 | 211 U | NC |
| PCB022 | 329 | 71.1 | NC | 396 | 75.8 | NC | 413 | 53 | NC |
| PCB023 | 53.4 U | 53.4 U | NC | 51.9 U | 31.4 U | NC | 54.5 U | 51.4 U | NC |
| PCB024 | 32.5 U | 32.5 U | NC | 31.6 U | 19.1 U | NC | 33.2 U | 31.3 U | NC |
| PCB025 | 111 | 47.6 U | NC | 140 | 28 U | NC | 174 | 45.8 U | NC |
| PCB026 & 029 | 258 | 102 U | NC | 309 | 60 U | NC | 444 | 98.1 U | NC |
| PCB027 | 77.3 | 46.1 U | NC | 81.2 | 27.1 U | NC | 122 | 44.4 U | NC |
| PCB031 | 936 | 204 | NC | 1,080 | 203 | NC | 1,320 | 143 | NC |
| PCB032 | 192 | 45.1 | NC | 208 | 46.8 U | NC | 321 | 53.4 | NC |
| PCB034 | 38.3 U | 38.3 U | NC | 37.3 U | 22.6 U | NC | 39.1 U | 36.9 U | NC |
| PCB035 | 39.8 U | 39.8 U | NC | 38.7 U | 23.4 U | NC | 40.6 U | 38.3 U | NC |
| PCB036 | 42.2 U | 42.2 U | NC | 41 U | 24.9 U | NC | 43.1 U | 40.7 U | NC |
| PCB037 | 271 | 61.8 | NC | 189 | 34.9 | NC | 191 | 37.3 | NC |
| PCB038 | 30.6 U | 30.6 U | NC | 29.7 U | 18 U | NC | 31.2 U | 29.4 U | NC |
| PCB039 | 38.3 U | 38.3 U | NC | 37.3 U | 22.6 U | NC | 39.1 U | 36.9 U | NC |
| PCB040 & 041 & 071 | 783 | 165 | NC | 913 | 138 | NC | 1,260 | 191 | NC |
| PCB042 | 704 | 132 | NC | 892 | 122 | NC | 776 | 94.9 | NC |
| PCB043 & 073 | 89.7 | 53.4 U | NC | 3,610 | 31.4 U | NC | 3,610 | 771 | NC |
| PCB044 & 047 & 065 | 4,640 | 882 | NC | 6,250 | 858 | NC | 5,490 | 1,260 | NC |
| PCB045 & 051 | 672 | 130 | NC | 957 | 148 | NC | 682 | 208 | NC |
| PCB046 | 121 U | 121 U | NC | 118 U | 71.4 U | NC | 124 U | 117 U | NC |
| PCB048 | 314 | 64.7 | NC | 357 | 57.4 | NC | 428 | 53.9 | NC |
| PCB049 & 069 | 2,920 | 554 | NC | 3,940 | 560 | NC | 3,930 | 629 | NC |
| PCB050 & 053 | 414 | 81.1 | NC | 547 | 81.9 | NC | 515 | 126 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB07E-04 | | | EPA1-SB07E-05 | | | EPA1-SB07E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630501.76 | 7630501.76 | 7630501.76 | 7631760.293 | 7631760.293 | 7631760.293 | 7631349.5 | 7631349.5 | 7631349.5 |
| Y-coordinate | 702199.7767 | 702199.7767 | 702199.7767 | 701577.0326 | 701577.0326 | 701577.0326 | 701694.068 | 701694.068 | 701694.068 |
| RiverMile | 7.6 | 7.6 | 7.6 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 15:30 | 15:30 | 15:30 | 15:42 | 15:42 | 15:42 |
| Sample Mass (g) | 154.94 | 133.25 | 288.19 | 115.92 | 84.2 | 200.12 | 259.45 | 215.09 | 474.54 |
| PCB052 | 4,760 | 930 | NC | 5,840 | 892 | NC | 5,790 | 866 | NC |
| PCB054 | 95.1 | 34.5 U | NC | 113 | 20.3 U | NC | 116 | 33.2 U | NC |
| PCB055 | 36.4 U | 36.4 U | NC | 35.4 U | 21.4 U | NC | 37.1 U | 35 U | NC |
| PCB056 | 668 | 134 | NC | 937 | 124 | NC | 799 | 86.3 | NC |
| PCB057 | 30.6 U | 30.6 U | NC | 29.7 U | 18 U | NC | 31.2 U | 29.4 U | NC |
| PCB058 | 32.5 U | 32.5 U | NC | 31.6 U | 19.1 U | NC | 33.2 U | 31.3 U | NC |
| PCB059 & 062 & 075 | 364 U | 364 U | NC | 355 | 214 U | NC | 371 U | 350 U | NC |
| PCB060 | 669 | 130 | NC | 782 | 96.6 | NC | 894 | 93.8 | NC |
| PCB061 & 070 & 074 & 076 | 5,370 | 1,050 | NC | 6,160 | 759 | NC | 6,290 | 803 | NC |
| PCB063 | 210 | 40.6 | NC | 212 | 24.6 | NC | 272 | 35.1 | NC |
| PCB064 | 1,310 | 262 | NC | 1,700 | 238 | NC | 1,760 | 188 | NC |
| PCB066 | 3,920 | 777 | NC | 4,190 | 524 | NC | 5,010 | 641 | NC |
| PCB067 | 78 | 29.1 U | NC | 99.7 | 17.1 U | NC | 85.2 | 28 U | NC |
| PCB068 | 97.1 U | 97.1 U | NC | 111 | 57.1 U | NC | 123 | 93.5 U | NC |
| PCB072 | 71 | 21.8 U | NC | 94.3 | 12.9 U | NC | 112 | 21 U | NC |
| PCB073 | 89.7 | 53.4 U | NC | 51.9 U | 31.4 U | NC | 54.5 U | 51.4 U | NC |
| PCB077 | 294 | 59.3 | NC | 275 | 38.3 | NC | 246 | 43 U | NC |
| PCB078 | 22.3 U | 22.3 U | NC | 21.7 U | 13.1 U | NC | 22.8 U | 21.5 U | NC |
| PCB079 | 60.6 | 37.9 U | NC | 46.7 | 22.3 U | NC | 127 | 36.4 U | NC |
| PCB080 | 35.9 U | 35.9 U | NC | 34.9 U | 21.1 U | NC | 36.6 U | 34.6 U | NC |
| PCB081 | 43.7 U | 43.7 U | NC | 42.5 U | 25.7 U | NC | 44.6 U | 42.1 U | NC |
| PCB082 | 428 | 86 | NC | 653 | 77.9 | NC | 424 | 82.7 | NC |
| PCB083 | 313 | 64.6 U | NC | 581 | 71.3 | NC | 317 | 62.1 U | NC |
| PCB084 | 1,200 | 241 | NC | 1,820 | 233 | NC | 1,040 | 216 | NC |
| PCB085 & 117 & 116 | 1,780 | 350 | NC | 2,280 | 297 | NC | 2,300 | 399 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 4,340 | 866 | NC | 6,410 | 819 | NC | 4,520 | 940 | NC |
| PCB088 & 091 | 1,200 | 228 | NC | 1,970 | 255 | NC | 1,180 | 245 | NC |
| PCB089 | 29 | 28.2 U | NC | 36.4 | 16.6 U | NC | 38.2 | 27.1 U | NC |
| PCB090 & 101 & 113 | 9,220 | 1,820 | NC | 13,900 | 1,880 | NC | 9,790 | 2,480 | NC |
| PCB092 | 1,870 | 358 | NC | 2,920 | 372 | NC | 2,170 | 518 | NC |
| PCB093 & 098 & 100 & 102 | 586 | 558 U | NC | 892 | 329 U | NC | 721 | 537 U | NC |
| PCB094 | 121 U | 121 U | NC | 118 U | 71.4 U | NC | 124 U | 117 U | NC |
| PCB095 | 4,730 | 947 | NC | 7,560 | 995 | NC | 4,820 | 1,110 | NC |
| PCB096 | 54.4 U | 54.4 U | NC | 65.8 | 32 U | NC | 58.7 | 52.3 U | NC |
| PCB099 | 6,530 | 1,280 | NC | 7,670 | 978 | NC | 7,880 | 1,690 | NC |
| PCB103 | 204 | 44.7 U | NC | 373 | 48.9 | NC | 207 | 67.8 | NC |
| PCB104 | 72.3 U | 72.3 U | NC | 70.3 U | 42.6 U | NC | 73.8 U | 69.6 U | NC |
| PCB105 | 3,520 | 690 | NC | 4,150 | 508 | NC | 4,050 | 723 | NC |
| PCB106 | 71.8 U | 71.8 U | NC | 69.8 U | 42.3 U | NC | 73.3 U | 69.2 U | NC |
| PCB107 & 124 | 266 | 52.9 U | NC | 380 | 43.2 | NC | 275 | 50.9 U | NC |
| PCB109 | 859 | 150 | NC | 1,080 | 125 | NC | 1,090 | 221 | NC |
| PCB110 & 115 | 7,190 | 1,470 | NC | 11,100 | 1,430 | NC | 8,060 | 1,610 | NC |
| PCB111 | 35.9 U | 35.9 U | NC | 34.9 U | 21.1 U | NC | 36.6 U | 34.6 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB07E-04 | | | EPA1-SB07E-05 | | | EPA1-SB07E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630501.76 | 7630501.76 | 7630501.76 | 7631760.293 | 7631760.293 | 7631760.293 | 7631349.5 | 7631349.5 | 7631349.5 |
| Y-coordinate | 702199.7767 | 702199.7767 | 702199.7767 | 701577.0326 | 701577.0326 | 701577.0326 | 701694.068 | 701694.068 | 701694.068 |
| RiverMile | 7.6 | 7.6 | 7.6 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 15:30 | 15:30 | 15:30 | 15:42 | 15:42 | 15:42 |
| Sample Mass (g) | 154.94 | 133.25 | 288.19 | 115.92 | 84.2 | 200.12 | 259.45 | 215.09 | 474.54 |
| PCB112 | 53.4 U | 53.4 U | NC | 51.9 U | 31.4 U | NC | 54.5 U | 51.4 U | NC |
| PCB114 | 274 | 59.7 U | NC | 287 | 43.1 | NC | 330 | 57.5 U | NC |
| PCB118 | 11,600 | 2,320 | NC | 14,000 | 1,720 | NC | 14,000 | 3,050 | NC |
| PCB120 | 121 U | 121 U | NC | 125 | 71.4 U | NC | 141 | 117 U | NC |
| PCB121 | 33.5 U | 33.5 U | NC | 32.5 U | 19.7 U | NC | 34.2 U | 32.2 U | NC |
| PCB122 | 56.7 | 44.2 U | NC | 82.2 | 42.3 U | NC | 55.7 | 42.5 U | NC |
| PCB123 | 261 | 60 | NC | 326 | 33.3 | NC | 322 | 54.2 U | NC |
| PCB126 | 65.5 U | 65.5 U | NC | 63.7 U | 38.6 U | NC | 66.8 U | 63.1 U | NC |
| PCB127 | 41.7 U | 41.7 U | NC | 40.6 U | 24.6 U | NC | 42.6 U | 40.2 U | NC |
| PCB128 & 166 | 2,050 | 410 | NC | 2,940 | 313 | NC | 2,770 | 704 | NC |
| PCB129 & 138 & 163 | 21,700 | 4,240 | NC | 33,300 | 3,640 | NC | 30,300 | 9,040 | NC |
| PCB130 | 815 | 159 | NC | 1,650 | 166 | NC | 1,140 | 249 | NC |
| PCB131 | 88.1 | 41.3 U | NC | 175 | 24.3 U | NC | 101 | 39.7 U | NC |
| PCB132 | 2,290 | 475 | NC | 4,840 | 512 | NC | 2,440 | 557 | NC |
| PCB133 | 460 | 91.8 | NC | 750 | 72.6 | NC | 1,100 | 185 | NC |
| PCB134 & 143 | 381 | 243 U | NC | 879 | 143 U | NC | 475 | 234 U | NC |
| PCB135 & 151 | 4,790 | 1,020 | NC | 9,790 | 1,080 | NC | 6,590 | 1,860 | NC |
| PCB136 | 1,010 | 221 | NC | 2,200 | 259 | NC | 1,230 | 342 | NC |
| PCB137 | 887 | 174 | NC | 1,220 | 119 | NC | 1,240 | 236 | NC |
| PCB139 & 140 | 286 | 58.3 U | NC | 460 | 44.9 | NC | 415 | 86.5 | NC |
| PCB141 | 2,200 | 498 | NC | 4,440 | 438 | NC | 3,320 | 1,250 | NC |
| PCB142 | 41.3 U | 41.3 U | NC | 40.1 U | 24.3 U | NC | 42.1 U | 39.7 U | NC |
| PCB144 | 447 | 93 | NC | 1,060 | 102 | NC | 595 | 151 | NC |
| PCB145 | 45.6 U | 45.6 U | NC | 44.3 U | 26.9 U | NC | 46.5 U | 43.9 U | NC |
| PCB146 | 4,540 | 899 | NC | 7,830 | 783 | NC | 9,090 | 1,840 | NC |
| PCB147 & 149 | 8,140 | 1,680 | NC | 20,000 | 2,130 | NC | 9,800 | 1,970 | NC |
| PCB148 | 72.8 U | 72.8 U | NC | 123 | 42.9 U | NC | 112 | 70.1 U | NC |
| PCB150 | 52.4 U | 52.4 U | NC | 81.8 | 30.9 U | NC | 46.5 U | 50.5 U | NC |
| PCB152 | 56.8 U | 56.8 U | NC | 55.2 U | 33.4 U | NC | 57.9 U | 54.7 U | NC |
| PCB153 & 168 | 25,300 | 5,050 | NC | 39,100 | 3,910 | NC | 38,500 | 11,900 | NC |
| PCB154 | 375 | 79.3 | NC | 726 | 75.7 | NC | 674 | 175 | NC |
| PCB155 | 59.7 U | 59.7 U | NC | 58 U | 35.1 U | NC | 60.9 U | 57.5 U | NC |
| PCB156 & 157 | 1,990 | 376 | NC | 2,490 | 292 | NC | 2,570 | 857 | NC |
| PCB158 | 1,500 | 306 | NC | 2,380 | 255 | NC | 2,310 | 777 | NC |
| PCB159 | 121 U | 121 U | NC | 118 U | 71.4 U | NC | 124 U | 117 U | NC |
| PCB160 | 4.37 U | 4.37 U | NC | 4.25 U | 2.57 U | NC | 4.46 U | 4.21 U | NC |
| PCB161 | 57.8 U | 57.8 U | NC | 56.1 U | 34 U | NC | 58.9 U | 55.6 U | NC |
| PCB162 | 57.7 | 41 U | NC | 70.7 | 24.1 U | NC | 83.5 | 39.5 U | NC |
| PCB164 | 787 | 148 | NC | 1,470 | 155 | NC | 1,070 | 301 | NC |
| PCB165 | 57.3 U | 57.3 U | NC | 55.7 U | 33.7 U | NC | 69.8 | 55.1 U | NC |
| PCB167 | 860 | 159 | NC | 1,170 | 138 | NC | 1,030 | 307 | NC |
| PCB169 | 98.8 J | 38.4 U | NC | 80.9 | 24.4 | NC | 98 J | 37 U | NC |
| PCB170 | 4,780 | 768 | NC | 5,320 | 645 | NC | 5,120 | 2,990 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB07E-04 | | | EPA1-SB07E-05 | | | EPA1-SB07E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630501.76 | 7630501.76 | 7630501.76 | 7631760.293 | 7631760.293 | 7631760.293 | 7631349.5 | 7631349.5 | 7631349.5 |
| Y-coordinate | 702199.7767 | 702199.7767 | 702199.7767 | 701577.0326 | 701577.0326 | 701577.0326 | 701694.068 | 701694.068 | 701694.068 |
| RiverMile | 7.6 | 7.6 | 7.6 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 15:30 | 15:30 | 15:30 | 15:42 | 15:42 | 15:42 |
| Sample Mass (g) | 154.94 | 133.25 | 288.19 | 115.92 | 84.2 | 200.12 | 259.45 | 215.09 | 474.54 |
| PCB171 & 173 | 1,430 | 248 | NC | 1,940 | 212 | NC | 1,780 | 919 | NC |
| PCB172 | 928 | 158 | NC | 1,270 | 130 | NC | 1,190 | 489 | NC |
| PCB174 | 2,180 | 402 | NC | 4,630 | 530 | NC | 2,370 | 608 | NC |
| PCB175 | 161 | 71.4 U | NC | 313 | 42 U | NC | 239 | 80.1 | NC |
| PCB176 | 215 | 88.8 U | NC | 617 | 66.4 | NC | 285 | 85.5 U | NC |
| PCB177 | 2,140 | 391 | NC | 4,110 | 482 | NC | 2,840 | 672 | NC |
| PCB178 | 1,340 | 253 | NC | 2,200 | 229 | NC | 2,700 | 607 | NC |
| PCB179 | 1,090 | 211 | NC | 2,490 | 272 | NC | 1,270 | 379 | NC |
| PCB180 & 193 | 16,200 | 2,670 | NC | 18,100 | 2,130 | NC | 25,400 | 8,890 | NC |
| PCB181 | 65 U | 65 U | NC | 63.2 U | 38.3 U | NC | 78.7 | 62.6 U | NC |
| PCB182 | 44.2 U | 44.2 U | NC | 66.2 | 26 U | NC | 81.2 | 62.6 U | NC |
| PCB183 & 185 | 4,410 | 778 | NC | 6,200 | 661 | NC | 5,820 | 42.5 | NC |
| PCB184 | 52.9 U | 52.9 U | NC | 51.4 U | 31.1 U | NC | 54 U | 50.9 U | NC |
| PCB186 | 76.7 U | 76.7 U | NC | 74.5 U | 45.1 U | NC | 78.2 U | 73.8 U | NC |
| PCB187 | 11,300 | 2,140 | NC | 17,900 | 1,880 | NC | 22,200 | 3,920 | NC |
| PCB188 | 61.7 U | 61.7 U | NC | 59.9 U | 36.3 U | NC | 124 | 59.3 U | NC |
| PCB189 | 207 | 36 | NC | 260 | 36.4 | NC | 287 | 133 | NC |
| PCB190 | 735 | 154 | NC | 667 | 106 | NC | 669 | 354 | NC |
| PCB191 | 241 | 61.7 U | NC | 306 | 36.3 U | NC | 324 | 145 | NC |
| PCB192 | 42.7 U | 42.7 U | NC | 41.5 U | 25.1 U | NC | 43.6 U | 41.1 U | NC |
| PCB194 | 2,410 | 395 | NC | 2,210 | 245 | NC | 6,080 | 1,410 | NC |
| PCB195 | 1,060 | 171 | NC | 992 | 113 | NC | 1,820 | 584 | NC |
| PCB196 | 1,250 | 213 | NC | 1,290 | 154 | NC | 3,460 | 740 | NC |
| PCB197 & 200 | 222 | 101 U | NC | 355 | 59.3 U | NC | 391 | 97 U | NC |
| PCB198 & 199 | 2,540 | 483 | NC | 2,790 | 369 | NC | 7,460 | 1,000 | NC |
| PCB201 | 289 | 56.8 | NC | 445 | 47.1 | NC | 1,040 | 120 | NC |
| PCB202 | 781 | 143 | NC | 836 | 103 | NC | 1,630 | 246 | NC |
| PCB203 | 2,260 | 362 | NC | 1,950 | 223 | NC | 3,200 | 855 | NC |
| PCB204 | 59.2 U | 59.2 U | NC | 57.5 U | 34.8 U | NC | 60.3 U | 57 U | NC |
| PCB205 | 129 | 58.9 U | NC | 133 | 34.7 U | NC | 204 | 72.9 | NC |
| PCB206 | 1,060 | 194 | NC | 747 | 92.7 | NC | 6,770 | 344 | NC |
| PCB207 | 171 | 117 U | NC | 115 | 68.6 U | NC | 1,170 | 112 U | NC |
| PCB208 | 335 | 119 U | NC | 283 | 69.8 U | NC | 2,740 | 114 U | NC |
| PCB209 | 533 | 120 | NC | 296 | 53.4 | NC | 3,000 | 93.6 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB07E-04 | | | EPA1-SB07E-05 | | | EPA1-SB07E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630501.76 | 7630501.76 | 7630501.76 | 7631760.293 | 7631760.293 | 7631760.293 | 7631349.5 | 7631349.5 | 7631349.5 |
| Y-coordinate | 702199.7767 | 702199.7767 | 702199.7767 | 701577.0326 | 701577.0326 | 701577.0326 | 701694.068 | 701694.068 | 701694.068 |
| RiverMile | 7.6 | 7.6 | 7.6 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| Sample Date | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 | 3-Oct-11 |
| Sample Time | 16:15 | 16:15 | 16:15 | 15:30 | 15:30 | 15:30 | 15:42 | 15:42 | 15:42 |
| Sample Mass (g) | 154.94 | 133.25 | 288.19 | 115.92 | 84.2 | 200.12 | 259.45 | 215.09 | 474.54 |
| Monochlorobiphenyl homologs | 45.1 UT | 45.1 UT | NC | 43.9 UT | 25.1 T | NC | 46 UT | 43.5 UT | NC |
| Dichlorobiphenyl homologs | 1,080 T | 237 UT | NC | 615 T | 214 T | NC | 877 T | 293 T | NC |
| Trichlorobiphenyl homologs | 5,760 T | 1,290 T | NC | 6,120 T | 1,100 T | NC | 7,800 T | 1,160 T | NC |
| Tetrachlorobiphenyl homologs | 28,500 T | 5,850 T | NC | 38,500 T | 4,930 T | NC | 38,600 T | 6,490 T | NC |
| Pentachlorobiphenyl homologs | 56,700 T | 11,600 T | NC | 78,800 T | 10,300 T | NC | 64,000 T | 14,000 T | NC |
| Hexachlorobiphenyl homologs | 81,300 JT | 16,500 T | NC | 139,000 T | 14,700 T | NC | 117,000 JT | 33,200 T | NC |
| Heptachlorobiphenyl homologs | 47,500 T | 8,430 T | NC | 66,500 T | 7,480 T | NC | 72,800 T | 20,400 T | NC |
| Octachlorobiphenyl homologs | 10,900 T | 1,900 T | NC | 11,000 T | 1,300 T | NC | 25,300 T | 5,080 T | NC |
| Nonachlorobiphenyl homologs | 1,570 T | 312 T | NC | 1,150 T | 162 T | NC | 10,700 T | 457 T | NC |
| Total PCB Congeners | 233,000 JT | 43,600 JT | 145,000 JT | 342,000 JT | 38,800 JT | 214,000 JT | 339,000 JT | 78,800 JT | 221,000 JT |
| Total PCB Congeners (calc'd) | 234,000 JT | 46,300 JT | 147,000 JT | 342,000 JT | 40,300 JT | 215,000 JT | 340,000 JT | 81,200 JT | 223,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 3.55 JT | 0.115 JT | 1.96 JT | 3.13 JT | 0.819 JT | 2.16 JT | 3.64 JT | 0.152 JT | 2.06 JT |
| LWG RA Total PCB Congener TEQ 2005 | 6.84 JT | 3.97 JT | 5.51 JT | 6.33 JT | 2.75 JT | 4.82 JT | 6.99 JT | 3.87 JT | 5.58 JT |
| LWG RA Total PCB Congener TEQ 1998 | 21 JT | 8.58 JT | 15.2 JT | 20 JT | 5.26 JT | 13.8 JT | 18.8 JT | 6.55 JT | 13.3 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.303 JT | 0.2 JT | 0.255 JT | 0.315 JT | 0.122 JT | 0.234 JT | 0.321 JT | 0.197 JT | 0.265 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB08W-01 | | | EPA1-SB08W-05 | | | EPA1-SB08W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630437.208 | 7630437.208 | 7630437.208 | 7633514.593 | 7633514.593 | 7633514.593 | 7630400.532 | 7630400.532 | 7630400.532 |
| Y-coordinate | 699436.5357 | 699436.5357 | 699436.5357 | 696771.2835 | 696771.2835 | 696771.2835 | 699535.9693 | 699535.9693 | 699535.9693 |
| RiverMile | 8 | 8 | 8 | 8.8 | 8.8 | 8.8 | 8 | 8 | 8 |
| Sample Date | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 11:33 | 11:33 | 11:33 | 10:00 | 10:00 | 10:00 | 16:50 | 16:50 | 16:50 |
| Sample Mass (g) | 381.98 | 293.4 | 675.38 | 106.82 | 88.4 | 195.22 | 205.65 | 131.12 | 336.77 |
| PCB001 | 63.9 | 22.5 U | NC | 20.8 U | 22.5 U | NC | 80 | 33.5 U | NC |
| PCB002 | 26.8 U | 27.9 U | NC | 25.8 U | 27.9 U | NC | 43.9 U | 41.5 U | NC |
| PCB003 | 19.7 | 15.6 | NC | 18.4 | 14.7 U | NC | 23.1 U | 21.9 U | NC |
| PCB004 | 1,100 | 183 | NC | 359 | 47.1 | NC | 1,150 | 256 | NC |
| PCB005 | 26.8 U | 27.9 U | NC | 25.8 U | 27.9 U | NC | 43.9 U | 41.5 U | NC |
| PCB006 | 175 | 28.3 | NC | 117 | 26.1 U | NC | 142 | 38.8 U | NC |
| PCB007 | 34 U | 35.4 U | NC | 32.8 U | 35.4 U | NC | 55.7 U | 52.7 U | NC |
| PCB008 | 530 | 90.9 | NC | 496 | 84.4 | NC | 478 | 129 | NC |
| PCB009 | 60.3 | 17.1 U | NC | 28.9 | 17.1 U | NC | 50.3 | 25.4 U | NC |
| PCB010 | 77.7 | 18.6 U | NC | 20.2 | 18.6 U | NC | 72.2 | 27.7 U | NC |
| PCB011 | 447 | 159 | NC | 234 | 149 | NC | 230 | 218 U | NC |
| PCB012 & 013 | 23.9 U | 24.9 U | NC | 23.1 U | 24.9 U | NC | 39.2 U | 37.1 U | NC |
| PCB014 | 26.3 U | 27.3 U | NC | 25.3 U | 27.3 U | NC | 42.9 U | 40.6 U | NC |
| PCB015 | 410 | 67.6 | NC | 139 | 41.1 U | NC | 221 | 61.2 U | NC |
| PCB016 | 1,000 | 158 | NC | 653 | 96.1 | NC | 557 | 143 | NC |
| PCB017 | 1,580 | 249 | NC | 1,530 | 206 | NC | 795 | 195 | NC |
| PCB018 & 030 | 4,160 | 656 | NC | 2,010 | 261 | NC | 1,550 | 377 | NC |
| PCB019 | 1,410 | 232 | NC | 494 | 66.2 | NC | 743 | 161 | NC |
| PCB020 & 028 | 13,600 | 2,210 | NC | 6,590 | 893 | NC | 2,900 | 636 | NC |
| PCB021 & 033 | 829 | 162 | NC | 1,870 | 289 | NC | 435 | 201 U | NC |
| PCB022 | 2,650 | 452 | NC | 1,570 | 221 | NC | 740 | 162 | NC |
| PCB023 | 31.7 U | 33 U | NC | 30.6 U | 33 U | NC | 51.9 U | 49.1 U | NC |
| PCB024 | 155 | 24.4 | NC | 34.4 | 20.1 U | NC | 32.1 | 29.9 U | NC |
| PCB025 | 325 | 53.3 | NC | 420 | 53.9 | NC | 197 | 44 | NC |
| PCB026 & 029 | 1,560 | 255 | NC | 1,000 | 135 | NC | 497 | 109 | NC |
| PCB027 | 608 | 92.9 | NC | 225 | 31.6 | NC | 149 | 42.4 U | NC |
| PCB031 | 5,050 | 840 | NC | 4,260 | 579 | NC | 1,790 | 401 | NC |
| PCB032 | 3,100 | 494 | NC | 918 | 122 U | NC | 515 | 124 | NC |
| PCB034 | 34.1 | 23.7 U | NC | 40.4 | 23.7 U | NC | 37.3 U | 35.3 U | NC |
| PCB035 | 23.7 U | 24.6 U | NC | 22.8 U | 24.6 U | NC | 38.7 U | 36.6 U | NC |
| PCB036 | 25.1 U | 26.1 U | NC | 24.2 U | 26.1 U | NC | 41 U | 38.8 U | NC |
| PCB037 | 728 | 122 | NC | 537 | 92.8 | NC | 296 | 71 | NC |
| PCB038 | 18.2 U | 18.9 U | NC | 17.5 U | 18.9 U | NC | 29.7 U | 28.1 U | NC |
| PCB039 | 22.8 U | 23.7 U | NC | 21.9 U | 23.7 U | NC | 37.3 U | 35.3 U | NC |
| PCB040 & 041 & 071 | 2,790 | 468 | NC | 3,670 | 496 | NC | 1,160 | 250 | NC |
| PCB042 | 2,080 | 342 | NC | 2,630 | 332 | NC | 1,100 | 229 | NC |
| PCB043 & 073 | 223 | 38.4 | NC | 244 | 33 U | NC | 137 | 49.1 U | NC |
| PCB044 & 047 & 065 | 12,300 | 1,960 | NC | 11,500 | 1,460 | NC | 7,070 | 1,460 | NC |
| PCB045 & 051 | 1,760 | 268 | NC | 1,660 | 208 | NC | 977 | 212 | NC |
| PCB046 | 299 | 75 U | NC | 356 | 75 U | NC | 147 | 112 U | NC |
| PCB048 | 1,110 | 187 | NC | 1,480 | 190 | NC | 466 | 99 | NC |
| PCB049 & 069 | 8,970 | 1,370 | NC | 8,190 | 1,010 | NC | 4,740 | 970 | NC |
| PCB050 & 053 | 963 | 145 | NC | 1,110 | 136 | NC | 451 | 100 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB08W-01 | | | EPA1-SB08W-05 | | | EPA1-SB08W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630437.208 | 7630437.208 | 7630437.208 | 7633514.593 | 7633514.593 | 7633514.593 | 7630400.532 | 7630400.532 | 7630400.532 |
| Y-coordinate | 699436.5357 | 699436.5357 | 699436.5357 | 696771.2835 | 696771.2835 | 696771.2835 | 699535.9693 | 699535.9693 | 699535.9693 |
| RiverMile | 8 | 8 | 8 | 8.8 | 8.8 | 8.8 | 8 | 8 | 8 |
| Sample Date | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 11:33 | 11:33 | 11:33 | 10:00 | 10:00 | 10:00 | 16:50 | 16:50 | 16:50 |
| Sample Mass (g) | 381.98 | 293.4 | 675.38 | 106.82 | 88.4 | 195.22 | 205.65 | 131.12 | 336.77 |
| PCB052 | 17,900 | 2,710 | NC | 12,900 | 1,640 | NC | 7,360 | 1,530 | NC |
| PCB054 | 116 | 21.3 U | NC | 85.8 | 21.3 U | NC | 86.1 | 31.7 U | NC |
| PCB055 | 21.6 U | 22.5 U | NC | 20.8 U | 22.5 U | NC | 35.4 U | 33.5 U | NC |
| PCB056 | 1,900 | 327 | NC | 2,980 | 395 | NC | 1,210 | 248 | NC |
| PCB057 | 34.4 | 18.9 U | NC | 48.5 | 18.9 U | NC | 29.7 U | 28.1 U | NC |
| PCB058 | 24.6 | 20.1 U | NC | 43.9 | 20.1 U | NC | 31.6 U | 29.9 U | NC |
| PCB059 & 062 & 075 | 800 | 225 U | NC | 795 | 225 U | NC | 418 | 335 U | NC |
| PCB060 | 2,110 | 337 | NC | 1,770 | 230 | NC | 931 | 187 | NC |
| PCB061 & 070 & 074 & 076 | 15,500 | 2,460 | NC | 16,200 | 2,020 | NC | 8,160 | 1,640 | NC |
| PCB063 | 477 | 77.1 | NC | 486 | 57.6 | NC | 271 | 54.4 | NC |
| PCB064 | 4,660 | 729 | NC | 4,560 | 579 | NC | 2,130 | 445 | NC |
| PCB066 | 10,900 | 1,700 | NC | 10,400 | 1,300 | NC | 5,170 | 1,030 | NC |
| PCB067 | 194 | 32.9 | NC | 257 | 32.3 | NC | 132 | 26.8 U | NC |
| PCB068 | 107 | 60 U | NC | 130 | 60 U | NC | 100 | 89.3 U | NC |
| PCB072 | 138 | 22.8 | NC | 159 | 19.8 | NC | 114 | 22.3 | NC |
| PCB073 | 31.7 U | 33 U | NC | 30.6 U | 33 U | NC | 51.9 U | 0 U | NC |
| PCB077 | 507 | 77.8 | NC | 539 | 67.6 | NC | 327 | 66.3 | NC |
| PCB078 | 13.3 U | 13.8 U | NC | 12.8 U | 13.8 U | NC | 21.7 U | 20.5 U | NC |
| PCB079 | 112 | 26.8 | NC | 136 | 23.4 U | NC | 93.5 | 34.8 U | NC |
| PCB080 | 21.3 U | 22.2 U | NC | 20.6 U | 22.2 U | NC | 34.9 U | 33 U | NC |
| PCB081 | 54.9 | 27 U | NC | 49.1 | 27 U | NC | 42.5 U | 40.2 U | NC |
| PCB082 | 1,230 | 200 | NC | 1,590 | 203 | NC | 761 | 149 | NC |
| PCB083 | 948 | 225 | NC | 1,220 | 159 | NC | 561 | 113 | NC |
| PCB084 | 3,210 | 547 | NC | 3,710 | 475 | NC | 2,140 | 440 | NC |
| PCB085 & 117 & 116 | 6,710 | 976 | NC | 4,260 | 487 | NC | 2,970 | 528 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 14,200 | 2,260 | NC | 11,900 | 1,450 | NC | 7,940 | 1,530 | NC |
| PCB088 & 091 | 3,170 | 517 | NC | 3,420 | 408 | NC | 2,130 | 422 | NC |
| PCB089 | 89.5 | 17.4 U | NC | 118 | 17.4 U | NC | 42.2 | 25.9 U | NC |
| PCB090 & 101 & 113 | 30,000 | 4,630 | NC | 23,100 | 2,830 | NC | 16,100 | 3,080 | NC |
| PCB092 | 6,370 | 994 | NC | 4,700 | 561 | NC | 3,330 | 640 | NC |
| PCB093 & 098 & 100 & 102 | 1,190 | 345 U | NC | 1,030 | 345 U | NC | 914 | 513 U | NC |
| PCB094 | 91.2 | 75 U | NC | 106 | 75 U | NC | 118 U | 112 U | NC |
| PCB095 | 14,300 | 2,340 | NC | 13,100 | 1,660 | NC | 7,900 | 1,600 | NC |
| PCB096 | 114 | 33.6 U | NC | 111 | 33.6 U | NC | 71.9 | 50 U | NC |
| PCB099 | 19,300 | 3,150 | NC | 12,700 | 1,490 | NC | 9,890 | 1,860 | NC |
| PCB103 | 414 | 66.2 | NC | 410 | 48.1 | NC | 372 | 72.1 | NC |
| PCB104 | 43 U | 44.7 U | NC | 41.4 U | 44.7 U | NC | 70.3 U | 66.5 U | NC |
| PCB105 | 12,800 | 1,830 | NC | 7,200 | 863 | NC | 5,640 | 1,060 | NC |
| PCB106 | 42.7 U | 44.4 U | NC | 41.1 U | 44.4 U | NC | 69.8 U | 66.1 U | NC |
| PCB107 & 124 | 815 | 120 | NC | 623 | 71.5 | NC | 464 | 89.7 | NC |
| PCB109 | 2,460 | 323 | NC | 1,440 | 164 | NC | 1,380 | 251 | NC |
| PCB110 & 115 | 23,700 | 3,760 | NC | 18,800 | 2,410 | NC | 13,100 | 2,620 | NC |
| PCB111 | 33 | 22.2 U | NC | 33.3 | 22.2 U | NC | 34.9 U | 33 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB08W-01 | | | EPA1-SB08W-05 | | | EPA1-SB08W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630437.208 | 7630437.208 | 7630437.208 | 7633514.593 | 7633514.593 | 7633514.593 | 7630400.532 | 7630400.532 | 7630400.532 |
| Y-coordinate | 699436.5357 | 699436.5357 | 699436.5357 | 696771.2835 | 696771.2835 | 696771.2835 | 699535.9693 | 699535.9693 | 699535.9693 |
| RiverMile | 8 | 8 | 8 | 8.8 | 8.8 | 8.8 | 8 | 8 | 8 |
| Sample Date | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 11:33 | 11:33 | 11:33 | 10:00 | 10:00 | 10:00 | 16:50 | 16:50 | 16:50 |
| Sample Mass (g) | 381.98 | 293.4 | 675.38 | 106.82 | 88.4 | 195.22 | 205.65 | 131.12 | 336.77 |
| PCB112 | 31.7 U | 33 U | NC | 30.6 U | 33 U | NC | 51.9 U | 49.1 U | NC |
| PCB114 | 821 | 123 | NC | 474 | 59.2 | NC | 477 | 84.9 | NC |
| PCB118 | 39,200 | 5,910 | NC | 21,900 | 2,730 | NC | 20,000 | 3,860 | NC |
| PCB120 | 134 | 75 U | NC | 122 | 75 U | NC | 118 U | 112 U | NC |
| PCB121 | 31.6 | 20.7 U | NC | 23.9 | 20.7 U | NC | 32.5 U | 30.8 U | NC |
| PCB122 | 179 | 27.3 U | NC | 151 | 27.3 U | NC | 119 | 40.6 U | NC |
| PCB123 | 533 | 96.7 | NC | 432 | 56.2 | NC | 410 | 81.2 | NC |
| PCB126 | 73.1 | 40.5 U | NC | 47.4 | 40.5 U | NC | 63.7 U | 60.3 U | NC |
| PCB127 | 66.9 | 25.8 U | NC | 23.9 U | 25.8 U | NC | 40.6 U | 38.4 U | NC |
| PCB128 & 166 | 6,620 | 870 | NC | 3,840 | 397 | NC | 2,940 | 522 | NC |
| PCB129 & 138 & 163 | 55,400 | 7,810 | NC | 38,000 | 4,030 | NC | 31,800 | 5,340 | NC |
| PCB130 | 2,250 | 323 | NC | 1,990 | 204 | NC | 1,560 | 266 | NC |
| PCB131 | 215 | 36.5 | NC | 265 | 27.3 | NC | 171 | 37.9 U | NC |
| PCB132 | 5,450 | 940 | NC | 7,210 | 809 | NC | 4,520 | 808 | NC |
| PCB133 | 930 | 144 | NC | 804 | 82.7 | NC | 713 | 116 | NC |
| PCB134 & 143 | 1,010 | 167 | NC | 1,090 | 150 U | NC | 815 | 223 U | NC |
| PCB135 & 151 | 11,200 | 1,800 | NC | 10,900 | 1,240 | NC | 8,720 | 1,510 | NC |
| PCB136 | 2,530 | 421 | NC | 2,600 | 293 | NC | 2,090 | 372 | NC |
| PCB137 | 2,830 | 398 | NC | 1,590 | 174 | NC | 1,550 | 268 | NC |
| PCB139 & 140 | 890 | 140 | NC | 627 | 65.6 | NC | 482 | 79 | NC |
| PCB141 | 6,470 | 844 | NC | 5,460 | 560 | NC | 4,120 | 717 | NC |
| PCB142 | 24.5 U | 25.5 U | NC | 23.6 U | 25.5 U | NC | 40.1 U | 37.9 U | NC |
| PCB144 | 1,140 | 187 | NC | 1,350 | 148 | NC | 942 | 154 | NC |
| PCB145 | 27.1 U | 28.2 U | NC | 26.1 U | 28.2 U | NC | 44.3 U | 42 U | NC |
| PCB146 | 9,350 | 1,460 | NC | 7,880 | 810 | NC | 7,210 | 1,200 | NC |
| PCB147 & 149 | 17,900 | 3,100 | NC | 24,000 | 2,700 | NC | 15,900 | 2,850 | NC |
| PCB148 | 109 | 45 U | NC | 129 | 45 U | NC | 116 | 67 U | NC |
| PCB150 | 67.9 | 32.4 U | NC | 84.1 | 32.4 U | NC | 72 | 48.2 U | NC |
| PCB152 | 38.6 | 35.1 U | NC | 32.5 U | 35.1 U | NC | 55.2 U | 52.2 U | NC |
| PCB153 & 168 | 51,000 | 7,730 | NC | 40,000 | 4,200 | NC | 36,300 | 5,930 | NC |
| PCB154 | 866 | 134 | NC | 772 | 80.9 | NC | 716 | 114 | NC |
| PCB155 | 35.5 U | 36.9 U | NC | 34.2 U | 36.9 U | NC | 58 U | 54.9 U | NC |
| PCB156 & 157 | 5,510 | 816 | NC | 3,060 | 355 | NC | 3,560 | 612 | NC |
| PCB158 | 4,730 | 643 | NC | 3,010 | 316 | NC | 2,350 | 410 | NC |
| PCB159 | 72.1 U | 75 U | NC | 69.4 U | 75 U | NC | 118 U | 112 U | NC |
| PCB160 | 2.6 U | 2.7 U | NC | 2.5 U | 2.7 U | NC | 4.25 U | 4.02 U | NC |
| PCB161 | 34.3 U | 35.7 U | NC | 33.1 U | 35.7 U | NC | 56.1 U | 53.1 U | NC |
| PCB162 | 130 | 26.3 | NC | 93 | 25.4 U | NC | 91.2 | 37.7 U | NC |
| PCB164 | 2,040 | 280 | NC | 1,700 | 166 | NC | 1,490 | 244 | NC |
| PCB165 | 35.3 | 35.4 U | NC | 32.8 U | 35.4 U | NC | 55.7 U | 52.7 U | NC |
| PCB167 | 2,050 | 290 | NC | 1,310 | 148 | NC | 1,470 | 245 | NC |
| PCB169 | 97.1 J | 23.8 U | NC | 86.4 J | 23.8 U | NC | 43.4 J | 35.4 U | NC |
| PCB170 | 7,230 | 896 | NC | 4,430 | 571 | NC | 5,240 | 951 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB08W-01 | | | EPA1-SB08W-05 | | | EPA1-SB08W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630437.208 | 7630437.208 | 7630437.208 | 7633514.593 | 7633514.593 | 7633514.593 | 7630400.532 | 7630400.532 | 7630400.532 |
| Y-coordinate | 699436.5357 | 699436.5357 | 699436.5357 | 696771.2835 | 696771.2835 | 696771.2835 | 699535.9693 | 699535.9693 | 699535.9693 |
| RiverMile | 8 | 8 | 8 | 8.8 | 8.8 | 8.8 | 8 | 8 | 8 |
| Sample Date | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 11:33 | 11:33 | 11:33 | 10:00 | 10:00 | 10:00 | 16:50 | 16:50 | 16:50 |
| Sample Mass (g) | 381.98 | 293.4 | 675.38 | 106.82 | 88.4 | 195.22 | 205.65 | 131.12 | 336.77 |
| PCB171 & 173 | 2,360 | 334 | NC | 1,990 | 214 | NC | 1,580 | 281 | NC |
| PCB172 | 1,460 | 200 | NC | 1,190 | 126 | NC | 1,140 | 184 | NC |
| PCB174 | 3,590 | 508 | NC | 4,350 | 479 | NC | 3,830 | 706 | NC |
| PCB175 | 285 | 44.1 U | NC | 299 | 44.1 U | NC | 278 | 65.6 U | NC |
| PCB176 | 432 | 70.4 | NC | 610 | 68.2 | NC | 440 | 84.3 | NC |
| PCB177 | 3,480 | 488 | NC | 3,990 | 430 | NC | 3,320 | 590 | NC |
| PCB178 | 2,130 | 311 | NC | 1,930 | 208 | NC | 1,860 | 306 | NC |
| PCB179 | 1,920 | 333 | NC | 2,230 | 255 | NC | 1,860 | 341 | NC |
| PCB180 & 193 | 21,700 | 2,860 | NC | 14,800 | 1,830 | NC | 17,400 | 3,010 | NC |
| PCB181 | 127 | 40.2 U | NC | 60.9 | 40.2 U | NC | 71.1 | 59.8 U | NC |
| PCB182 | 63.7 | 27.3 U | NC | 50.2 | 27.3 U | NC | 45.8 | 40.6 U | NC |
| PCB183 & 185 | 6,390 | 922 | NC | 5,680 | 611 | NC | 5,060 | 881 | NC |
| PCB184 | 31.4 U | 32.7 U | NC | 30.3 U | 32.7 U | NC | 51.4 U | 48.7 U | NC |
| PCB186 | 45.6 U | 47.4 U | NC | 43.9 U | 47.4 U | NC | 74.5 U | 70.5 U | NC |
| PCB187 | 15,600 | 2,230 | NC | 13,000 | 1,400 | NC | 13,500 | 2,220 | NC |
| PCB188 | 36.6 U | 38.1 U | NC | 35.3 U | 38.1 U | NC | 59.9 U | 56.7 U | NC |
| PCB189 | 322 | 47.4 | NC | 238 | 26.2 | NC | 297 | 44.9 | NC |
| PCB190 | 719 | 115 | NC | 403 | 77.4 | NC | 693 | 161 | NC |
| PCB191 | 365 | 43.2 | NC | 266 | 38.1 U | NC | 289 | 56.7 U | NC |
| PCB192 | 25.4 U | 26.4 U | NC | 24.4 U | 26.4 U | NC | 41.5 U | 39.3 U | NC |
| PCB194 | 2,860 | 388 | NC | 2,090 | 251 | NC | 2,510 | 392 | NC |
| PCB195 | 1,250 | 178 | NC | 973 | 115 | NC | 1,080 | 171 | NC |
| PCB196 | 1,560 | 229 | NC | 1,120 | 152 | NC | 1,430 | 235 | NC |
| PCB197 & 200 | 297 | 62.3 U | NC | 339 | 62.3 U | NC | 318 | 92.7 U | NC |
| PCB198 & 199 | 2,990 | 480 | NC | 2,210 | 342 | NC | 2,830 | 548 | NC |
| PCB201 | 384 | 64.5 | NC | 430 | 46.7 | NC | 429 | 70.3 | NC |
| PCB202 | 1,030 | 151 | NC | 891 | 98.4 | NC | 815 | 138 | NC |
| PCB203 | 2,520 | 342 | NC | 1,780 | 226 | NC | 1,950 | 328 | NC |
| PCB204 | 35.2 U | 36.6 U | NC | 33.9 U | 36.6 U | NC | 57.5 U | 54.4 U | NC |
| PCB205 | 159 | 36.4 U | NC | 137 | 36.4 U | NC | 130 | 54.2 U | NC |
| PCB206 | 996 | 183 | NC | 891 | 124 | NC | 827 | 152 | NC |
| PCB207 | 151 | 72 U | NC | 145 | 72 U | NC | 134 | 107 U | NC |
| PCB208 | 329 | 73.3 U | NC | 379 | 73.3 U | NC | 276 | 109 U | NC |
| PCB209 | 442 | 89.1 | NC | 481 | 82 | NC | 374 | 77.8 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB08W-01 | | | EPA1-SB08W-05 | | | EPA1-SB08W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7630437.208 | 7630437.208 | 7630437.208 | 7633514.593 | 7633514.593 | 7633514.593 | 7630400.532 | 7630400.532 | 7630400.532 |
| Y-coordinate | 699436.5357 | 699436.5357 | 699436.5357 | 696771.2835 | 696771.2835 | 696771.2835 | 699535.9693 | 699535.9693 | 699535.9693 |
| RiverMile | 8 | 8 | 8 | 8.8 | 8.8 | 8.8 | 8 | 8 | 8 |
| Sample Date | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 27-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 11:33 | 11:33 | 11:33 | 10:00 | 10:00 | 10:00 | 16:50 | 16:50 | 16:50 |
| Sample Mass (g) | 381.98 | 293.4 | 675.38 | 106.82 | 88.4 | 195.22 | 205.65 | 131.12 | 336.77 |
| Monochlorobiphenyl homologs | 83.6 T | 26.9 T | NC | 28.8 T | 27.9 UT | NC | 91.6 T | 41.5 UT | NC |
| Dichlorobiphenyl homologs | 2,800 T | 547 T | NC | 1,390 T | 332 T | NC | 2,340 T | 571 T | NC |
| Trichlorobiphenyl homologs | 36,800 T | 6,030 T | NC | 22,200 T | 3,030 T | NC | 11,200 T | 2,610 T | NC |
| Tetrachlorobiphenyl homologs | 86,000 T | 13,500 T | NC | 82,400 T | 10,400 T | NC | 42,800 T | 8,930 T | NC |
| Pentachlorobiphenyl homologs | 182,000 T | 28,400 T | NC | 133,000 T | 16,500 T | NC | 97,000 T | 19,000 T | NC |
| Hexachlorobiphenyl homologs | 191,000 JT | 28,700 T | NC | 158,000 JT | 17,000 T | NC | 130,000 JT | 22,100 T | NC |
| Heptachlorobiphenyl homologs | 68,200 T | 9,450 T | NC | 55,500 T | 6,410 T | NC | 57,000 T | 9,920 T | NC |
| Octachlorobiphenyl homologs | 13,100 T | 1,880 T | NC | 9,970 T | 1,280 T | NC | 11,500 T | 1,960 T | NC |
| Nonachlorobiphenyl homologs | 1,480 T | 256 T | NC | 1,420 T | 197 T | NC | 1,240 T | 260 T | NC |
| Total PCB Congeners | 582,000 JT | 87,900 JT | 367,000 JT | 464,000 JT | 54,000 JT | 278,000 JT | 353,000 JT | 63,500 JT | 240,000 JT |
| Total PCB Congeners (calc'd) | 582,000 JT | 88,900 JT | 368,000 JT | 464,000 JT | 55,300 JT | 279,000 JT | 353,000 JT | 65,500 JT | 241,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 12.1 JT | 0.281 JT | 6.98 JT | 8.44 JT | 0.134 JT | 4.68 JT | 2.29 JT | 0.186 JT | 1.47 JT |
| LWG RA Total PCB Congener TEQ 2005 | 12.1 JT | 2.67 JT | 8.02 JT | 8.44 JT | 2.52 JT | 5.76 JT | 5.48 JT | 3.74 JT | 4.8 JT |
| LWG RA Total PCB Congener TEQ 1998 | 40.6 JT | 7.62 JT | 26.3 JT | 38 JT | 6.92 JT | 23.9 JT | 22.9 JT | 8.58 JT | 17.3 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.755 JT | 0.162 JT | 0.497 JT | 0.493 JT | 0.137 JT | 0.332 JT | 0.364 JT | 0.198 JT | 0.299 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB09E-05 | | | EPA1-SB10E-04 | | | EPA1-SB10E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7639620.343 | 7639620.343 | 7639620.343 | 7641543.945 | 7641543.945 | 7641543.945 | 7640465.853 | 7640465.853 | 7640465.853 |
| Y-coordinate | 694926.9917 | 694926.9917 | 694926.9917 | 692043.6338 | 692043.6338 | 692043.6338 | 693421.9495 | 693421.9495 | 693421.9495 |
| RiverMile | 9.9 | 9.9 | 9.9 | 10.5 | 10.5 | 10.5 | 10.2 | 10.2 | 10.2 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 |
| Sample Time | 14:13 | 14:13 | 14:13 | 12:57 | 12:57 | 12:57 | 13:50 | 13:50 | 13:50 |
| Sample Mass (g) | 197.46 | 141.64 | 339.1 | 142.25 | 110.29 | 252.54 | 48.64 | 40.99 | 89.63 |
| PCB001 | 20.6 U | 21.4 U | NC | 21 U | 22.5 U | NC | 37.5 U | 36.1 U | NC |
| PCB002 | 25.6 U | 26.6 U | NC | 26.1 U | 27.9 U | NC | 46.5 U | 44.7 U | NC |
| PCB003 | 13.5 U | 14 U | NC | 15 | 14.7 U | NC | 24.5 U | 23.6 U | NC |
| PCB004 | 232 | 54.2 | NC | 281 | 62 | NC | 164 | 73.1 U | NC |
| PCB005 | 25.6 U | 26.6 U | NC | 26.1 U | 27.9 U | NC | 46.5 U | 44.7 U | NC |
| PCB006 | 34.4 | 24.9 U | NC | 30.7 | 26.1 U | NC | 43.5 U | 41.8 U | NC |
| PCB007 | 32.5 U | 33.7 U | NC | 33.1 U | 35.4 U | NC | 59 U | 56.7 U | NC |
| PCB008 | 108 | 57.6 | NC | 134 | 48.3 | NC | 130 | 75.5 | NC |
| PCB009 | 15.7 U | 16.3 U | NC | 16 U | 17.1 U | NC | 28.5 U | 27.4 U | NC |
| PCB010 | 17.1 U | 17.7 U | NC | 17.4 U | 18.6 U | NC | 31 U | 29.8 U | NC |
| PCB011 | 199 | 139 U | NC | 286 | 154 | NC | 244 U | 235 U | NC |
| PCB012 & 013 | 22.8 U | 23.7 U | NC | 23.3 U | 24.9 U | NC | 41.5 U | 39.9 U | NC |
| PCB014 | 25 U | 26 U | NC | 25.5 U | 27.3 U | NC | 45.5 U | 43.8 U | NC |
| PCB015 | 83.5 | 39.1 U | NC | 66.5 | 41.1 U | NC | 68.5 U | 65.9 U | NC |
| PCB016 | 124 | 53.1 | NC | 113 | 41.6 | NC | 117 | 56.3 | NC |
| PCB017 | 557 | 134 | NC | 494 | 123 | NC | 408 | 91.5 | NC |
| PCB018 & 030 | 407 | 119 U | NC | 431 | 118 U | NC | 365 | 117 | NC |
| PCB019 | 320 | 62.2 | NC | 657 | 137 | NC | 342 | 51.7 | NC |
| PCB020 & 028 | 1,230 | 290 | NC | 1,220 | 309 | NC | 1,450 | 323 | NC |
| PCB021 & 033 | 277 | 129 U | NC | 214 | 135 U | NC | 225 U | 217 U | NC |
| PCB022 | 257 | 70.6 | NC | 195 | 67.9 | NC | 293 | 85.6 | NC |
| PCB023 | 30.3 U | 31.4 U | NC | 30.8 U | 33 U | NC | 55 U | 52.9 U | NC |
| PCB024 | 18.4 U | 19.1 U | NC | 18.8 U | 20.1 U | NC | 33.5 U | 32.2 U | NC |
| PCB025 | 111 | 28 U | NC | 110 | 29.4 U | NC | 126 | 47.1 U | NC |
| PCB026 & 029 | 254 | 60 U | NC | 214 | 63 U | NC | 281 | 101 U | NC |
| PCB027 | 106 | 27.1 U | NC | 107 | 28.5 U | NC | 80.9 | 45.7 U | NC |
| PCB031 | 742 | 191 | NC | 621 | 182 | NC | 882 | 213 | NC |
| PCB032 | 209 | 53.9 | NC | 247 | 63.1 U | NC | 183 | 52.8 | NC |
| PCB034 | 21.7 U | 22.6 U | NC | 22.1 U | 23.7 U | NC | 39.5 U | 38 U | NC |
| PCB035 | 22.6 U | 23.4 U | NC | 23 U | 24.6 U | NC | 41 U | 39.4 U | NC |
| PCB036 | 23.9 U | 24.9 U | NC | 24.4 U | 26.1 U | NC | 43.5 U | 41.8 U | NC |
| PCB037 | 171 | 36 | NC | 201 | 60.3 | NC | 146 | 39.4 | NC |
| PCB038 | 17.3 U | 18 U | NC | 17.7 U | 18.9 U | NC | 31.5 U | 30.3 U | NC |
| PCB039 | 21.7 U | 22.6 U | NC | 22.1 U | 23.7 U | NC | 39.5 U | 38 U | NC |
| PCB040 & 041 & 071 | 1,150 | 261 | NC | 990 | 230 | NC | 696 | 119 | NC |
| PCB042 | 649 | 130 | NC | 460 | 105 | NC | 597 | 93.5 | NC |
| PCB043 & 073 | 60.5 | 31.4 U | NC | 87 | 33 U | NC | 85.4 | 52.9 U | NC |
| PCB044 & 047 & 065 | 6,270 | 1,250 | NC | 4,880 | 1,050 | NC | 4,380 | 608 | NC |
| PCB045 & 051 | 543 | 110 | NC | 848 | 180 | NC | 584 | 88.6 | NC |
| PCB046 | 86 | 71.4 U | NC | 98.4 | 75 U | NC | 125 U | 120 U | NC |
| PCB048 | 411 | 94.3 | NC | 305 | 74.5 | NC | 264 | 47.2 | NC |
| PCB049 & 069 | 4,420 | 849 | NC | 3,270 | 700 | NC | 2,820 | 375 | NC |
| PCB050 & 053 | 468 | 92.5 | NC | 1,380 | 285 | NC | 397 | 63.5 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB09E-05 | | | EPA1-SB10E-04 | | | EPA1-SB10E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7639620.343 | 7639620.343 | 7639620.343 | 7641543.945 | 7641543.945 | 7641543.945 | 7640465.853 | 7640465.853 | 7640465.853 |
| Y-coordinate | 694926.9917 | 694926.9917 | 694926.9917 | 692043.6338 | 692043.6338 | 692043.6338 | 693421.9495 | 693421.9495 | 693421.9495 |
| RiverMile | 9.9 | 9.9 | 9.9 | 10.5 | 10.5 | 10.5 | 10.2 | 10.2 | 10.2 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 |
| Sample Time | 14:13 | 14:13 | 14:13 | 12:57 | 12:57 | 12:57 | 13:50 | 13:50 | 13:50 |
| Sample Mass (g) | 197.46 | 141.64 | 339.1 | 142.25 | 110.29 | 252.54 | 48.64 | 40.99 | 89.63 |
| PCB052 | 11,100 | 2,380 | NC | 6,380 | 1,400 | NC | 4,430 | 600 | NC |
| PCB054 | 65.4 | 20.3 U | NC | 189 | 39.4 | NC | 76.4 | 34.1 U | NC |
| PCB055 | 20.6 U | 21.4 U | NC | 21 U | 22.5 U | NC | 37.5 U | 36.1 U | NC |
| PCB056 | 691 | 149 | NC | 352 | 91.7 | NC | 707 | 99.4 | NC |
| PCB057 | 18.5 | 18 U | NC | 19.4 | 18.9 U | NC | 31.5 U | 30.3 U | NC |
| PCB058 | 18.4 U | 19.1 U | NC | 18.8 U | 20.1 U | NC | 33.5 U | 32.2 U | NC |
| PCB059 & 062 & 075 | 232 | 214 U | NC | 210 U | 225 U | NC | 375 U | 361 U | NC |
| PCB060 | 1,010 | 188 | NC | 476 | 108 | NC | 554 | 77.2 | NC |
| PCB061 & 070 & 074 & 076 | 11,700 | 2,340 | NC | 3,950 | 868 | NC | 4,830 | 637 | NC |
| PCB063 | 332 | 59.2 | NC | 189 | 39 | NC | 168 | 28.4 U | NC |
| PCB064 | 1,790 | 366 | NC | 923 | 206 | NC | 1,180 | 170 | NC |
| PCB066 | 7,010 | 1,280 | NC | 3,490 | 755 | NC | 3,280 | 424 | NC |
| PCB067 | 64.8 | 17.1 U | NC | 76.9 | 18 U | NC | 73.9 | 28.8 U | NC |
| PCB068 | 75.3 | 57.1 U | NC | 118 | 60 U | NC | 100 U | 96.2 U | NC |
| PCB072 | 70.8 | 14.1 | NC | 85.7 | 18.3 | NC | 77.9 | 21.6 U | NC |
| PCB073 | 30.3 U | 31.4 U | NC | 30.8 U | 33 U | NC | 55 U | 52.9 U | NC |
| PCB077 | 179 | 31.8 | NC | 176 | 40.6 | NC | 204 | 44.2 U | NC |
| PCB078 | 12.7 U | 13.1 U | NC | 12.9 U | 13.8 U | NC | 23 U | 22.1 U | NC |
| PCB079 | 180 | 36.4 | NC | 51.8 | 23.4 U | NC | 48.1 | 37.5 U | NC |
| PCB080 | 20.4 U | 21.1 U | NC | 20.7 U | 22.2 U | NC | 37 U | 35.6 U | NC |
| PCB081 | 52.6 | 25.7 U | NC | 25.2 U | 27 U | NC | 45 U | 43.3 U | NC |
| PCB082 | 1,160 | 239 | NC | 302 | 66.7 | NC | 452 | 57.7 | NC |
| PCB083 | 1,200 | 235 | NC | 555 | 93.7 | NC | 388 | 63.9 U | NC |
| PCB084 | 2,720 | 577 | NC | 1,160 | 249 | NC | 1,200 | 159 | NC |
| PCB085 & 117 & 116 | 8,580 | 1,500 | NC | 1,890 | 367 | NC | 1,700 | 201 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 15,800 | 3,140 | NC | 5,150 | 1,090 | NC | 4,690 | 721 U | NC |
| PCB088 & 091 | 2,510 | 507 | NC | 1,460 | 300 | NC | 1,280 | 158 | NC |
| PCB089 | 81.9 | 20.4 | NC | 44.2 | 17.4 U | NC | 29 U | 27.9 U | NC |
| PCB090 & 101 & 113 | 29,600 | 5,770 | NC | 20,400 | 4,150 | NC | 10,700 | 1,280 | NC |
| PCB092 | 6,030 | 1,140 | NC | 3,300 | 661 | NC | 2,220 | 263 | NC |
| PCB093 & 098 & 100 & 102 | 834 | 329 U | NC | 1,120 | 345 U | NC | 619 | 553 U | NC |
| PCB094 | 68.8 U | 71.4 U | NC | 138 | 75 U | NC | 125 U | 120 U | NC |
| PCB095 | 12,400 | 2,400 | NC | 8,560 | 1,780 | NC | 5,340 | 662 | NC |
| PCB096 | 104 | 32 U | NC | 174 | 36.3 | NC | 56 U | 53.8 U | NC |
| PCB099 | 25,400 | 4,470 | NC | 7,960 | 1,640 | NC | 6,480 | 730 | NC |
| PCB103 | 314 | 53.9 | NC | 430 | 83.9 | NC | 318 | 44.2 U | NC |
| PCB104 | 41 U | 42.6 U | NC | 41.8 U | 44.7 U | NC | 74.5 U | 71.6 U | NC |
| PCB105 | 22,100 | 4,060 | NC | 3,850 | 770 | NC | 3,180 | 387 | NC |
| PCB106 | 40.7 U | 42.3 U | NC | 41.5 U | 44.4 U | NC | 74 U | 71.2 U | NC |
| PCB107 & 124 | 1,040 | 193 | NC | 255 | 53.8 | NC | 294 | 52.4 U | NC |
| PCB109 | 4,190 | 685 | NC | 1,210 | 235 | NC | 912 | 104 | NC |
| PCB110 & 115 | 23,000 | 4,850 | NC | 9,640 | 2,060 | NC | 7,830 | 968 | NC |
| PCB111 | 29.9 | 21.1 U | NC | 99.7 | 22.2 U | NC | 37 U | 35.6 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB09E-05 | | | EPA1-SB10E-04 | | | EPA1-SB10E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7639620.343 | 7639620.343 | 7639620.343 | 7641543.945 | 7641543.945 | 7641543.945 | 7640465.853 | 7640465.853 | 7640465.853 |
| Y-coordinate | 694926.9917 | 694926.9917 | 694926.9917 | 692043.6338 | 692043.6338 | 692043.6338 | 693421.9495 | 693421.9495 | 693421.9495 |
| RiverMile | 9.9 | 9.9 | 9.9 | 10.5 | 10.5 | 10.5 | 10.2 | 10.2 | 10.2 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 |
| Sample Time | 14:13 | 14:13 | 14:13 | 12:57 | 12:57 | 12:57 | 13:50 | 13:50 | 13:50 |
| Sample Mass (g) | 197.46 | 141.64 | 339.1 | 142.25 | 110.29 | 252.54 | 48.64 | 40.99 | 89.63 |
| PCB112 | 30.3 U | 31.4 U | NC | 30.8 U | 33 U | NC | 55 U | 52.9 U | NC |
| PCB114 | 1,970 | 336 | NC | 338 | 67.6 | NC | 223 | 59.1 U | NC |
| PCB118 | 74,900 | 12,700 | NC | 18,000 | 3,650 | NC | 12,200 | 1,370 | NC |
| PCB120 | 109 | 71.4 U | NC | 186 | 75 U | NC | 125 U | 120 U | NC |
| PCB121 | 28.2 | 19.7 U | NC | 57.7 | 20.7 U | NC | 34.5 U | 33.2 U | NC |
| PCB122 | 213 | 36.7 | NC | 35.2 | 27.3 U | NC | 68.5 | 43.8 U | NC |
| PCB123 | 1,060 | 190 | NC | 248 | 63.3 | NC | 261 | 55.8 U | NC |
| PCB126 | 55.9 | 38.6 U | NC | 39.3 | 40.5 U | NC | 67.5 U | 64.9 U | NC |
| PCB127 | 180 | 31.7 | NC | 49.6 | 25.8 U | NC | 43 U | 41.3 U | NC |
| PCB128 & 166 | 10,000 | 1,510 | NC | 4,070 | 713 | NC | 2,160 | 224 | NC |
| PCB129 & 138 & 163 | 81,500 | 11,700 | NC | 93,900 | 15,800 | NC | 29,600 | 3,130 | NC |
| PCB130 | 3,510 | 495 | NC | 2,900 | 477 | NC | 1,460 | 156 | NC |
| PCB131 | 298 | 51.2 | NC | 229 | 41.7 | NC | 118 | 40.9 U | NC |
| PCB132 | 5,310 | 913 | NC | 9,220 | 1,670 | NC | 3,510 | 386 | NC |
| PCB133 | 1,250 | 169 | NC | 2,820 | 454 | NC | 1,290 | 124 | NC |
| PCB134 & 143 | 1,290 | 218 | NC | 1,760 | 304 | NC | 603 | 240 U | NC |
| PCB135 & 151 | 10,900 | 1,640 | NC | 23,600 | 4,210 | NC | 8,690 | 934 | NC |
| PCB136 | 2,710 | 464 | NC | 6,690 | 1,220 | NC | 1,610 | 177 | NC |
| PCB137 | 6,880 | 906 | NC | 1,490 | 273 | NC | 1,050 | 139 U | NC |
| PCB139 & 140 | 1,330 | 195 | NC | 398 | 70.3 | NC | 344 | 57.7 U | NC |
| PCB141 | 7,980 | 1,220 | NC | 15,500 | 2,610 | NC | 4,140 | 438 | NC |
| PCB142 | 23.4 U | 24.3 U | NC | 23.8 U | 25.5 U | NC | 42.5 U | 40.9 U | NC |
| PCB144 | 1,400 | 209 | NC | 3,340 | 594 | NC | 840 | 88.7 | NC |
| PCB145 | 32 U | 26.9 U | NC | 26.4 U | 28.2 U | NC | 47 U | 45.2 U | NC |
| PCB146 | 13,400 | 1,830 | NC | 26,400 | 4,280 | NC | 11,400 | 1,110 | NC |
| PCB147 & 149 | 16,300 | 2,480 | NC | 31,000 | 5,520 | NC | 16,400 | 1,730 | NC |
| PCB148 | 90.8 | 42.9 U | NC | 214 | 45 U | NC | 197 | 72.1 U | NC |
| PCB150 | 58.4 | 30.9 U | NC | 80.1 | 32.4 U | NC | 84.5 | 51.9 U | NC |
| PCB152 | 42.7 | 33.4 U | NC | 49.2 | 35.1 U | NC | 58.5 U | 56.3 U | NC |
| PCB153 & 168 | 78,800 | 10,600 | NC | 123,000 | 20,700 | NC | 36,700 | 3,690 | NC |
| PCB154 | 823 | 111 | NC | 1,210 | 198 | NC | 994 | 98.5 | NC |
| PCB155 | 33.9 U | 35.1 U | NC | 34.5 U | 36.9 U | NC | 61.5 U | 59.1 U | NC |
| PCB156 & 157 | 13,400 | 2,030 | NC | 7,090 | 1,440 | NC | 2,270 | 257 | NC |
| PCB158 | 7,880 | 1,140 | NC | 6,320 | 1,070 | NC | 2,030 | 208 | NC |
| PCB159 | 68.8 U | 71.4 U | NC | 70.1 U | 137 | NC | 125 U | 120 U | NC |
| PCB160 | 2.48 U | 2.57 U | NC | 2.52 U | 2.7 U | NC | 4.5 U | 4.33 U | NC |
| PCB161 | 32.8 U | 34 U | NC | 33.4 U | 35.7 U | NC | 59.5 U | 57.2 U | NC |
| PCB162 | 330 | 46.8 | NC | 129 J | 40 | NC | 54.6 | 40.6 U | NC |
| PCB164 | 2,130 | 354 | NC | 3,870 | 649 | NC | 1,370 | 145 | NC |
| PCB165 | 49.5 | 33.7 U | NC | 138 | 35.4 U | NC | 59 U | 56.7 U | NC |
| PCB167 | 4,070 | 609 | NC | 3,030 | 571 | NC | 996 | 111 | NC |
| PCB169 | 160 | 22.6 U | NC | 790 J | 56.2 U | NC | 84.8 J | 38.1 U | NC |
| PCB170 | 10,600 | 1,790 | NC | 27,800 | 6,190 | NC | 5,540 | 651 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB09E-05 | | | EPA1-SB10E-04 | | | EPA1-SB10E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7639620.343 | 7639620.343 | 7639620.343 | 7641543.945 | 7641543.945 | 7641543.945 | 7640465.853 | 7640465.853 | 7640465.853 |
| Y-coordinate | 694926.9917 | 694926.9917 | 694926.9917 | 692043.6338 | 692043.6338 | 692043.6338 | 693421.9495 | 693421.9495 | 693421.9495 |
| RiverMile | 9.9 | 9.9 | 9.9 | 10.5 | 10.5 | 10.5 | 10.2 | 10.2 | 10.2 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 |
| Sample Time | 14:13 | 14:13 | 14:13 | 12:57 | 12:57 | 12:57 | 13:50 | 13:50 | 13:50 |
| Sample Mass (g) | 197.46 | 141.64 | 339.1 | 142.25 | 110.29 | 252.54 | 48.64 | 40.99 | 89.63 |
| PCB171 & 173 | 3,690 | 540 | NC | 9,270 | 1,740 | NC | 1,850 | 201 | NC |
| PCB172 | 2,130 | 300 | NC | 6,530 | 1,210 | NC | 1,700 | 174 | NC |
| PCB174 | 3,720 | 572 | NC | 17,500 | 3,270 | NC | 6,650 | 711 | NC |
| PCB175 | 393 | 60 | NC | 1,630 | 280 | NC | 405 | 70.7 U | NC |
| PCB176 | 378 | 54.4 | NC | 1,720 | 309 | NC | 725 | 88 U | NC |
| PCB177 | 4,090 | 617 | NC | 20,700 | 3,810 | NC | 5,380 | 577 | NC |
| PCB178 | 2,530 | 369 | NC | 7,960 | 1,420 | NC | 3,430 | 348 | NC |
| PCB179 | 1,610 | 247 | NC | 7,740 | 1,520 | NC | 2,240 | 250 | NC |
| PCB180 & 193 | 32,600 | 5,160 | NC | 94,500 | 21,200 | NC | 24,200 | 2,750 | NC |
| PCB181 | 199 | 38.3 U | NC | 185 | 40.2 U | NC | 67 U | 64.4 U | NC |
| PCB182 | 63.5 | 26 U | NC | 200 | 36.6 | NC | 222 | 43.8 U | NC |
| PCB183 & 185 | 9,130 | 1,310 | NC | 29,000 | 5,230 | NC | 7,670 | 790 | NC |
| PCB184 | 30 U | 31.1 U | NC | 30.6 U | 32.7 U | NC | 54.5 U | 52.4 U | NC |
| PCB186 | 43.5 U | 45.1 U | NC | 44.3 U | 47.4 U | NC | 79 U | 76 U | NC |
| PCB187 | 17,600 | 2,610 | NC | 68,100 | 11,900 | NC | 27,900 | 2,830 | NC |
| PCB188 | 39.8 | 36.3 U | NC | 113 | 38.1 U | NC | 69.1 | 61.1 U | NC |
| PCB189 | 625 | 91.1 | NC | 1,810 | 320 | NC | 301 | 34.8 U | NC |
| PCB190 | 1,140 | 244 | NC | 3,680 | 834 | NC | 669 | 106 | NC |
| PCB191 | 644 | 91.2 | NC | 2,010 | 363 | NC | 356 | 61.1 U | NC |
| PCB192 | 24.2 U | 25.1 U | NC | 24.7 U | 26.4 U | NC | 44 U | 42.3 U | NC |
| PCB194 | 4,150 | 625 | NC | 18,300 | 3,670 | NC | 5,420 | 562 | NC |
| PCB195 | 1,830 | 282 | NC | 8,140 | 1,570 | NC | 1,820 | 186 | NC |
| PCB196 | 1,940 | 340 | NC | 8,620 | 2,060 | NC | 2,770 | 330 | NC |
| PCB197 & 200 | 338 | 59.3 U | NC | 1,650 | 304 | NC | 934 | 99.8 U | NC |
| PCB198 & 199 | 2,680 | 555 | NC | 12,600 | 3,100 | NC | 7,340 | 932 | NC |
| PCB201 | 489 | 75.4 | NC | 3,020 | 522 | NC | 1,400 | 143 | NC |
| PCB202 | 957 | 142 | NC | 2,900 | 554 | NC | 2,370 | 240 | NC |
| PCB203 | 2,580 | 420 | NC | 8,880 | 1,880 | NC | 4,530 | 490 | NC |
| PCB204 | 33.6 U | 34.8 U | NC | 34.2 U | 36.6 U | NC | 60.9 U | 58.6 U | NC |
| PCB205 | 255 | 39.9 | NC | 1,010 | 188 | NC | 258 | 58.3 U | NC |
| PCB206 | 961 | 156 | NC | 3,080 | 609 | NC | 2,590 | 299 | NC |
| PCB207 | 178 | 68.6 U | NC | 622 | 121 | NC | 482 | 115 U | NC |
| PCB208 | 242 | 69.8 U | NC | 639 | 127 | NC | 848 | 118 U | NC |
| PCB209 | 251 | 53.1 | NC | 302 | 71.8 | NC | 259 | 53.1 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB09E-05 | | | EPA1-SB10E-04 | | | EPA1-SB10E-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7639620.343 | 7639620.343 | 7639620.343 | 7641543.945 | 7641543.945 | 7641543.945 | 7640465.853 | 7640465.853 | 7640465.853 |
| Y-coordinate | 694926.9917 | 694926.9917 | 694926.9917 | 692043.6338 | 692043.6338 | 692043.6338 | 693421.9495 | 693421.9495 | 693421.9495 |
| RiverMile | 9.9 | 9.9 | 9.9 | 10.5 | 10.5 | 10.5 | 10.2 | 10.2 | 10.2 |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 |
| Sample Time | 14:13 | 14:13 | 14:13 | 12:57 | 12:57 | 12:57 | 13:50 | 13:50 | 13:50 |
| Sample Mass (g) | 197.46 | 141.64 | 339.1 | 142.25 | 110.29 | 252.54 | 48.64 | 40.99 | 89.63 |
| Monochlorobiphenyl homologs | 25.6 UT | 26.6 UT | NC | 25.5 T | 27.9 UT | NC | 46.5 UT | 44.7 UT | NC |
| Dichlorobiphenyl homologs | 673 T | 230 T | NC | 815 T | 316 T | NC | 502 T | 312 T | NC |
| Trichlorobiphenyl homologs | 4,800 T | 1,110 T | NC | 4,860 T | 1,180 T | NC | 4,860 T | 1,300 T | NC |
| Tetrachlorobiphenyl homologs | 48,700 T | 9,880 T | NC | 28,900 T | 6,460 T | NC | 25,800 T | 3,860 T | NC |
| Pentachlorobiphenyl homologs | 236,000 T | 43,400 T | NC | 86,700 T | 17,800 T | NC | 60,700 T | 7,420 T | NC |
| Hexachlorobiphenyl homologs | 272,000 T | 39,000 T | NC | 369,000 JT | 63,200 T | NC | 128,000 JT | 13,500 T | NC |
| Heptachlorobiphenyl homologs | 91,200 T | 14,100 T | NC | 300,000 T | 59,700 T | NC | 89,400 T | 9,630 T | NC |
| Octachlorobiphenyl homologs | 15,200 T | 2,510 T | NC | 65,100 T | 13,800 T | NC | 26,800 T | 2,960 T | NC |
| Nonachlorobiphenyl homologs | 1,380 T | 225 T | NC | 4,340 T | 857 T | NC | 3,920 T | 416 T | NC |
| Total PCB Congeners | 670,000 JT | 109,000 JT | 436,000 JT | 861,000 JT | 162,000 JT | 556,000 JT | 339,000 JT | 36,400 JT | 201,000 JT |
| Total PCB Congeners (calc'd) | 670,000 JT | 111,000 JT | 436,000 JT | 861,000 JT | 163,000 JT | 556,000 JT | 340,000 JT | 39,500 JT | 203,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 14 T | 0.604 JT | 8.39 JT | 28.7 JT | 0.211 JT | 16.2 JT | 3.15 JT | 0.0638 JT | 1.74 JT |
| LWG RA Total PCB Congener TEQ 2005 | 14 T | 2.88 JT | 9.33 JT | 28.7 JT | 3.08 JT | 17.5 JT | 6.53 JT | 3.89 JT | 5.32 JT |
| LWG RA Total PCB Congener TEQ 1998 | 24.5 T | 5.59 JT | 16.6 JT | 16.1 JT | 5.71 JT | 11.6 JT | 16.6 JT | 6.62 JT | 12 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.922 T | 0.207 JT | 0.623 JT | 0.432 JT | 0.148 JT | 0.308 JT | 0.302 JT | 0.187 JT | 0.249 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-07 | | | EPA1-SB11E-08 | | | EPA1-SB11E-09 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643279.643 | 7643279.643 | 7643279.643 | 7644062.93 | 7644062.93 | 7644062.93 | 7643687.406 | 7643687.406 | 7643687.406 |
| Y-coordinate | 690016.3478 | 690016.3478 | 690016.3478 | 689439.2818 | 689439.2818 | 689439.2818 | 689713.2152 | 689713.2152 | 689713.2152 |
| RiverMile | 11 | 11 | 11 | 11.2 | 11.2 | 11.2 | 11.1 | 11.1 | 11.1 |
| Sample Date | 19-Sep-11 | 19-Sep-11 | 19-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 7:05 | 7:05 | 7:05 | 12:00 | 12:00 | 12:00 | 12:36 | 12:36 | 12:36 |
| Sample Mass (g) | 574.32 | 470.73 | 1045.05 | 220.34 | 160.94 | 381.28 | 439.93 | 341.94 | 781.87 |
| PCB001 | 35.7 U | 36.4 U | NC | 143 U | 75 U | NC | 35.7 U | 36.4 U | NC |
| PCB002 | 44.3 U | 45.1 U | NC | 177 U | 93 U | NC | 44.3 U | 45.1 U | NC |
| PCB003 | 23.3 U | 23.8 U | NC | 93.3 U | 49 U | NC | 23.3 U | 23.8 U | NC |
| PCB004 | 563 | 73.8 | NC | 394 | 152 U | NC | 210 | 73.8 U | NC |
| PCB005 | 44.3 U | 45.1 U | NC | 177 U | 93 U | NC | 44.3 U | 45.1 U | NC |
| PCB006 | 57 | 42.2 U | NC | 166 U | 87 U | NC | 41.4 U | 42.2 U | NC |
| PCB007 | 56.2 U | 57.3 U | NC | 225 U | 118 U | NC | 56.2 U | 57.3 U | NC |
| PCB008 | 232 | 153 | NC | 187 U | 98 U | NC | 136 | 79.2 | NC |
| PCB009 | 27.1 U | 27.7 U | NC | 109 U | 57 U | NC | 27.1 U | 27.7 U | NC |
| PCB010 | 29.5 U | 30.1 U | NC | 118 U | 62 U | NC | 29.5 U | 30.1 U | NC |
| PCB011 | 610 | 324 | NC | 930 U | 488 U | NC | 264 | 237 U | NC |
| PCB012 & 013 | 39.5 U | 40.3 U | NC | 158 U | 83 U | NC | 39.5 U | 40.3 U | NC |
| PCB014 | 43.3 U | 44.2 U | NC | 173 U | 91 U | NC | 43.3 U | 44.2 U | NC |
| PCB015 | 179 | 127 | NC | 261 U | 137 U | NC | 112 | 80.4 | NC |
| PCB016 | 243 | 121 | NC | 210 U | 110 U | NC | 111 | 65.9 | NC |
| PCB017 | 1,910 | 576 | NC | 1,070 | 247 | NC | 276 | 103 | NC |
| PCB018 & 030 | 925 | 343 | NC | 413 | 109 | NC | 312 | 135 U | NC |
| PCB019 | 3,090 | 840 | NC | 1,620 | 336 | NC | 331 | 93.4 | NC |
| PCB020 & 028 | 2,650 | 1,010 | NC | 1,520 | 372 | NC | 1,060 | 439 | NC |
| PCB021 & 033 | 740 | 333 | NC | 859 U | 451 U | NC | 258 | 219 U | NC |
| PCB022 | 522 | 232 | NC | 190 U | 100 U | NC | 211 | 116 | NC |
| PCB023 | 52.4 U | 53.4 U | NC | 210 U | 110 U | NC | 52.4 U | 53.4 U | NC |
| PCB024 | 31.9 U | 32.5 U | NC | 128 U | 67 U | NC | 31.9 U | 32.5 U | NC |
| PCB025 | 340 | 104 | NC | 187 U | 98 U | NC | 61.6 | 47.6 U | NC |
| PCB026 & 029 | 489 | 166 | NC | 400 U | 210 U | NC | 154 | 102 U | NC |
| PCB027 | 456 | 124 | NC | 291 | 95 U | NC | 55.9 | 46.1 U | NC |
| PCB031 | 1,460 | 587 | NC | 465 | 194 U | NC | 548 | 257 | NC |
| PCB032 | 960 | 293 | NC | 416 | 99.8 U | NC | 148 | 65.1 | NC |
| PCB034 | 37.6 U | 38.3 U | NC | 150 U | 79 U | NC | 37.6 U | 38.3 U | NC |
| PCB035 | 39 U | 36.4 U | NC | 156 U | 82 U | NC | 39 U | 39.8 U | NC |
| PCB036 | 41.4 U | 42.2 U | NC | 166 U | 87 U | NC | 41.4 U | 42.2 U | NC |
| PCB037 | 347 | 163 | NC | 209 | 67 U | NC | 173 | 96.7 | NC |
| PCB038 | 30 U | 23.8 U | NC | 120 U | 63 U | NC | 30 U | 30.6 U | NC |
| PCB039 | 37.6 U | 30.6 U | NC | 150 U | 79 U | NC | 37.6 U | 38.3 U | NC |
| PCB040 & 041 & 071 | 2,570 | 796 | NC | 1,950 | 420 | NC | 422 | 149 | NC |
| PCB042 | 988 | 298 | NC | 564 | 124 | NC | 232 | 78.1 | NC |
| PCB043 & 073 | 324 | 110 | NC | 623 | 136 U | NC | 52.4 U | 53.4 U | NC |
| PCB044 & 047 & 065 | 21,400 | 6,370 | NC | 19,900 | 3,980 | NC | 2,610 | 700 | NC |
| PCB045 & 051 | 4,500 | 1,330 | NC | 3,070 | 650 | NC | 274 | 84.6 | NC |
| PCB046 | 321 | 45.1 U | NC | 476 U | 250 U | NC | 119 U | 121 U | NC |
| PCB048 | 553 | 183 | NC | 432 | 97.3 | NC | 156 | 55.5 | NC |
| PCB049 & 069 | 10,900 | 3,270 | NC | 8,800 | 1,760 | NC | 1,620 | 424 | NC |
| PCB050 & 053 | 5,060 | 1,460 | NC | 4,400 | 927 | NC | 257 | 73.2 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-07 | | | EPA1-SB11E-08 | | | EPA1-SB11E-09 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643279.643 | 7643279.643 | 7643279.643 | 7644062.93 | 7644062.93 | 7644062.93 | 7643687.406 | 7643687.406 | 7643687.406 |
| Y-coordinate | 690016.3478 | 690016.3478 | 690016.3478 | 689439.2818 | 689439.2818 | 689439.2818 | 689713.2152 | 689713.2152 | 689713.2152 |
| RiverMile | 11 | 11 | 11 | 11.2 | 11.2 | 11.2 | 11.1 | 11.1 | 11.1 |
| Sample Date | 19-Sep-11 | 19-Sep-11 | 19-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 7:05 | 7:05 | 7:05 | 12:00 | 12:00 | 12:00 | 12:36 | 12:36 | 12:36 |
| Sample Mass (g) | 574.32 | 470.73 | 1045.05 | 220.34 | 160.94 | 381.28 | 439.93 | 341.94 | 781.87 |
| PCB052 | 15,900 | 4,900 | NC | 17,100 | 3,460 | NC | 2,990 | 789 | NC |
| PCB054 | 1,050 | 293 | NC | 665 | 136 | NC | 58.9 | 34.5 U | NC |
| PCB055 | 35.7 U | 36.4 U | NC | 143 U | 75 U | NC | 35.7 U | 36.4 U | NC |
| PCB056 | 703 | 233 | NC | 321 | 93 U | NC | 216 | 74.5 | NC |
| PCB057 | 34.3 | 30.6 U | NC | 120 U | 63 U | NC | 30 U | 30.6 U | NC |
| PCB058 | 42.4 | 32.5 U | NC | 128 U | 67 U | NC | 31.9 U | 32.5 U | NC |
| PCB059 & 062 & 075 | 710 | 364 U | NC | 1,430 U | 750 U | NC | 357 U | 364 U | NC |
| PCB060 | 777 | 249 | NC | 472 | 103 | NC | 436 | 121 | NC |
| PCB061 & 070 & 074 & 076 | 6,650 | 2,060 | NC | 6,740 | 1,370 | NC | 3,290 | 850 | NC |
| PCB063 | 276 | 81.1 | NC | 401 | 78.9 | NC | 138 | 34.5 | NC |
| PCB064 | 1,620 | 499 | NC | 781 | 250 U | NC | 565 | 172 | NC |
| PCB066 | 4,600 | 1,440 | NC | 5,800 | 1,180 | NC | 2,590 | 657 | NC |
| PCB067 | 199 | 54.9 | NC | 217 | 60 U | NC | 34 | 29.1 U | NC |
| PCB068 | 186 | 97.1 U | NC | 634 | 200 U | NC | 95.2 U | 97.1 U | NC |
| PCB072 | 163 | 49.4 | NC | 250 | 48.7 | NC | 46.1 | 21.8 U | NC |
| PCB073 | 52.4 U | 53.4 U | NC | 210 U | 110 U | NC | 52.4 U | 53.4 U | NC |
| PCB077 | 216 | 67.2 | NC | 246 | 92 U | NC | 117 | 44.7 U | NC |
| PCB078 | 21.9 U | 22.3 U | NC | 87.6 U | 46 U | NC | 21.9 U | 22.3 U | NC |
| PCB079 | 74.8 | 37.9 U | NC | 156 | 78 U | NC | 37.1 U | 37.9 U | NC |
| PCB080 | 35.2 U | 35.9 U | NC | 141 U | 74 U | NC | 35.2 U | 35.9 U | NC |
| PCB081 | 42.9 U | 43.7 U | NC | 171 U | 90 U | NC | 42.9 U | 43.7 U | NC |
| PCB082 | 566 | 165 | NC | 813 | 127 | NC | 153 | 41.3 U | NC |
| PCB083 | 1,040 | 221 | NC | 2,020 | 422 | NC | 192 | 74.5 | NC |
| PCB084 | 2,200 | 654 | NC | 3,770 | 776 | NC | 402 | 141 U | NC |
| PCB085 & 117 & 116 | 3,620 | 977 | NC | 5,400 | 1,100 | NC | 2,250 | 547 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 12,300 | 3,420 | NC | 23,700 | 4,710 | NC | 2,960 | 728 U | NC |
| PCB088 & 091 | 3,960 | 1,130 | NC | 6,720 | 1,360 | NC | 457 | 118 | NC |
| PCB089 | 65.8 | 28.2 U | NC | 124 | 58 U | NC | 27.6 U | 28.2 U | NC |
| PCB090 & 101 & 113 | 56,600 | 15,400 | NC | 141,000 | 27,500 | NC | 7,400 | 1,790 | NC |
| PCB092 | 9,470 | 2,600 | NC | 18,100 | 3,650 | NC | 1,750 | 412 | NC |
| PCB093 & 098 & 100 & 102 | 4,870 | 1,330 | NC | 5,010 | 1,150 U | NC | 548 U | 558 U | NC |
| PCB094 | 437 | 125 | NC | 779 | 250 U | NC | 119 U | 121 U | NC |
| PCB095 | 25,100 | 7,210 | NC | 56,100 | 11,300 | NC | 2,990 | 747 | NC |
| PCB096 | 714 | 187 | NC | 762 | 154 | NC | 53.3 U | 54.4 U | NC |
| PCB099 | 19,100 | 4,820 | NC | 32,500 | 6,320 | NC | 7,510 | 1,710 | NC |
| PCB103 | 1,600 | 434 | NC | 2,430 | 466 | NC | 106 | 44.7 U | NC |
| PCB104 | 129 | 72.3 U | NC | 284 U | 149 U | NC | 71 U | 72.3 U | NC |
| PCB105 | 6,540 | 2,060 | NC | 9,750 | 2,050 | NC | 5,100 | 1,210 | NC |
| PCB106 | 70.5 U | 71.8 U | NC | 282 U | 148 U | NC | 70.5 U | 71.8 U | NC |
| PCB107 & 124 | 444 | 124 | NC | 933 | 190 | NC | 200 | 52.9 U | NC |
| PCB109 | 1,730 | 473 | NC | 3,980 | 764 | NC | 971 | 227 | NC |
| PCB110 & 115 | 24,100 | 6,700 | NC | 50,200 | 10,300 | NC | 5,060 | 1,250 | NC |
| PCB111 | 89.8 | 35.9 U | NC | 297 | 74 U | NC | 35.2 U | 35.9 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-07 | | | EPA1-SB11E-08 | | | EPA1-SB11E-09 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643279.643 | 7643279.643 | 7643279.643 | 7644062.93 | 7644062.93 | 7644062.93 | 7643687.406 | 7643687.406 | 7643687.406 |
| Y-coordinate | 690016.3478 | 690016.3478 | 690016.3478 | 689439.2818 | 689439.2818 | 689439.2818 | 689713.2152 | 689713.2152 | 689713.2152 |
| RiverMile | 11 | 11 | 11 | 11.2 | 11.2 | 11.2 | 11.1 | 11.1 | 11.1 |
| Sample Date | 19-Sep-11 | 19-Sep-11 | 19-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 7:05 | 7:05 | 7:05 | 12:00 | 12:00 | 12:00 | 12:36 | 12:36 | 12:36 |
| Sample Mass (g) | 574.32 | 470.73 | 1045.05 | 220.34 | 160.94 | 381.28 | 439.93 | 341.94 | 781.87 |
| PCB112 | 52.4 U | 53.4 U | NC | 210 U | 110 U | NC | 52.4 U | 53.4 U | NC |
| PCB114 | 569 | 158 | NC | 1,000 | 189 | NC | 450 | 93.7 | NC |
| PCB118 | 36,700 | 10,400 | NC | 78,900 | 16,700 | NC | 18,600 | 4,270 | NC |
| PCB120 | 298 | 121 U | NC | 697 | 250 U | NC | 119 U | 121 U | NC |
| PCB121 | 192 | 52 | NC | 233 | 69 U | NC | 32.9 U | 33.5 U | NC |
| PCB122 | 94.2 | 44.2 U | NC | 173 U | 91 U | NC | 43.3 U | 71.8 U | NC |
| PCB123 | 391 | 132 | NC | 744 | 146 | NC | 315 | 79.1 | NC |
| PCB126 | 86.7 J | 65.5 U | NC | 257 U | 135 U | NC | 64.3 U | 65.5 U | NC |
| PCB127 | 83.4 | 41.7 U | NC | 164 U | 86 U | NC | 41 U | 41.7 U | NC |
| PCB128 & 166 | 14,600 | 4,050 | NC | 25,300 | 5,250 | NC | 3,490 | 824 | NC |
| PCB129 & 138 & 163 | 133,000 J | 79,600 | NC | 740,000 | 146,000 | NC | 39,800 | 8,810 | NC |
| PCB130 | 5,720 | 1,540 | NC | 18,600 | 3,760 | NC | 812 | 181 | NC |
| PCB131 | 515 | 148 | NC | 1,750 | 362 | NC | 40.5 U | 41.3 U | NC |
| PCB132 | 20,400 | 5,830 | NC | 76,100 | 15,800 | NC | 1,170 | 274 | NC |
| PCB133 | 4,660 | 1,200 | NC | 12,100 | 2,410 | NC | 752 | 164 | NC |
| PCB134 & 143 | 4,480 | 1,180 | NC | 14,500 | 3,070 | NC | 266 | 243 U | NC |
| PCB135 & 151 | 90,900 | 21,600 | NC | 209,000 | 41,900 | NC | 6,290 | 1,440 | NC |
| PCB136 | 20,200 | 4,900 | NC | 52,300 | 10,900 | NC | 854 | 200 | NC |
| PCB137 | 2,740 | 553 | NC | 5,410 | 1,110 | NC | 1,400 | 263 | NC |
| PCB139 & 140 | 1,190 | 298 | NC | 1,620 | 326 | NC | 463 | 106 | NC |
| PCB141 | 57,800 | 16,500 | NC | 134,000 | 26,300 | NC | 3,830 | 871 | NC |
| PCB142 | 40.5 U | 41.3 U | NC | 162 U | 85 U | NC | 40.5 U | 41.3 U | NC |
| PCB144 | 9,980 | 2,380 | NC | 29,500 | 6,080 | NC | 425 | 93.3 | NC |
| PCB145 | 44.8 U | 45.6 U | NC | 179 U | 94 U | NC | 44.8 U | 45.6 U | NC |
| PCB146 | 52,000 | 13,300 | NC | 151,000 | 29,700 | NC | 7,460 | 1,660 | NC |
| PCB147 & 149 | 69,500 | 18,400 | NC | 287,000 | 56,700 | NC | 4,910 | 1,130 | NC |
| PCB148 | 380 | 90.3 | NC | 550 | 150 U | NC | 71.4 U | 72.8 U | NC |
| PCB150 | 268 | 60.7 | NC | 479 | 108 U | NC | 51.4 U | 52.4 U | NC |
| PCB152 | 299 | 71.7 | NC | 348 | 117 U | NC | 55.7 U | 56.8 U | NC |
| PCB153 & 168 | 184,000 J | 105,000 | NC | 948,000 | 188,000 | NC | 48,500 | 11,100 | NC |
| PCB154 | 3,180 | 706 | NC | 3,900 | 762 | NC | 553 | 123 | NC |
| PCB155 | 93.9 | 59.7 U | NC | 234 U | 123 U | NC | 58.6 U | 59.7 U | NC |
| PCB156 & 157 | 22,700 | 6,430 | NC | 65,800 | 12,700 | NC | 4,210 | 965 | NC |
| PCB158 | 25,700 | 6,920 | NC | 52,200 | 10,300 | NC | 3,310 | 735 | NC |
| PCB159 | 521 | 121 U | NC | 476 U | 250 U | NC | 119 U | 121 U | NC |
| PCB160 | 4.29 U | 4.37 U | NC | 17.1 U | 9 U | NC | 4.29 U | 4.37 U | NC |
| PCB161 | 56.7 U | 57.8 U | NC | 227 U | 119 U | NC | 56.7 U | 57.8 U | NC |
| PCB162 | 375 | 189 | NC | 661 | 146 | NC | 92.6 | 41 U | NC |
| PCB164 | 11,400 | 3,280 | NC | 34,100 | 6,980 | NC | 1,090 | 266 | NC |
| PCB165 | 274 | 69.2 | NC | 630 | 129 | NC | 56.2 U | 57.3 U | NC |
| PCB167 | 7,520 | 1,990 | NC | 24,800 | 4,700 | NC | 1,430 | 308 | NC |
| PCB169 | 990 J | 322 J | NC | 318 J | 79.2 U | NC | 109 J | 38.4 U | NC |
| PCB170 | 125,000 | 35,600 | NC | 372,000 | 64,500 | NC | 11,300 | 2,510 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-07 | | | EPA1-SB11E-08 | | | EPA1-SB11E-09 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643279.643 | 7643279.643 | 7643279.643 | 7644062.93 | 7644062.93 | 7644062.93 | 7643687.406 | 7643687.406 | 7643687.406 |
| Y-coordinate | 690016.3478 | 690016.3478 | 690016.3478 | 689439.2818 | 689439.2818 | 689439.2818 | 689713.2152 | 689713.2152 | 689713.2152 |
| RiverMile | 11 | 11 | 11 | 11.2 | 11.2 | 11.2 | 11.1 | 11.1 | 11.1 |
| Sample Date | 19-Sep-11 | 19-Sep-11 | 19-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 7:05 | 7:05 | 7:05 | 12:00 | 12:00 | 12:00 | 12:36 | 12:36 | 12:36 |
| Sample Mass (g) | 574.32 | 470.73 | 1045.05 | 220.34 | 160.94 | 381.28 | 439.93 | 341.94 | 781.87 |
| PCB171 & 173 | 40,500 | 10,800 | NC | 97,900 | 18,400 | NC | 3,170 | 713 | NC |
| PCB172 | 24,000 | 6,380 | NC | 70,500 | 12,600 | NC | 2,140 | 465 | NC |
| PCB174 | 44,900 | 11,400 | NC | 224,000 | 43,100 | NC | 1,910 | 432 | NC |
| PCB175 | 4,950 | 1,190 | NC | 17,200 | 3,230 | NC | 270 | 71.4 U | NC |
| PCB176 | 4,630 | 1,180 | NC | 21,700 | 4,370 | NC | 157 | 88.8 U | NC |
| PCB177 | 40,100 | 10,900 | NC | 203,000 | 38,600 | NC | 2,600 | 573 | NC |
| PCB178 | 29,800 | 7,440 | NC | 81,900 | 15,500 | NC | 2,510 | 546 | NC |
| PCB179 | 29,700 | 7,550 | NC | 93,200 | 18,300 | NC | 1,120 | 257 | NC |
| PCB180 & 193 | 196,000 J | 105,000 | NC | 1,150,000 | 217,000 | NC | 36,100 | 8,220 | NC |
| PCB181 | 505 | 133 | NC | 1,480 | 264 | NC | 91.1 | 65 U | NC |
| PCB182 | 325 | 74.1 | NC | 173 U | 91 U | NC | 43.3 U | 44.2 U | NC |
| PCB183 & 185 | 108,000 | 29,500 | NC | 312,000 | 57,600 | NC | 8,960 | 1,950 | NC |
| PCB184 | 55.5 | 52.9 U | NC | 208 U | 109 U | NC | 51.9 U | 52.9 U | NC |
| PCB186 | 75.2 U | 76.7 U | NC | 301 U | 158 U | NC | 75.2 U | 76.7 U | NC |
| PCB187 | 102,000 J | 43,100 | NC | 602,000 | 122,000 | NC | 19,500 | 4,270 | NC |
| PCB188 | 179 | 61.7 U | NC | 639 | 127 U | NC | 60.5 U | 61.7 U | NC |
| PCB189 | 6,890 | 1,720 | NC | 17,600 | 3,210 | NC | 612 | 131 | NC |
| PCB190 | 19,100 | 7,360 | NC | 60,200 | 12,700 | NC | 2,010 | 568 | NC |
| PCB191 | 7,210 | 1,820 | NC | 19,600 | 3,470 | NC | 599 | 131 | NC |
| PCB192 | 41.9 U | 42.7 U | NC | 168 U | 88 U | NC | 41.9 U | 42.7 U | NC |
| PCB194 | 76,800 | 22,500 | NC | 168,000 | 28,900 | NC | 6,450 | 1,410 | NC |
| PCB195 | 32,000 | 9,180 | NC | 76,700 | 13,400 | NC | 2,800 | 611 | NC |
| PCB196 | 40,800 | 11,200 | NC | 87,600 | 17,000 | NC | 3,240 | 685 | NC |
| PCB197 & 200 | 5,430 | 1,450 | NC | 20,300 | 3,700 | NC | 394 | 101 U | NC |
| PCB198 & 199 | 56,900 | 16,800 | NC | 190,000 | 34,000 | NC | 5,520 | 1,210 | NC |
| PCB201 | 7,510 | 1,940 | NC | 26,700 | 4,970 | NC | 537 | 111 | NC |
| PCB202 | 12,500 | 3,370 | NC | 27,400 | 5,000 | NC | 1,370 | 297 | NC |
| PCB203 | 49,600 | 13,300 | NC | 87,000 | 15,700 | NC | 4,860 | 1,050 | NC |
| PCB204 | 58 U | 59.2 U | NC | 232 U | 122 U | NC | 58 U | 59.2 U | NC |
| PCB205 | 4,980 | 1,300 | NC | 9,290 | 1,610 | NC | 399 | 82.2 | NC |
| PCB206 | 14,500 | 4,450 | NC | 26,600 | 4,820 | NC | 1,830 | 390 | NC |
| PCB207 | 2,170 | 629 | NC | 4,830 | 918 | NC | 283 | 117 U | NC |
| PCB208 | 2,060 | 596 | NC | 4,600 | 888 | NC | 368 | 119 U | NC |
| PCB209 | 512 | 174 | NC | 519 | 116 | NC | 422 | 102 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-07 | | | EPA1-SB11E-08 | | | EPA1-SB11E-09 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643279.643 | 7643279.643 | 7643279.643 | 7644062.93 | 7644062.93 | 7644062.93 | 7643687.406 | 7643687.406 | 7643687.406 |
| Y-coordinate | 690016.3478 | 690016.3478 | 690016.3478 | 689439.2818 | 689439.2818 | 689439.2818 | 689713.2152 | 689713.2152 | 689713.2152 |
| RiverMile | 11 | 11 | 11 | 11.2 | 11.2 | 11.2 | 11.1 | 11.1 | 11.1 |
| Sample Date | 19-Sep-11 | 19-Sep-11 | 19-Sep-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 |
| Sample Time | 7:05 | 7:05 | 7:05 | 12:00 | 12:00 | 12:00 | 12:36 | 12:36 | 12:36 |
| Sample Mass (g) | 574.32 | 470.73 | 1045.05 | 220.34 | 160.94 | 381.28 | 439.93 | 341.94 | 781.87 |
| Monochlorobiphenyl homologs | 44.3 UT | 45.1 UT | NC | 177 UT | 93 UT | NC | 44.3 UT | 45.1 UT | NC |
| Dichlorobiphenyl homologs | 1,670 T | 728 T | NC | 1,280 T | 488 UT | NC | 771 T | 365 T | NC |
| Trichlorobiphenyl homologs | 14,200 T | 4,950 T | NC | 7,200 T | 1,920 T | NC | 3,770 T | 1,580 T | NC |
| Tetrachlorobiphenyl homologs | 79,900 T | 24,100 T | NC | 74,800 T | 15,500 T | NC | 16,500 T | 4,740 T | NC |
| Pentachlorobiphenyl homologs | 213,000 JT | 59,000 T | NC | 446,000 T | 89,400 T | NC | 57,400 T | 13,600 T | NC |
| Hexachlorobiphenyl homologs | 745,000 JT | 297,000 JT | NC | 2,890,000 JT | 574,000 T | NC | 131,000 JT | 29,900 T | NC |
| Heptachlorobiphenyl homologs | 784,000 JT | 281,000 T | NC | 3,350,000 T | 635,000 T | NC | 93,100 T | 21,000 T | NC |
| Octachlorobiphenyl homologs | 287,000 T | 81,000 T | NC | 693,000 T | 124,000 T | NC | 25,600 T | 5,510 T | NC |
| Nonachlorobiphenyl homologs | 18,700 T | 5,680 T | NC | 36,000 T | 6,630 T | NC | 2,480 T | 508 T | NC |
| Total PCB Congeners | 2,140,000 JT | 753,000 JT | 1,520,000 JT | 7,490,000 JT | 1,440,000 JT | 4,940,000 JT | 330,000 JT | 74,400 JT | 218,000 JT |
| Total PCB Congeners (calc'd) | 2,140,000 JT | 754,000 JT | 1,520,000 JT | 7,490,000 JT | 1,450,000 JT | 4,940,000 JT | 332,000 JT | 77,300 JT | 220,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 40.8 JT | 10.4 JT | 27.1 JT | 15.5 JT | 1.19 JT | 9.47 JT | 4.2 JT | 0.212 JT | 2.46 JT |
| LWG RA Total PCB Congener TEQ 2005 | 40.8 JT | 13.6 JT | 28.6 JT | 28.4 JT | 9.15 JT | 20.3 JT | 7.42 JT | 4.07 JT | 5.96 JT |
| LWG RA Total PCB Congener TEQ 1998 | 26.1 JT | 10.1 JT | 18.9 JT | 42.9 JT | 15.3 JT | 31.3 JT | 12.5 JT | 6.87 JT | 10 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.922 JT | 0.312 JT | 0.647 JT | 1.72 JT | 0.565 JT | 1.23 JT | 0.342 JT | 0.213 JT | 0.286 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-10 | | | EPA1-SB11W-05 | | | EPA1-SB11W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643305.445 | 7643305.445 | 7643305.445 | 7645552.14 | 7645552.14 | 7645552.14 | 7645637.354 | 7645637.354 | 7645637.354 |
| Y-coordinate | 689983.1343 | 689983.1343 | 689983.1343 | 686305.2547 | 686305.2547 | 686305.2547 | 686200.0404 | 686200.0404 | 686200.0404 |
| RiverMile | 11.1 | 11.1 | 11.1 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Sample Date | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 16-Sep-11 | 16-Sep-11 | 16-Sep-11 |
| Sample Time | 13:30 | 13:30 | 13:30 | 8:22 | 8:22 | 8:22 | 7:14 | 7:14 | 7:14 |
| Sample Mass (g) | 377.44 | 265.84 | 643.28 | 105.36 | 89.88 | 195.24 | 753.89 | 579.31 | 1333.2 |
| PCB001 | 32.9 U | 36.8 U | NC | 21.8 U | 22.3 U | NC | 36.4 U | 36.1 U | NC |
| PCB002 | 40.8 U | 45.6 U | NC | 27.1 U | 27.6 U | NC | 45.1 U | 44.7 U | NC |
| PCB003 | 21.5 U | 24 U | NC | 17.1 | 14.6 U | NC | 23.8 U | 23.6 U | NC |
| PCB004 | 118 | 74.5 U | NC | 641 | 114 | NC | 125 | 73.1 U | NC |
| PCB005 | 40.8 U | 45.6 U | NC | 27.1 U | 27.6 U | NC | 45.1 U | 44.7 U | NC |
| PCB006 | 38.2 U | 42.6 U | NC | 225 | 40.9 | NC | 42.2 U | 41.8 U | NC |
| PCB007 | 51.8 U | 57.8 U | NC | 34.4 U | 35 U | NC | 57.3 U | 56.7 U | NC |
| PCB008 | 49.8 | 48 U | NC | 668 | 143 | NC | 142 | 79.7 | NC |
| PCB009 | 25 U | 27.9 U | NC | 41.3 | 16.9 U | NC | 27.7 U | 27.4 U | NC |
| PCB010 | 27.2 U | 30.4 U | NC | 23.5 | 18.4 U | NC | 30.1 U | 29.8 U | NC |
| PCB011 | 214 U | 239 U | NC | 192 | 151 | NC | 394 | 235 U | NC |
| PCB012 & 013 | 36.4 U | 40.7 U | NC | 24.2 U | 24.7 U | NC | 40.3 U | 39.9 U | NC |
| PCB014 | 39.9 U | 44.6 U | NC | 26.5 U | 27 U | NC | 44.2 U | 43.8 U | NC |
| PCB015 | 60.1 U | 67.2 U | NC | 136 | 42.2 | NC | 91.3 | 85.9 | NC |
| PCB016 | 48.2 U | 53.9 U | NC | 519 | 113 | NC | 113 | 71.8 | NC |
| PCB017 | 225 | 60.3 U | NC | 1,560 | 276 | NC | 274 | 102 | NC |
| PCB018 & 030 | 160 | 43.8 | NC | 1,830 | 330 | NC | 374 | 147 U | NC |
| PCB019 | 308 | 52.4 | NC | 1,180 | 189 | NC | 100 | 46.2 U | NC |
| PCB020 & 028 | 589 | 138 | NC | 3,830 | 706 | NC | 1,320 | 509 | NC |
| PCB021 & 033 | 198 U | 221 U | NC | 1,000 | 209 | NC | 274 | 217 U | NC |
| PCB022 | 87.8 | 49 U | NC | 792 | 151 | NC | 256 | 141 | NC |
| PCB023 | 48.2 U | 53.9 U | NC | 32 U | 32.7 U | NC | 53.4 U | 52.9 U | NC |
| PCB024 | 29.4 U | 32.8 U | NC | 29 | 19.9 U | NC | 32.5 U | 32.2 U | NC |
| PCB025 | 45.4 | 48 U | NC | 415 | 71.6 | NC | 79.4 | 47.1 U | NC |
| PCB026 & 029 | 101 | 103 U | NC | 769 | 134 | NC | 216 | 101 U | NC |
| PCB027 | 44.7 | 46.6 U | NC | 343 | 61.1 | NC | 52.4 | 45.7 U | NC |
| PCB031 | 249 | 95.1 U | NC | 2,640 | 491 | NC | 679 | 299 | NC |
| PCB032 | 103 | 25 | NC | 932 | 168 U | NC | 153 | 68.4 | NC |
| PCB034 | 34.6 U | 38.7 U | NC | 23 U | 23.5 U | NC | 38.3 U | 38 U | NC |
| PCB035 | 36 U | 40.2 U | NC | 23.9 U | 24.4 U | NC | 39.8 U | 39.4 U | NC |
| PCB036 | 38.2 U | 42.6 U | NC | 25.3 U | 25.8 U | NC | 42.2 U | 41.8 U | NC |
| PCB037 | 67.6 | 32.8 U | NC | 351 | 71.7 | NC | 177 | 113 | NC |
| PCB038 | 27.6 U | 30.9 U | NC | 18.3 U | 18.7 U | NC | 30.6 U | 30.3 U | NC |
| PCB039 | 34.6 U | 38.7 U | NC | 23 U | 23.5 U | NC | 38.3 U | 38 U | NC |
| PCB040 & 041 & 071 | 444 | 89.8 | NC | 2,280 | 381 | NC | 678 | 198 | NC |
| PCB042 | 254 | 49.3 | NC | 1,060 | 182 | NC | 588 | 146 | NC |
| PCB043 & 073 | 49.8 | 53.9 U | NC | 293 | 52.4 | NC | 55.7 | 52.9 U | NC |
| PCB044 & 047 & 065 | 4,310 | 680 | NC | 15,300 | 2,430 | NC | 7,610 | 1,670 | NC |
| PCB045 & 051 | 525 | 88.2 | NC | 3,670 | 586 | NC | 261 | 74.8 | NC |
| PCB046 | 110 U | 123 U | NC | 263 | 74.3 U | NC | 121 U | 120 U | NC |
| PCB048 | 147 | 29.6 | NC | 581 | 100 | NC | 305 | 78.8 | NC |
| PCB049 & 069 | 2,310 | 365 | NC | 9,800 | 1,570 | NC | 2,990 | 656 | NC |
| PCB050 & 053 | 499 | 80.2 | NC | 3,220 | 501 | NC | 227 | 63.5 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-10 | | | EPA1-SB11W-05 | | | EPA1-SB11W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643305.445 | 7643305.445 | 7643305.445 | 7645552.14 | 7645552.14 | 7645552.14 | 7645637.354 | 7645637.354 | 7645637.354 |
| Y-coordinate | 689983.1343 | 689983.1343 | 689983.1343 | 686305.2547 | 686305.2547 | 686305.2547 | 686200.0404 | 686200.0404 | 686200.0404 |
| RiverMile | 11.1 | 11.1 | 11.1 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Sample Date | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 16-Sep-11 | 16-Sep-11 | 16-Sep-11 |
| Sample Time | 13:30 | 13:30 | 13:30 | 8:22 | 8:22 | 8:22 | 7:14 | 7:14 | 7:14 |
| Sample Mass (g) | 377.44 | 265.84 | 643.28 | 105.36 | 89.88 | 195.24 | 753.89 | 579.31 | 1333.2 |
| PCB052 | 3,660 | 589 | NC | 9,680 | 1,650 | NC | 4,520 | 1,050 | NC |
| PCB054 | 92.9 | 34.8 U | NC | 392 | 63.9 | NC | 34.5 U | 34.1 U | NC |
| PCB055 | 32.9 U | 36.8 U | NC | 21.8 U | 22.3 U | NC | 36.4 U | 36.1 U | NC |
| PCB056 | 167 | 45.6 U | NC | 952 | 170 | NC | 554 | 149 | NC |
| PCB057 | 27.6 U | 30.9 U | NC | 22.4 | 18.7 U | NC | 30.6 U | 30.3 U | NC |
| PCB058 | 29.4 U | 32.8 U | NC | 24.2 | 19.9 U | NC | 32.5 U | 32.2 U | NC |
| PCB059 & 062 & 075 | 329 U | 368 U | NC | 441 | 223 U | NC | 364 U | 361 U | NC |
| PCB060 | 377 | 65.8 | NC | 573 | 100 | NC | 728 | 171 | NC |
| PCB061 & 070 & 074 & 076 | 2,780 | 476 | NC | 6,500 | 1,080 | NC | 5,330 | 1,250 | NC |
| PCB063 | 177 | 28.9 U | NC | 208 | 33.6 | NC | 248 | 51.9 | NC |
| PCB064 | 537 | 123 U | NC | 1,690 | 291 | NC | 1,200 | 291 | NC |
| PCB066 | 2,910 | 459 | NC | 4,130 | 676 | NC | 3,900 | 884 | NC |
| PCB067 | 46.3 | 29.4 U | NC | 151 | 26.3 | NC | 80.7 | 28.8 U | NC |
| PCB068 | 96.5 | 98 U | NC | 249 | 59.4 U | NC | 97.1 U | 96.2 U | NC |
| PCB072 | 74.9 | 22.1 U | NC | 154 | 25.8 | NC | 87.1 | 21.6 U | NC |
| PCB073 | 48.2 U | 53.9 U | NC | 32 U | 21.1 U | NC | 53.4 U | 52.9 U | NC |
| PCB077 | 118 | 45.1 U | NC | 248 | 40.7 | NC | 232 | 53.1 | NC |
| PCB078 | 20.2 U | 22.5 U | NC | 13.4 U | 13.7 U | NC | 22.3 U | 22.1 U | NC |
| PCB079 | 35.6 | 38.2 U | NC | 84.3 | 23.2 U | NC | 55.3 | 37.5 U | NC |
| PCB080 | 32.5 U | 36.3 U | NC | 21.6 U | 22 U | NC | 35.9 U | 35.6 U | NC |
| PCB081 | 39.5 U | 44.1 U | NC | 26.2 U | 26.7 U | NC | 43.7 U | 43.3 U | NC |
| PCB082 | 246 | 41.7 U | NC | 690 | 111 | NC | 430 | 97.3 | NC |
| PCB083 | 316 | 65.2 U | NC | 786 | 86.7 | NC | 342 | 63.9 U | NC |
| PCB084 | 673 | 142 U | NC | 1,890 | 288 | NC | 940 | 210 | NC |
| PCB085 & 117 & 116 | 2,210 | 337 | NC | 2,040 | 338 | NC | 3,350 | 663 | NC |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 4,790 | 770 | NC | 7,130 | 1,130 | NC | 5,480 | 1,170 | NC |
| PCB088 & 091 | 1,140 | 175 | NC | 4,910 | 742 | NC | 982 | 207 | NC |
| PCB089 | 25.4 U | 28.4 U | NC | 55.6 | 17.2 U | NC | 28.2 U | 27.9 U | NC |
| PCB090 & 101 & 113 | 18,200 | 2,790 | NC | 24,600 | 3,880 | NC | 11,900 | 2,410 | NC |
| PCB092 | 3,140 | 455 | NC | 5,020 | 768 | NC | 2,530 | 512 | NC |
| PCB093 & 098 & 100 & 102 | 973 | 564 U | NC | 2,720 | 409 | NC | 1,790 | 553 U | NC |
| PCB094 | 110 U | 123 U | NC | 250 | 74.3 U | NC | 121 U | 120 U | NC |
| PCB095 | 6,710 | 1,030 | NC | 13,300 | 1,990 | NC | 4,730 | 1,030 | NC |
| PCB096 | 120 | 54.9 U | NC | 326 | 49.7 | NC | 54.4 U | 53.8 U | NC |
| PCB099 | 9,780 | 1,340 | NC | 12,000 | 1,880 | NC | 11,900 | 2,180 | NC |
| PCB103 | 379 | 54.9 | NC | 1,390 | 199 | NC | 125 | 44.2 U | NC |
| PCB104 | 65.4 U | 73 U | NC | 55.6 | 44.3 U | NC | 72.3 U | 71.6 U | NC |
| PCB105 | 4,550 | 732 | NC | 3,140 | 503 | NC | 6,840 | 1,520 | NC |
| PCB106 | 64.9 U | 72.5 U | NC | 43.1 U | 44 U | NC | 71.8 U | 71.2 U | NC |
| PCB107 & 124 | 257 | 53.4 U | NC | 307 | 46.8 | NC | 312 | 67.6 | NC |
| PCB109 | 1,250 | 213 | NC | 1,330 | 203 | NC | 1,310 | 303 | NC |
| PCB110 & 115 | 8,280 | 1,400 | NC | 11,400 | 1,840 | NC | 9,150 | 1,920 | NC |
| PCB111 | 44.4 | 36.3 U | NC | 108 | 22 U | NC | 35.9 U | 35.6 U | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-10 | | | EPA1-SB11W-05 | | | EPA1-SB11W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643305.445 | 7643305.445 | 7643305.445 | 7645552.14 | 7645552.14 | 7645552.14 | 7645637.354 | 7645637.354 | 7645637.354 |
| Y-coordinate | 689983.1343 | 689983.1343 | 689983.1343 | 686305.2547 | 686305.2547 | 686305.2547 | 686200.0404 | 686200.0404 | 686200.0404 |
| RiverMile | 11.1 | 11.1 | 11.1 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Sample Date | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 16-Sep-11 | 16-Sep-11 | 16-Sep-11 |
| Sample Time | 13:30 | 13:30 | 13:30 | 8:22 | 8:22 | 8:22 | 7:14 | 7:14 | 7:14 |
| Sample Mass (g) | 377.44 | 265.84 | 643.28 | 105.36 | 89.88 | 195.24 | 753.89 | 579.31 | 1333.2 |
| PCB112 | 48.2 U | 53.9 U | NC | 32 U | 32.7 U | NC | 53.4 U | 52.9 U | NC |
| PCB114 | 425 | 67.5 | NC | 199 | 36.6 | NC | 696 | 138 | NC |
| PCB118 | 22,200 | 3,600 | NC | 12,100 | 1,950 | NC | 26,500 | 5,440 | NC |
| PCB120 | 144 | 123 U | NC | 345 | 74.3 U | NC | 121 U | 120 U | NC |
| PCB121 | 51.9 | 33.8 U | NC | 104 | 20.5 U | NC | 54.5 | 33.2 U | NC |
| PCB122 | 48.4 | 44.6 U | NC | 71.1 | 27 U | NC | 71.8 U | 43.8 U | NC |
| PCB123 | 345 | 56.9 U | NC | 162 | 35.4 | NC | 542 | 87.9 | NC |
| PCB126 | 59.2 U | 66.2 U | NC | 39.3 U | 40.1 U | NC | 65.5 U | 64.9 U | NC |
| PCB127 | 45 | 42.2 U | NC | 30.3 | 25.5 U | NC | 68.4 | 41.3 U | NC |
| PCB128 & 166 | 4,520 | 690 | NC | 3,550 | 478 | NC | 4,540 | 909 | NC |
| PCB129 & 138 & 163 | 103,000 | 14,900 | NC | 60,000 | 8,750 | NC | 44,400 | 8,830 | NC |
| PCB130 | 2,800 | 402 | NC | 2,560 | 376 | NC | 1,120 | 211 | NC |
| PCB131 | 171 | 41.7 U | NC | 241 | 34.8 | NC | 96.2 | 40.9 U | NC |
| PCB132 | 5,860 | 893 | NC | 9,390 | 1,360 | NC | 2,190 | 437 | NC |
| PCB133 | 1,830 | 251 | NC | 2,290 | 371 | NC | 918 | 166 | NC |
| PCB134 & 143 | 1,490 | 245 U | NC | 1,550 | 225 | NC | 427 | 240 U | NC |
| PCB135 & 151 | 22,900 | 3,310 | NC | 22,500 | 3,380 | NC | 7,650 | 1,330 | NC |
| PCB136 | 5,010 | 709 | NC | 5,010 | 708 | NC | 1,310 | 227 | NC |
| PCB137 | 1,830 | 255 | NC | 1,010 | 138 | NC | 2,310 | 431 | NC |
| PCB139 & 140 | 524 | 74 | NC | 637 | 92.7 | NC | 636 | 112 | NC |
| PCB141 | 15,200 | 2,150 | NC | 9,610 | 1,360 | NC | 3,920 | 856 | NC |
| PCB142 | 37.3 U | 41.7 U | NC | 24.8 U | 25.2 U | NC | 41.3 U | 40.9 U | NC |
| PCB144 | 3,050 | 435 | NC | 2,450 | 340 | NC | 574 | 99.4 | NC |
| PCB145 | 41.2 U | 46.1 U | NC | 27.4 U | 27.9 U | NC | 45.6 U | 45.2 U | NC |
| PCB146 | 22,500 | 3,100 | NC | 20,000 | 3,300 | NC | 8,210 | 1,490 | NC |
| PCB147 & 149 | 24,700 | 3,570 | NC | 43,700 | 6,400 | NC | 7,640 | 1,460 | NC |
| PCB148 | 122 | 73.5 U | NC | 446 | 69.2 | NC | 72.8 U | 72.1 U | NC |
| PCB150 | 65.9 | 52.9 U | NC | 318 | 46.7 | NC | 52.4 U | 51.9 U | NC |
| PCB152 | 62.3 | 57.4 U | NC | 83.1 | 34.8 U | NC | 56.8 U | 56.3 U | NC |
| PCB153 & 168 | 143,000 J | 20,600 | NC | 74,400 | 11,300 | NC | 58,300 | 11,000 | NC |
| PCB154 | 900 | 121 | NC | 2,440 | 366 | NC | 837 | 136 | NC |
| PCB155 | 53.9 U | 60.3 U | NC | 35.8 U | 36.5 U | NC | 59.7 U | 59.1 U | NC |
| PCB156 & 157 | 9,930 | 1,420 | NC | 2,770 | 453 | NC | 5,980 | 1,220 | NC |
| PCB158 | 7,240 | 1,060 | NC | 4,060 | 576 | NC | 4,140 | 810 | NC |
| PCB159 | 649 | 123 U | NC | 72.8 U | 74.3 U | NC | 121 U | 120 U | NC |
| PCB160 | 3.95 U | 4.41 U | NC | 2.62 U | 2.67 U | NC | 4.37 U | 4.33 U | NC |
| PCB161 | 52.2 U | 58.3 U | NC | 34.7 U | 35.3 U | NC | 57.8 U | 57.2 U | NC |
| PCB162 | 203 | 41.4 U | NC | 221 | 25.1 U | NC | 135 | 49.2 | NC |
| PCB164 | 4,000 | 625 | NC | 2,440 | 371 | NC | 1,090 | 223 | NC |
| PCB165 | 101 | 57.8 U | NC | 130 | 35 U | NC | 61.8 | 56.7 U | NC |
| PCB167 | 3,830 | 518 | NC | 1,640 | 246 | NC | 1,790 | 345 | NC |
| PCB169 | 314 | 38.8 U | NC | 227 J | 49.1 J | NC | 93.7 J | 38.1 U | NC |
| PCB170 | 39,200 | 5,500 | NC | 14,100 | 2,700 | NC | 9,550 | 2,220 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-10 | | | EPA1-SB11W-05 | | | EPA1-SB11W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643305.445 | 7643305.445 | 7643305.445 | 7645552.14 | 7645552.14 | 7645552.14 | 7645637.354 | 7645637.354 | 7645637.354 |
| Y-coordinate | 689983.1343 | 689983.1343 | 689983.1343 | 686305.2547 | 686305.2547 | 686305.2547 | 686200.0404 | 686200.0404 | 686200.0404 |
| RiverMile | 11.1 | 11.1 | 11.1 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Sample Date | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 16-Sep-11 | 16-Sep-11 | 16-Sep-11 |
| Sample Time | 13:30 | 13:30 | 13:30 | 8:22 | 8:22 | 8:22 | 7:14 | 7:14 | 7:14 |
| Sample Mass (g) | 377.44 | 265.84 | 643.28 | 105.36 | 89.88 | 195.24 | 753.89 | 579.31 | 1333.2 |
| PCB171 & 173 | 10,400 | 1,420 | NC | 5,090 | 789 | NC | 3,010 | 639 | NC |
| PCB172 | 7,460 | 971 | NC | 3,530 | 607 | NC | 1,920 | 394 | NC |
| PCB174 | 17,300 | 2,460 | NC | 13,000 | 2,140 | NC | 1,830 | 362 | NC |
| PCB175 | 1,720 | 227 | NC | 796 | 131 | NC | 294 | 70.7 U | NC |
| PCB176 | 1,420 | 189 | NC | 1,630 | 246 | NC | 226 | 88 U | NC |
| PCB177 | 17,600 | 2,340 | NC | 14,300 | 2,560 | NC | 2,150 | 447 | NC |
| PCB178 | 9,050 | 1,230 | NC | 5,790 | 1,010 | NC | 2,650 | 496 | NC |
| PCB179 | 6,990 | 990 | NC | 5,340 | 848 | NC | 1,410 | 271 | NC |
| PCB180 & 193 | 132,000 | 18,000 | NC | 46,600 | 9,260 | NC | 35,900 | 8,030 | NC |
| PCB181 | 212 | 65.7 U | NC | 80.6 | 39.8 U | NC | 117 | 64.4 U | NC |
| PCB182 | 99.8 | 44.6 U | NC | 168 | 33 | NC | 65.5 | 43.8 U | NC |
| PCB183 & 185 | 33,900 | 4,460 | NC | 14,600 | 2,420 | NC | 8,430 | 1,810 | NC |
| PCB184 | 47.8 U | 53.4 U | NC | 31.7 U | 32.4 U | NC | 52.9 U | 52.4 U | NC |
| PCB186 | 69.3 U | 77.5 U | NC | 46 U | 46.9 U | NC | 76.7 U | 76 U | NC |
| PCB187 | 69,700 | 9,720 | NC | 38,900 | 7,100 | NC | 16,700 | 3,180 | NC |
| PCB188 | 75.8 | 62.3 U | NC | 121 | 37.7 U | NC | 61.7 U | 61.1 U | NC |
| PCB189 | 2,170 | 263 | NC | 671 | 119 | NC | 655 | 128 | NC |
| PCB190 | 5,500 | 903 | NC | 1,620 | 393 | NC | 1,430 | 462 | NC |
| PCB191 | 2,420 | 301 | NC | 846 | 140 | NC | 615 | 120 | NC |
| PCB192 | 38.6 U | 43.1 U | NC | 25.6 U | 26.1 U | NC | 42.7 U | 42.3 U | NC |
| PCB194 | 20,100 | 2,670 | NC | 7,750 | 1,660 | NC | 5,770 | 1,310 | NC |
| PCB195 | 9,700 | 1,200 | NC | 3,470 | 715 | NC | 2,300 | 512 | NC |
| PCB196 | 11,800 | 1,460 | NC | 3,830 | 958 | NC | 3,020 | 680 | NC |
| PCB197 & 200 | 1,830 | 225 | NC | 1,000 | 209 | NC | 412 | 99.8 U | NC |
| PCB198 & 199 | 17,700 | 2,320 | NC | 6,640 | 1,970 | NC | 4,130 | 991 | NC |
| PCB201 | 2,730 | 345 | NC | 1,190 | 256 | NC | 573 | 109 | NC |
| PCB202 | 3,590 | 435 | NC | 1,970 | 405 | NC | 1,500 | 308 | NC |
| PCB203 | 12,300 | 1,560 | NC | 5,090 | 1,110 | NC | 4,360 | 927 | NC |
| PCB204 | 53.5 U | 59.8 U | NC | 35.5 U | 36.2 U | NC | 59.2 U | 58.6 U | NC |
| PCB205 | 1,160 | 137 | NC | 447 | 89 | NC | 322 | 66.4 | NC |
| PCB206 | 3,510 | 482 | NC | 1,510 | 327 | NC | 1,890 | 427 | NC |
| PCB207 | 637 | 118 U | NC | 232 | 71.3 U | NC | 323 | 115 U | NC |
| PCB208 | 673 | 120 U | NC | 392 | 79.4 | NC | 443 | 118 U | NC |
| PCB209 | 429 | 69.3 | NC | 191 | 46.8 | NC | 584 | 150 | NC |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11E-10 | | | EPA1-SB11W-05 | | | EPA1-SB11W-06 | | |
|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) |
| X-coordinate | 7643305.445 | 7643305.445 | 7643305.445 | 7645552.14 | 7645552.14 | 7645552.14 | 7645637.354 | 7645637.354 | 7645637.354 |
| Y-coordinate | 689983.1343 | 689983.1343 | 689983.1343 | 686305.2547 | 686305.2547 | 686305.2547 | 686200.0404 | 686200.0404 | 686200.0404 |
| RiverMile | 11.1 | 11.1 | 11.1 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 | 11.9 |
| Sample Date | 7-Oct-11 | 7-Oct-11 | 7-Oct-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 16-Sep-11 | 16-Sep-11 | 16-Sep-11 |
| Sample Time | 13:30 | 13:30 | 13:30 | 8:22 | 8:22 | 8:22 | 7:14 | 7:14 | 7:14 |
| Sample Mass (g) | 377.44 | 265.84 | 643.28 | 105.36 | 89.88 | 195.24 | 753.89 | 579.31 | 1333.2 |
| Monochlorobiphenyl homologs | 40.8 UT | 45.6 UT | NC | 28 T | 27.6 UT | NC | 45.1 UT | 44.7 UT | NC |
| Dichlorobiphenyl homologs | 350 T | 239 UT | NC | 1,930 T | 509 T | NC | 802 T | 369 T | NC |
| Trichlorobiphenyl homologs | 2,170 T | 685 T | NC | 16,200 T | 2,930 T | NC | 4,140 T | 1,680 T | NC |
| Tetrachlorobiphenyl homologs | 19,900 T | 3,560 T | NC | 62,000 T | 10,200 T | NC | 30,000 T | 7,210 T | NC |
| Pentachlorobiphenyl homologs | 86,400 T | 13,700 T | NC | 106,000 T | 16,700 T | NC | 90,300 T | 18,600 T | NC |
| Hexachlorobiphenyl homologs | 386,000 JT | 55,500 T | NC | 274,000 JT | 40,900 JT | NC | 159,000 JT | 30,700 T | NC |
| Heptachlorobiphenyl homologs | 357,000 T | 49,100 T | NC | 167,000 T | 30,600 T | NC | 87,000 T | 18,700 T | NC |
| Octachlorobiphenyl homologs | 80,900 T | 10,400 T | NC | 31,400 T | 7,370 T | NC | 22,400 T | 4,950 T | NC |
| Nonachlorobiphenyl homologs | 4,820 T | 601 T | NC | 2,130 T | 442 T | NC | 2,660 T | 544 T | NC |
| Total PCB Congeners | 937,000 JT | 131,000 JT | 604,000 JT | 661,000 JT | 109,000 JT | 407,000 JT | 395,000 JT | 80,500 JT | 259,000 JT |
| Total PCB Congeners (calc'd) | 938,000 JT | 134,000 JT | 606,000 JT | 661,000 JT | 110,000 JT | 407,000 JT | 396,000 JT | 83,000 JT | 260,000 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 10.7 JT | 0.198 JT | 6.38 JT | 7.46 JT | 1.58 JT | 4.75 JT | 4.12 JT | 0.272 JT | 2.45 JT |
| LWG RA Total PCB Congener TEQ 2005 | 13.7 JT | 4.1 JT | 9.73 JT | 9.42 JT | 3.59 JT | 6.74 JT | 7.41 JT | 4.09 JT | 5.97 JT |
| LWG RA Total PCB Congener TEQ 1998 | 12.9 JT | 6.93 JT | 10.4 JT | 16.7 JT | 5.55 JT | 11.5 JT | 18.8 JT | 8.43 JT | 14.3 JT |
| LWG RA Total PCB Congener TEQ 1998 | 0.403 JT | 0.213 JT | 0.324 JT | 0.244 JT | 0.13 JT | 0.192 JT | 0.418 JT | 0.224 JT | 0.333 JT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11W-07 | | | EPA1-SB11W-08 | | | NA | NA | NA | NA |
|---|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | MEL Proof Blank | MEL Rinsate Blank 1 | MEL Rinsate Blank 2 | MEL Rinsate Blank 3 |
| X-coordinate | 7643703.153 | 7643703.153 | 7643703.153 | 7642440.545 | 7642440.545 | 7642440.545 | NA | NA | NA | NA |
| Y-coordinate | 688248.8439 | 688248.8439 | 688248.8439 | 689464.813 | 689464.813 | 689464.813 | NA | NA | NA | NA |
| RiverMile | 11.4 | 11.4 | 11.4 | 11 | 11 | 11 | NA | NA | NA | NA |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 23-Nov-11 | 30-Nov-11 | 8-Dec-11 | 8-Dec-11 |
| Sample Time | 9:20 | 9:20 | 9:20 | 10:12 | 10:12 | 10:12 | 10:10 | 15:45 | 14:30 | 14:45 |
| Sample Mass (g) | 61.58 | 44.48 | 106.06 | 467.17 | 210.21 | 677.38 | NA | NA | NA | NA |
| PCB001 | 36.4 U | 37.1 U | NC | 35 U | 36.1 U | NC | 0.0597 U | 0.0579 U | 0.0559 U | 0.0569 U |
| PCB002 | 45.1 U | 46 U | NC | 43.5 U | 44.7 U | NC | 0.12 U | 0.117 U | 0.113 U | 0.115 U |
| PCB003 | 23.8 U | 24.3 U | NC | 22.9 U | 23.6 U | NC | 0.0638 U | 0.062 U | 0.0598 U | 0.0609 U |
| PCB004 | 127 | 75.2 U | NC | 71 U | 73.1 U | NC | 0.0797 | 0.0301 U | 0.029 U | 0.0339 J |
| PCB005 | 45.1 U | 46 U | NC | 43.5 U | 44.7 U | NC | 0.105 U | 0.102 U | 0.0982 U | 0.0999 U |
| PCB006 | 42.2 U | 43.1 U | NC | 40.7 U | 41.8 U | NC | 0.114 U | 0.11 U | 0.107 U | 0.108 U |
| PCB007 | 57.3 U | 58.4 U | NC | 55.1 U | 56.7 U | NC | 0.125 U | 0.121 U | 0.117 U | 0.119 U |
| PCB008 | 123 | 48.5 U | NC | 45.8 U | 47.1 U | NC | 0.128 U | 0.125 U | 0.12 U | 0.122 U |
| PCB009 | 27.7 U | 28.2 U | NC | 26.6 U | 27.4 U | NC | 0.137 U | 0.133 U | 0.129 U | 0.131 U |
| PCB010 | 30.1 U | 30.7 U | NC | 29 U | 29.8 U | NC | 0.204 U | 0.198 U | 0.191 U | 0.194 U |
| PCB011 | 237 U | 242 U | NC | 228 U | 235 U | NC | 0.417 U | 0.244 U | 0.255 U | 0.322 U |
| PCB012 & 013 | 40.3 U | 41.1 U | NC | 38.8 U | 39.9 U | NC | 0.172 U | 0.167 U | 0.161 U | 0.164 U |
| PCB014 | 44.2 U | 45 U | NC | 42.5 U | 43.8 U | NC | 0.0482 U | 0.0468 U | 0.0452 U | 0.046 U |
| PCB015 | 66.5 U | 67.8 U | NC | 64 U | 65.9 U | NC | 0.0566 U | 0.0219 J | 0.0198 J | 0.0253 U |
| PCB016 | 162 | 54.5 U | NC | 51.4 U | 52.9 U | NC | 0.22 U | 0.214 U | 0.207 U | 0.21 U |
| PCB017 | 696 | 84.9 | NC | 811 | 195 | NC | 0.184 U | 0.179 U | 0.172 U | 0.175 U |
| PCB018 & 030 | 501 | 65.6 | NC | 222 | 68.3 U | NC | 0.416 U | 0.404 U | 0.39 U | 0.397 U |
| PCB019 | 309 | 47.5 U | NC | 470 | 104 | NC | 0.0499 U | 0.0484 U | 0.0468 U | 0.0476 U |
| PCB020 & 028 | 1,910 | 228 | NC | 1,580 | 369 | NC | 0.147 | 0.0959 U | 0.0926 U | 0.0942 U |
| PCB021 & 033 | 274 | 223 U | NC | 250 | 217 U | NC | 0.145 U | 0.141 U | 0.136 U | 0.139 U |
| PCB022 | 390 | 55.3 | NC | 168 | 50.6 | NC | 0.0613 | 0.0341 U | 0.0329 U | 0.0335 U |
| PCB023 | 53.4 U | 54.5 U | NC | 51.4 U | 52.9 U | NC | 0.103 U | 0.0999 U | 0.0965 U | 0.0981 U |
| PCB024 | 32.5 U | 33.2 U | NC | 31.3 U | 32.2 U | NC | 0.176 U | 0.171 U | 0.165 U | 0.168 U |
| PCB025 | 188 | 48.5 U | NC | 228 | 48.5 | NC | 0.058 U | 0.0563 U | 0.0544 U | 0.0553 U |
| PCB026 & 029 | 373 | 104 U | NC | 257 | 101 U | NC | 0.166 U | 0.161 U | 0.156 U | 0.158 U |
| PCB027 | 109 | 47 U | NC | 212 | 49.9 | NC | 0.169 U | 0.164 U | 0.159 U | 0.162 U |
| PCB031 | 1,220 | 152 | NC | 613 | 160 | NC | 0.13 | 0.0531 U | 0.0513 U | 0.0548 |
| PCB032 | 274 | 36.1 | NC | 692 | 160 | NC | 0.166 U | 0.161 U | 0.156 U | 0.158 U |
| PCB034 | 38.3 U | 39.1 U | NC | 36.9 U | 38 U | NC | 0.0788 U | 0.0765 U | 0.0739 U | 0.0751 U |
| PCB035 | 39.8 U | 40.6 U | NC | 38.3 U | 39.4 U | NC | 0.133 U | 0.129 U | 0.124 U | 0.126 U |
| PCB036 | 42.2 U | 43.1 U | NC | 40.7 U | 41.8 U | NC | 0.0773 U | 0.0751 U | 0.0725 U | 0.0738 U |
| PCB037 | 188 | 35.1 | NC | 38.4 | 32.2 U | NC | 0.034 | 0.0268 U | 0.0259 U | 0.0264 U |
| PCB038 | 30.6 U | 31.2 U | NC | 29.4 U | 30.3 U | NC | 0.0917 U | 0.089 U | 0.0859 U | 0.0874 U |
| PCB039 | 38.3 U | 39.1 U | NC | 36.9 U | 38 U | NC | 0.0811 U | 0.0787 U | 0.076 U | 0.0773 U |
| PCB040 & 041 & 071 | 1,410 | 172 | NC | 2,190 | 522 | NC | 0.322 U | 0.313 U | 0.302 U | 0.307 U |
| PCB042 | 827 | 94.3 | NC | 1,300 | 282 | NC | 0.187 U | 0.182 U | 0.176 U | 0.179 U |
| PCB043 & 073 | 137 | 54.5 U | NC | 435 | 98.1 | NC | 0.349 U | 0.339 U | 0.327 U | 0.333 U |
| PCB044 & 047 & 065 | 6,580 | 706 | NC | 19,200 | 3,990 | NC | 0.399 U | 0.388 U | 0.374 U | 0.381 U |
| PCB045 & 051 | 1,210 | 134 | NC | 3,590 | 779 | NC | 0.618 U | 0.599 U | 0.579 U | 0.589 U |
| PCB046 | 139 | 124 U | NC | 139 | 120 U | NC | 0.329 U | 0.319 U | 0.308 U | 0.313 U |
| PCB048 | 517 | 57.8 | NC | 564 | 125 | NC | 0.179 U | 0.174 U | 0.168 U | 0.171 U |
| PCB049 & 069 | 4,370 | 446 | NC | 9,600 | 2,000 | NC | 0.337 U | 0.327 U | 0.316 U | 0.321 U |
| PCB050 & 053 | 1,330 | 145 | NC | 4,050 | 874 | NC | 0.684 U | 0.664 U | 0.641 U | 0.652 U |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11W-07 | | | EPA1-SB11W-08 | | | NA | NA | NA | NA |
|---|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | MEL Proof Blank | MEL Rinsate Blank 1 | MEL Rinsate Blank 2 | MEL Rinsate Blank 3 |
| X-coordinate | 7643703.153 | 7643703.153 | 7643703.153 | 7642440.545 | 7642440.545 | 7642440.545 | NA | NA | NA | NA |
| Y-coordinate | 688248.8439 | 688248.8439 | 688248.8439 | 689464.813 | 689464.813 | 689464.813 | NA | NA | NA | NA |
| RiverMile | 11.4 | 11.4 | 11.4 | 11 | 11 | 11 | NA | NA | NA | NA |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 23-Nov-11 | 30-Nov-11 | 8-Dec-11 | 8-Dec-11 |
| Sample Time | 9:20 | 9:20 | 9:20 | 10:12 | 10:12 | 10:12 | 10:10 | 15:45 | 14:30 | 14:45 |
| Sample Mass (g) | 61.58 | 44.48 | 106.06 | 467.17 | 210.21 | 677.38 | NA | NA | NA | NA |
| PCB052 | 7,950 | 856 | NC | 9,360 | 2,000 | NC | 0.243 U | 0.236 U | 0.228 U | 0.232 U |
| PCB054 | 84.1 | 35.1 U | NC | 833 | 173 | NC | 0.0503 U | 0.0488 U | 0.0472 U | 0.048 U |
| PCB055 | 36.4 U | 37.1 U | NC | 35 U | 36.1 U | NC | 0.154 U | 0.149 U | 0.144 U | 0.147 U |
| PCB056 | 845 | 102 | NC | 958 | 214 | NC | 0.129 U | 0.125 U | 0.121 U | 0.123 U |
| PCB057 | 30.6 U | 31.2 U | NC | 32.8 | 30.3 U | NC | 0.0495 U | 0.048 U | 0.0464 U | 0.0472 U |
| PCB058 | 32.5 U | 33.2 U | NC | 39.4 | 32.2 U | NC | 0.0618 U | 0.0599 U | 0.0579 U | 0.0589 U |
| PCB059 & 062 & 075 | 364 U | 371 U | NC | 713 | 361 U | NC | 0.322 U | 0.313 U | 0.302 U | 0.307 U |
| PCB060 | 666 | 75.6 | NC | 2,380 | 506 | NC | 0.155 U | 0.151 U | 0.145 U | 0.148 U |
| PCB061 & 070 & 074 & 076 | 6,240 | 654 | NC | 10,300 | 2,150 | NC | 0.297 U | 0.289 U | 0.279 U | 0.284 U |
| PCB063 | 180 | 29.2 U | NC | 657 | 130 | NC | 0.0773 U | 0.0751 U | 0.0725 U | 0.0738 U |
| PCB064 | 1,520 | 170 | NC | 2,360 | 517 | NC | 0.119 U | 0.116 U | 0.112 U | 0.114 U |
| PCB066 | 3,730 | 399 | NC | 10,800 | 2,280 | NC | 0.124 U | 0.12 U | 0.116 U | 0.118 U |
| PCB067 | 113 | 29.7 U | NC | 184 | 38.3 | NC | 0.0969 U | 0.0941 U | 0.0908 U | 0.0924 U |
| PCB068 | 97.1 U | 99 U | NC | 226 | 96.2 U | NC | 0.0688 U | 0.0668 U | 0.0645 U | 0.0656 U |
| PCB072 | 89.3 | 22.3 U | NC | 181 | 37.1 | NC | 0.0561 U | 0.0545 U | 0.0526 U | 0.0535 U |
| PCB073 | 0 U | 54.5 U | NC | 51.4 U | 52.9 U | NC | 0.349 U | 0 U | 0 U | 0 U |
| PCB077 | 233 | 45.5 U | NC | 225 | 48.3 | NC | 0.0713 U | 0.0692 U | 0.0668 U | 0.068 U |
| PCB078 | 22.3 U | 22.8 U | NC | 21.5 U | 22.1 U | NC | 0.174 U | 0.169 U | 0.164 U | 0.166 U |
| PCB079 | 67.8 | 38.6 U | NC | 91 | 37.5 U | NC | 0.214 U | 0.208 U | 0.201 U | 0.204 U |
| PCB080 | 35.9 U | 36.6 U | NC | 34.6 U | 35.6 U | NC | 0.154 U | 0.15 U | 0.144 U | 0.147 U |
| PCB081 | 43.7 U | 44.6 U | NC | 42.1 U | 43.3 U | NC | 0.0684 U | 0.0664 U | 0.0641 U | 0.0652 U |
| PCB082 | 710 | 78.5 | NC | 966 | 210 | NC | 0.0738 U | 0.0717 U | 0.0692 U | 0.0704 U |
| PCB083 | 677 | 81.1 | NC | 632 | 135 | NC | 0.139 U | 0.135 U | 0.131 U | 0.133 U |
| PCB084 | 2,220 | 243 | NC | 1,500 | 335 | NC | 0.0794 U | 0.0771 U | 0.0744 U | 0.0757 U |
| PCB085 & 117 & 116 | 2,450 | 239 | NC | 5,470 | 1,110 | NC | 0.115 U | 0.112 U | 0.108 U | 0.11 U |
| PCB086 & 087 & 097 & 108 & 119 & 125 | 8,860 | 911 | NC | 8,890 | 1,900 | NC | 0.14 U | 0.136 U | 0.131 U | 0.133 U |
| PCB088 & 091 | 2,240 | 233 | NC | 4,090 | 845 | NC | 0.193 U | 0.188 U | 0.181 U | 0.184 U |
| PCB089 | 115 | 28.7 U | NC | 53.1 | 27.9 U | NC | 0.095 U | 0.0922 U | 0.0891 U | 0.0906 U |
| PCB090 & 101 & 113 | 29,500 | 2,870 | NC | 24,100 | 4,980 | NC | 1.07 U | 1.04 U | 1.01 U | 1.02 U |
| PCB092 | 4,320 | 440 | NC | 4,100 | 844 | NC | 0.125 U | 0.121 U | 0.117 U | 0.119 U |
| PCB093 & 098 & 100 & 102 | 1,490 | 569 U | NC | 2,890 | 572 | NC | 0.532 U | 0.517 U | 0.499 U | 0.508 U |
| PCB094 | 268 | 124 U | NC | 389 | 120 U | NC | 0.135 U | 0.131 U | 0.126 U | 0.129 U |
| PCB095 | 15,700 | 1,620 | NC | 9,830 | 2,090 | NC | 0.642 U | 0.624 U | 0.602 U | 0.613 U |
| PCB096 | 171 | 55.4 U | NC | 384 | 78.3 | NC | 0.245 U | 0.238 U | 0.23 U | 0.234 U |
| PCB099 | 8,810 | 851 | NC | 18,700 | 3,750 | NC | 0.229 U | 0.222 U | 0.214 U | 0.218 U |
| PCB103 | 387 | 45.5 U | NC | 858 | 167 | NC | 0.116 U | 0.112 U | 0.108 U | 0.11 U |
| PCB104 | 72.3 U | 73.8 U | NC | 70.3 | 71.6 U | NC | 0.115 U | 0.111 U | 0.107 U | 0.109 U |
| PCB105 | 4,660 | 479 | NC | 10,400 | 2,300 | NC | 0.0736 U | 0.0715 U | 0.069 U | 0.0702 U |
| PCB106 | 71.8 U | 73.3 U | NC | 69.2 U | 71.2 U | NC | 0.17 U | 0.165 U | 0.16 U | 0.162 U |
| PCB107 & 124 | 397 | 54 U | NC | 522 | 107 | NC | 1.13 U | 1.1 U | 1.06 U | 1.08 U |
| PCB109 | 1,080 | 103 | NC | 2,290 | 504 | NC | 0.141 U | 0.137 U | 0.132 U | 0.134 U |
| PCB110 & 115 | 17,600 | 1,860 | NC | 13,600 | 2,920 | NC | 0.401 U | 0.39 U | 0.376 U | 0.383 U |
| PCB111 | 35.9 U | 36.6 U | NC | 72.8 | 35.6 U | NC | 0.115 U | 0.111 U | 0.107 U | 0.109 U |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11W-07 | | | EPA1-SB11W-08 | | | NA | NA | NA | NA |
|---|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | MEL Proof Blank | MEL Rinsate Blank 1 | MEL Rinsate Blank 2 | MEL Rinsate Blank 3 |
| X-coordinate | 7643703.153 | 7643703.153 | 7643703.153 | 7642440.545 | 7642440.545 | 7642440.545 | NA | NA | NA | NA |
| Y-coordinate | 688248.8439 | 688248.8439 | 688248.8439 | 689464.813 | 689464.813 | 689464.813 | NA | NA | NA | NA |
| RiverMile | 11.4 | 11.4 | 11.4 | 11 | 11 | 11 | NA | NA | NA | NA |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 23-Nov-11 | 30-Nov-11 | 8-Dec-11 | 8-Dec-11 |
| Sample Time | 9:20 | 9:20 | 9:20 | 10:12 | 10:12 | 10:12 | 10:10 | 15:45 | 14:30 | 14:45 |
| Sample Mass (g) | 61.58 | 44.48 | 106.06 | 467.17 | 210.21 | 677.38 | NA | NA | NA | NA |
| PCB112 | 53.4 U | 54.5 U | NC | 51.4 U | 52.9 U | NC | 0.111 U | 0.108 U | 0.104 U | 0.106 U |
| PCB114 | 287 | 60.9 U | NC | 1,070 | 222 | NC | 0.0563 U | 0.0547 U | 0.0528 U | 0.0537 U |
| PCB118 | 16,700 | 1,710 | NC | 43,200 | 8,760 | NC | 0.32 U | 0.311 U | 0.3 U | 0.305 U |
| PCB120 | 121 U | 124 U | NC | 233 | 120 U | NC | 0.074 U | 0.0719 U | 0.0694 U | 0.0706 U |
| PCB121 | 33.5 U | 34.2 U | NC | 98.6 | 33.2 U | NC | 0.0424 U | 0.0412 U | 0.0398 U | 0.0404 U |
| PCB122 | 89.2 | 45 U | NC | 118 | 43.8 U | NC | 0.047 U | 0.0456 U | 0.044 U | 0.0448 U |
| PCB123 | 221 | 57.4 U | NC | 1,010 | 173 | NC | 0.241 U | 0.234 U | 0.226 U | 0.23 U |
| PCB126 | 65.5 U | 66.8 U | NC | 85.9 J | 64.9 U | NC | 0.0451 U | 0.0438 U | 0.0423 U | 0.043 U |
| PCB127 | 41.7 U | 42.6 U | NC | 80 | 41.3 U | NC | 0.0765 U | 0.0743 U | 0.0717 U | 0.073 U |
| PCB128 & 166 | 5,470 | 499 | NC | 6,290 | 1,290 | NC | 0.216 U | 0.21 U | 0.203 U | 0.206 U |
| PCB129 & 138 & 163 | 83,400 | 7,030 | NC | 282,000 J | 28,000 | NC | 1.92 U | 1.86 U | 1.8 U | 1.83 U |
| PCB130 | 2,820 | 240 | NC | 3,850 | 810 | NC | 1.32 U | 1.28 U | 1.24 U | 1.26 U |
| PCB131 | 445 | 42.1 U | NC | 254 | 50.7 | NC | 0.125 U | 0.122 U | 0.118 U | 0.12 U |
| PCB132 | 18,700 | 1,650 | NC | 4,430 | 951 | NC | 0.432 U | 0.42 U | 0.405 U | 0.412 U |
| PCB133 | 1,070 | 90.2 | NC | 2,380 | 495 | NC | 0.115 U | 0.112 U | 0.108 U | 0.11 U |
| PCB134 & 143 | 2,810 | 250 | NC | 1,560 | 348 | NC | 0.134 U | 0.13 U | 0.126 U | 0.128 U |
| PCB135 & 151 | 33,700 | 2,780 | NC | 16,900 | 3,390 | NC | 0.62 U | 0.601 U | 0.581 U | 0.591 U |
| PCB136 | 10,400 | 871 | NC | 3,020 | 610 | NC | 0.177 U | 0.172 U | 0.166 U | 0.169 U |
| PCB137 | 1,430 | 144 U | NC | 3,290 | 547 | NC | 0.279 U | 0.27 U | 0.261 U | 0.266 U |
| PCB139 & 140 | 466 | 59.4 U | NC | 772 | 164 | NC | 0.125 U | 0.121 U | 0.117 U | 0.119 U |
| PCB141 | 19,800 | 1,750 | NC | 12,400 | 2,700 | NC | 0.426 U | 0.414 U | 0.4 U | 0.406 U |
| PCB142 | 41.3 U | 42.1 U | NC | 39.7 U | 40.9 U | NC | 0.062 U | 0.0601 U | 0.0581 U | 0.0591 U |
| PCB144 | 4,870 | 398 | NC | 3,270 | 659 | NC | 0.171 U | 0.166 U | 0.16 U | 0.163 U |
| PCB145 | 45.6 U | 46.5 U | NC | 43.9 U | 45.2 U | NC | 0.0509 U | 0.0494 U | 0.0477 U | 0.0486 U |
| PCB146 | 13,000 | 1,070 | NC | 30,000 | 6,380 | NC | 0.351 U | 0.341 U | 0.329 U | 0.335 U |
| PCB147 & 149 | 62,300 | 5,420 | NC | 33,500 | 7,210 | NC | 1.48 U | 1.44 U | 1.39 U | 1.41 U |
| PCB148 | 92.2 | 74.3 U | NC | 175 | 72.1 U | NC | 0.103 U | 0.1 U | 0.0969 U | 0.0985 U |
| PCB150 | 82.7 | 53.5 U | NC | 170 | 51.9 U | NC | 0.0524 U | 0.0509 U | 0.0491 U | 0.05 U |
| PCB152 | 69.6 | 57.9 U | NC | 100 | 56.3 U | NC | 0.0692 U | 0.0672 U | 0.0649 U | 0.066 U |
| PCB153 & 168 | 92,300 | 7,800 | NC | 383,000 J | 37,900 | NC | 2.49 U | 2.42 U | 2.33 U | 2.37 U |
| PCB154 | 634 | 55.3 | NC | 1,230 | 245 | NC | 0.118 U | 0.115 U | 0.111 U | 0.113 U |
| PCB155 | 59.7 U | 60.9 U | NC | 61.6 | 59.1 U | NC | 0.0518 U | 0.0503 U | 0.0485 U | 0.0494 U |
| PCB156 & 157 | 5,110 | 505 | NC | 14,100 | 3,020 | NC | 0.233 U | 0.226 U | 0.218 U | 0.222 U |
| PCB158 | 7,390 | 640 | NC | 8,540 | 1,820 | NC | 0.235 U | 0.228 U | 0.22 U | 0.224 U |
| PCB159 | 1,000 | 124 U | NC | 62 U | 120 U | NC | 0.102 U | 0.0993 U | 0.0959 U | 0.0976 U |
| PCB160 | 4.37 U | 4.46 U | NC | 4.21 U | 4.33 U | NC | 2.02 U | 1.96 U | 1.89 U | 1.93 U |
| PCB161 | 57.8 U | 58.9 U | NC | 55.6 U | 57.2 U | NC | 0.106 U | 0.103 U | 0.0994 U | 0.101 U |
| PCB162 | 109 | 41.8 U | NC | 1,390 | 62.4 | NC | 0.069 U | 0.067 U | 0.0647 U | 0.0658 U |
| PCB164 | 4,730 | 418 | NC | 4,940 | 1,210 | NC | 0.264 U | 0.256 U | 0.248 U | 0.252 U |
| PCB165 | 57.3 U | 58.4 U | NC | 143 | 56.7 U | NC | 0.0919 U | 0.0892 U | 0.0861 U | 0.0876 U |
| PCB167 | 1,970 | 182 | NC | 5,730 | 1,230 | NC | 0.104 U | 0.101 U | 0.0978 U | 0.0995 U |
| PCB169 | 0 J | 39.2 U | NC | 350 J | 94.2 J | NC | 0.0414 U | 0.0402 U | 0.0388 U | 0.0395 U |
| PCB170 | 22,800 | 2,440 | NC | 40,400 | 9,810 | NC | 0.539 U | 0.523 U | 0.505 U | 0.514 U |

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| LocationID | EPA1-SB11W-07 | | | EPA1-SB11W-08 | | | NA | NA | NA | NA |
|---|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | MEL Proof Blank | MEL Rinsate Blank 1 | MEL Rinsate Blank 2 | MEL Rinsate Blank 3 |
| X-coordinate | 7643703.153 | 7643703.153 | 7643703.153 | 7642440.545 | 7642440.545 | 7642440.545 | NA | NA | NA | NA |
| Y-coordinate | 688248.8439 | 688248.8439 | 688248.8439 | 689464.813 | 689464.813 | 689464.813 | NA | NA | NA | NA |
| RiverMile | 11.4 | 11.4 | 11.4 | 11 | 11 | 11 | NA | NA | NA | NA |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 23-Nov-11 | 30-Nov-11 | 8-Dec-11 | 8-Dec-11 |
| Sample Time | 9:20 | 9:20 | 9:20 | 10:12 | 10:12 | 10:12 | 10:10 | 15:45 | 14:30 | 14:45 |
| Sample Mass (g) | 61.58 | 44.48 | 106.06 | 467.17 | 210.21 | 677.38 | NA | NA | NA | NA |
| PCB171 & 173 | 9,370 | 884 | NC | 8,470 | 1,840 | NC | 0.207 U | 0.201 U | 0.194 U | 0.197 U |
| PCB172 | 4,800 | 444 | NC | 8,400 | 1,990 | NC | 0.0988 U | 0.0959 U | 0.0926 U | 0.0942 U |
| PCB174 | 27,000 | 2,510 | NC | 21,800 | 5,340 | NC | 0.389 U | 0.377 U | 0.364 U | 0.371 U |
| PCB175 | 1,300 | 118 | NC | 2,050 | 480 | NC | 0.0399 U | 0.0388 U | 0.0374 U | 0.0381 U |
| PCB176 | 3,340 | 311 | NC | 1,140 | 262 | NC | 0.0821 U | 0.0797 U | 0.077 U | 0.0783 U |
| PCB177 | 16,200 | 1,530 | NC | 23,100 | 5,200 | NC | 0.25 U | 0.242 U | 0.234 U | 0.238 U |
| PCB178 | 6,250 | 588 | NC | 10,700 | 2,550 | NC | 0.0724 U | 0.0702 U | 0.0678 U | 0.069 U |
| PCB179 | 12,000 | 1,130 | NC | 2,940 | 651 | NC | 0.148 U | 0.144 U | 0.139 U | 0.141 U |
| PCB180 & 193 | 59,900 | 6,470 | NC | 447,000 J | 40,500 | NC | 1.16 U | 1.12 U | 1.09 U | 1.1 U |
| PCB181 | 103 | 66.3 U | NC | 289 | 65.5 | NC | 0.0426 U | 0.0414 U | 0.04 U | 0.0406 U |
| PCB182 | 44.2 U | 45 U | NC | 165 | 43.8 U | NC | 0.0306 U | 0.0297 U | 0.0286 U | 0.0291 U |
| PCB183 & 185 | 22,900 | 2,160 | NC | 34,900 | 8,280 | NC | 0.455 U | 0.442 U | 0.427 U | 0.434 U |
| PCB184 | 52.9 U | 54 U | NC | 50.9 U | 52.4 U | NC | 0.0545 U | 0.0529 U | 0.0511 U | 0.0519 U |
| PCB186 | 76.7 U | 78.2 U | NC | 73.8 U | 76 U | NC | 0.0522 U | 0.0507 U | 0.0489 U | 0.0498 U |
| PCB187 | 37,800 | 3,550 | NC | 96,100 | 22,700 | NC | 0.491 U | 0.476 U | 0.46 U | 0.468 U |
| PCB188 | 61.7 U | 62.9 U | NC | 107 | 61.1 U | NC | 0.052 U | 0.0505 U | 0.0487 U | 0.0496 U |
| PCB189 | 970 | 85.8 | NC | 2,740 | 655 | NC | 0.0665 U | 0.0646 U | 0.0624 U | 0.0634 U |
| PCB190 | 2,580 | 321 | NC | 5,590 | 1,830 | NC | 0.134 U | 0.13 U | 0.125 U | 0.127 U |
| PCB191 | 1,230 | 109 | NC | 2,860 | 652 | NC | 0.0489 U | 0.0474 U | 0.0458 U | 0.0466 U |
| PCB192 | 42.7 U | 43.6 U | NC | 41.1 U | 42.3 U | NC | 0.0647 U | 0.0628 U | 0.0606 U | 0.0617 U |
| PCB194 | 11,000 | 1,110 | NC | 23,400 | 6,770 | NC | 0.149 U | 0.145 U | 0.14 U | 0.142 U |
| PCB195 | 5,080 | 489 | NC | 9,240 | 2,560 | NC | 0.113 U | 0.109 U | 0.106 U | 0.107 U |
| PCB196 | 5,570 | 610 | NC | 13,700 | 4,040 | NC | 0.184 U | 0.178 U | 0.172 U | 0.175 U |
| PCB197 & 200 | 1,750 | 176 | NC | 1,650 | 467 | NC | 0.191 U | 0.185 U | 0.179 U | 0.182 U |
| PCB198 & 199 | 8,850 | 1,080 | NC | 20,700 | 6,690 | NC | 0.279 U | 0.27 U | 0.261 U | 0.266 U |
| PCB201 | 1,710 | 161 | NC | 3,240 | 904 | NC | 0.158 U | 0.154 U | 0.149 U | 0.151 U |
| PCB202 | 2,430 | 239 | NC | 3,970 | 1,120 | NC | 0.0973 U | 0.0945 U | 0.0912 U | 0.0928 U |
| PCB203 | 7,600 | 760 | NC | 9,750 | 2,810 | NC | 0.144 U | 0.14 U | 0.135 U | 0.137 U |
| PCB204 | 52.9 U | 60.3 U | NC | 57 U | 58.6 U | NC | 0.089 U | 0.0864 U | 0.0834 U | 0.0849 U |
| PCB205 | 702 | 63.5 | NC | 988 | 269 | NC | 0.0688 U | 0.0668 U | 0.0645 U | 0.0656 U |
| PCB206 | 2,100 | 237 | NC | 3,430 | 1,140 | NC | 0.0551 U | 0.0535 U | 0.0516 U | 0.0525 U |
| PCB207 | 312 | 119 U | NC | 751 | 249 | NC | 0.0509 U | 0.0494 U | 0.0477 U | 0.0486 U |
| PCB208 | 433 | 121 U | NC | 886 | 280 | NC | 0.0913 U | 0.0886 U | 0.0856 U | 0.087 U |
| PCB209 | 192 | 54.7 U | NC | 757 | 272 | NC | 0.151 U | 0.146 U | 0.141 U | 0.144 U |

**Table 4. Analytical Results Including Summation Groups**
Portland Harbor Sample Receipt, Analysis, and Results Report

| LocationID | EPA1-SB11W-07 | | | EPA1-SB11W-08 | | | NA | NA | NA | NA |
|---|---|---|---|---|---|---|---|---|---|---|
| Tissue | body without fillet | fillet | whole body (calculated) | body without fillet | fillet | whole body (calculated) | MEL Proof Blank | MEL Rinsate Blank 1 | MEL Rinsate Blank 2 | MEL Rinsate Blank 3 |
| X-coordinate | 7643703.153 | 7643703.153 | 7643703.153 | 7642440.545 | 7642440.545 | 7642440.545 | NA | NA | NA | NA |
| Y-coordinate | 688248.8439 | 688248.8439 | 688248.8439 | 689464.813 | 689464.813 | 689464.813 | NA | NA | NA | NA |
| RiverMile | 11.4 | 11.4 | 11.4 | 11 | 11 | 11 | NA | NA | NA | NA |
| Sample Date | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 28-Sep-11 | 23-Nov-11 | 30-Nov-11 | 8-Dec-11 | 8-Dec-11 |
| Sample Time | 9:20 | 9:20 | 9:20 | 10:12 | 10:12 | 10:12 | 10:10 | 15:45 | 14:30 | 14:45 |
| Sample Mass (g) | 61.58 | 44.48 | 106.06 | 467.17 | 210.21 | 677.38 | NA | NA | NA | NA |
| Monochlorobiphenyl homologs | 45.1 UT | 46 UT | NC | 43.5 UT | 44.7 UT | NC | 0.12 UT | 0.117 UT | 0.113 UT | 0.115 UT |
| Dichlorobiphenyl homologs | 452 T | 242 UT | NC | 228 UT | 235 UT | NC | 0.608 T | 0.442 JT | 0.435 JT | 0.485 JT |
| Trichlorobiphenyl homologs | 6,660 T | 991 T | NC | 5,630 T | 1,440 T | NC | 1.37 T | 0.404 UT | 0.39 UT | 1.09 T |
| Tetrachlorobiphenyl homologs | 38,500 T | 4,520 T | NC | 80,500 T | 17,200 T | NC | 0.684 UT | 0.664 UT | 0.641 UT | 0.652 UT |
| Pentachlorobiphenyl homologs | 119,000 T | 12,400 T | NC | 156,000 JT | 32,300 T | NC | 1.13 UT | 1.1 UT | 1.06 UT | 1.08 UT |
| Hexachlorobiphenyl homologs | 374,000 JT | 32,000 T | NC | 824,000 JT | 99,400 JT | NC | 2.49 UT | 2.42 UT | 2.33 UT | 2.37 UT |
| Heptachlorobiphenyl homologs | 229,000 T | 22,800 T | NC | 709,000 JT | 103,000 T | NC | 1.16 UT | 1.12 UT | 1.09 UT | 1.1 UT |
| Octachlorobiphenyl homologs | 44,700 T | 4,690 T | NC | 86,600 T | 25,600 T | NC | 0.279 UT | 0.27 UT | 0.261 UT | 0.266 UT |
| Nonachlorobiphenyl homologs | 2,850 T | 357 T | NC | 5,070 T | 1,670 T | NC | 0.0913 UT | 0.0886 UT | 0.0856 UT | 0.087 UT |
| Total PCB Congeners | 814,000 JT | 75,600 JT | 505,000 JT | 1,870,000 JT | 279,000 JT | 1,370,000 JT | 0.452 JT | 0.0219 JT | 0.0198 JT | 0.0887 JT |
| Total PCB Congeners (calc'd) | 815,000 JT | 78,100 JT | 506,000 JT | 1,870,000 JT | 281,000 JT | 1,370,000 JT | 17.4 JT | 16.3 JT | 15.8 JT | 16.1 JT |
| Dioxin-like PCB Congener TCDD toxicity e | 0.921 JT | 0.0889 JT | 0.572 JT | 21.5 JT | 3.32 JT | 15.8 JT | 0.32 UT | 0.311 UT | 0.3 UT | 0.305 UT |
| LWG RA Total PCB Congener TEQ 2005 | 4.2 JT | 4.03 JT | 4.13 JT | 21.5 JT | 6.57 JT | 16.8 JT | 0.32 UT | 0.311 UT | 0.3 UT | 0.305 UT |
| LWG RA Total PCB Congener TEQ 1998 | 18.3 JT | 6.85 JT | 13.5 JT | 25.4 JT | 8.58 JT | 20.2 JT | 0.32 UT | 0.311 UT | 0.3 UT | 0.305 UT |
| LWG RA Total PCB Congener TEQ 1998 | 0.348 JT | 0.197 JT | 0.284 JT | 0.871 JT | 0.264 JT | 0.683 JT | 0.32 UT | 0.311 UT | 0.3 UT | 0.305 UT |

**Notes:**

| | |
|---|---|
| J | Concentration or total is estimated. |
| LWG | Lower Willamette Group |
| NA | Not applicable |
| NC | Not calculated |
| ND | Nondetect |
| PCB | Polychlorinated biphenyl |
| RA | Risk assessment |
| T | Concentration is calculated from laboratory-reported data. |
| TCDD | Tetrachlorodibenzo-p-dioxin |
| TEQ | Toxic equivalent |
| U | Result is not-detected; value reported is the reporting limit. |

# Appendix A

# Chain of Custody Forms

EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101

# Sample Custody & Analysis Required Form

EPA Manchester Laboratory, 7411 Beach Drive East, Port Orchard, WA 98366, 360-871-8700

Form Effective Date: July 2005

Revision 1

| | | | |
|---|---|---|---|
| Project Name: P01077045 Primary Contract # EP-W-07-078 | Project Code: SPP-013A | Method of Shipment/carrier | Airbill Number (if known prior to sealing): |
| Account Code: TR2B/108T | EPA Project Manager/phone number: Younus Burhan (703) 390-0657 | Check all that apply: ☐ Enforce/Custody ☐ Possible Toxic/Hazardous ☐ Data Confidential | |

Sampler Names (Print & Sign). Mark (R) after name of principal recorder.

Ship to: Pace Analytical Services
1700 Elm St SE
Minneapolis, MN 55414
P.O. Scott Wnze (612) 607-6383

If applicable, circle the set of selected metals:

| | | | | |
|---|---|---|---|---|
| Al | Sb | As | Ba | Be |
| B | Cd | Ca | Cr | Co |
| Cu | Fe | Pb | Mg | Mn |
| Mo | Ni | K | Se | Ag |
| Na | Sn | Tl | V | Zn |

(see reverse for more to add/circle)

① Matrix Codes:
10 Water/Liquid (Total)
20 Water/Liquid (Filtered)
40 Sediment/Soil/Solid/Bulk
70 Tissue
80 Oil/Solvent
44 Air filter
42 Wipe/Swab[1]
00 _____

[1] PCB wipe is to be 10cm x 10cm (100 cm²)

#C ② enter the number of containers for each preservative type followed by the appropriate preservation code P ③:

A - HCl
B - $HNO_3$
C - NaOH
D - $H_2SO_4$
E - $Na_2S_2O_3$
F - ascorbic acid[2], then HCl
G - $Na_2S_2O_3$+EDTA
H - EDTA
N - No chemical preservation
P - Bottles pre-preserved at lab
T - To be preserved at the lab

[2] $Na_2S_2O_3$ if required by plan.

W - _____

☐ Check here if the cooler is iced

④ Enter the letter or range of letters on each container for each group of containers with the same preservative type. Each container for each unique sample number must have a unique letter on it.

Laboratory: see the applicable QAPP, SOW and/or Analytical Support Request for specific methods and detection, reporting, and/or quantitation limits

Sampler's comments for the laboratory:

| EPA Sample number Yr | Wk | Sequence | Sampling Date & Time Yr | Mo | Day | Time | Matrix ① | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | Sampler Initials | Sample/Station Description/Field Measurements | Organics (see reverse) VOA | BNA | Pest | PCB (Congener) | PAH | Metals (see reverse) CLP | Selected | Mercury | Micro (see reverse) E. Coli | F. Coliform | T. Coliform | General Chemistry (see reverse) TSS | TDS | BOD 5 | NO2+NO3 | Oil & Grease | Asbestos | Additional Write in Analyses (see reverse) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 46 | 2664 | 11 | 11 | 23 | 1010 | 10 | | | | | | | | | | MEL Proof Blank - Body + Fillet | | | | X | | | | | | | | | | | | | | | |
| | | 2665 | 11 | 11 | 30 | 1545 | 10 | | | | | | | | | | MEL Rinsate Blank - 1130B | | | | X | | | | | | | | | | | | | | | |
| | | 2666 | 11 | 12 | 08 | 1445 | 10 | | | | | | | | | | MEL Rinsate Blank - 1208F | | | | X | | | | | | | | | | | | | | | |
| | | 2667 | 11 | 12 | 08 | 1430 | 10 | | | | | | | | | | MEL Rinsate Blank - 1208B | | | | X | | | | | | | | | | | | | | | |

## Chain of Custody Record

| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
|---|---|---|---|---|---|
| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
| Relinquished by (Signature) | Date | Time | Received by Mobile Lab for Field Analysis (Signature) | Date | Time |
| Shipped by (Signature) [signature] | Date 1/17/12 | Time 10:00 | Received for lab by (Signature) | Date | Time |

(360) 871-8760

**Receiving Laboratory Information** Condition of Samples upon Receipt at Lab:

Custody Seals Intact: ☐ yes ☐ no ☐ none

**Distribution:** White - Laboratory Copy; Yellow - Regional Sample Control Center (RSCC) Copy; Pink - Field or Office Copy

#1

EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101

# Sample Custody & Analysis Required Form

EPA Manchester Laboratory, 7411 Beach Drive East, Port Orchard, WA 98366, 360-871-8700

Form Effective Date: July 2005

Revision 1

Primary Contract #

| Project Name | Project Code | Method of Shipment/carrier | Airbill Number (if known prior to sealing): |
|---|---|---|---|
| PO 107745 EP-W-07-078 | SFP-013A | | |
| **Account Code** | **EPA Project Manager/phone number** | **Check all that apply** | |
| TR2B/108T | Younus Burhan 703 390-0657 | ☐ Enforce/Custody ☐ Possible Toxic/Hazardous ☐ Data Confidential | |

Sampler Names (Print & Sign). Mark (R) after name of principal recorder.

Ship to: Pace Analytical Services
1700 Elm St SE
Minneapolis MN 55414
Scott Unze 612 607-6383

DM

If applicable, circle the set of selected metals:

| | | | | |
|---|---|---|---|---|
| Al | Sb | As | Ba | Be |
| B | Cd | Ca | Cr | Co |
| Cu | Fe | Pb | Mg | Mn |
| Mo | Ni | K | Se | Ag |
| Na | Sn | Tl | V | Zn |

(see reverse for more to add/circle)

① Matrix Codes:
10 Water/Liquid (Total)
20 Water/Liquid (Filtered)
40 Sediment/Soil/Solid/Bulk
70 Tissue
80 Oil/Solvent
44 Air filter
42 Wipe/Swab[1]
00 _____

[1] PCB wipe is to be 10cm x 10cm (100 cm²)

#C ② enter the number of containers for each preservative type followed by the appropriate preservation code P ③:

A - HCl
B - $HNO_3$
C - NaOH
D - $H_2SO_4$
E - $Na_2S_2O_3$
F - ascorbic acid[2], then HCl
G - $Na_2S_2O_3$+EDTA
H - EDTA
N - No chemical preservation
P - Bottles pre-preserved at lab
T - To be preserved at the lab

[2] $Na_2S_2O_3$ if required by plan.

W Samples frozen prior to shipment

☒ Check here if the cooler is iced

④ Enter the letter or range of letters on each container for each group of containers with the same preservative type. Each container for each unique sample number must have a unique letter on it.

**Laboratory:** see the applicable QAPP, SOW and/or Analytical Support Request for specific methods and detection, reporting, and/or quantitation limits

Retain all sample material for return

Sampler's comments for the laboratory:

PCB Congener Analysis - All remaining sample material will be returned to Region 10 after analysis

| EPA Sample number (Yr Wk Sequence) | Sampling Date & Time (Yr Mo Day Time) | Matrix ① | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | Sampler Initials | Sample/Station Description/Field Measurements | Organics (see reverse): VOA | BNA | Pest | PCB Congener | PAH | Metals (see reverse): CLP | Selected | Mercury | Micro (see reverse): E. Coli | F. Coliform | T. Coliform | General Chemistry (see reverse): TSS | TDS | BOD 5 | NO2+NO3 | Oil & Grease | Asbestos | Additional Write in Analyses (see reverse) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11462600 01 | 11 09 28 1350 | 70 | | | | | | | | | | SB10E-06/11422500 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 02 | 11 09 28 0920 | 70 | | | | | | | | | | SB11W-07/11422501 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 03 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 04 | 11 10 08 1615 | 70 | | | | | | | | | | SB06E-11/11422502 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 05 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 06 | 11 10 07 1650 | 70 | | | | | | | | | | SB08W-06/11422503 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 07 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 10 | 11 10 08 1440 | 70 | | | | | | | | | | SB06E-08/11422505 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 12 | 11 10 08 1549 | 70 | | | | | | | | | | SB06E-09/11422506 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 14 | 11 10 07 1330 | 70 | | | | | | | | | | SB11E-10/11422507 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 16 | 11 10 08 1610 | 70 | | | | | | | | | | SB06E-10/11422508 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |

## Chain of Custody Record

| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
|---|---|---|---|---|---|
| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
| Relinquished by (Signature) | Date | Time | Received by **Mobile Lab** for Field Analysis (Signature) | Date | Time |
| **Shipped** by (Signature) [signature] | Date 1/17/12 | Time 10:00 | Received for **lab** by (Signature) | Date | Time |

(360) 871-8760

**Receiving Laboratory Information** Condition of Samples upon Receipt at Lab:

Custody Seals Intact: ☐ yes ☐ no ☐ none

**Distribution:** White - Laboratory Copy; Yellow - Regional Sample Control Center (RSCC) Copy; Pink - Field or Office Copy

#2

EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101

# Sample Custody & Analysis Required Form

EPA Manchester Laboratory, 7411 Beach Drive East, Port Orchard, WA 98366, 360-871-8700

Form Effective Date: July 2005

Revision 1

Primary Contract #

| Project Name | Project Code | Method of Shipment/carrier | Airbill Number (if known prior to sealing): |
|---|---|---|---|
| PO 107745 EP-W-07-078 | SFP-013A | | |
| **Account Code** | **EPA Project Manager/phone number** | **Check all that apply** | |
| TR2B/108T | Vaunus Burton 703 390-0657 | ☐ Enforce/Custody ☐ Possible Toxic/Hazardous ☐ Data Confidential | |

Sampler Names (Print & Sign). Mark (R) after name of principal recorder.
Ship to: Pace Analytical Services
1700 Elm St SE
Minneapolis, MN 55414
PM: Scott Unze 612 607-6383

If applicable, circle the set of selected metals:

| | | | | |
|---|---|---|---|---|
| Al | Sb | As | Ba | Be |
| B | Cd | Ca | Cr | Co |
| Cu | Fe | Pb | Mg | Mn |
| Mo | Ni | K | Se | Ag |
| Na | Sn | Tl | V | Zn |

(see reverse for more to add/circle)

① Matrix Codes:
10 Water/Liquid (Total)
20 Water/Liquid (Filtered)
40 Sediment/Soil/Solid/Bulk
70 Tissue
80 Oil/Solvent
44 Air filter
42 Wipe/Swab[1]
00 _____

[1] PCB wipe is to be 10cm x 10cm (100 cm²)

#C ② enter the number of containers for each preservative type followed by the appropriate preservation code P ③:
A - HCl
B - $HNO_3$
C - NaOH
D - $H_2SO_4$
E - $Na_2S_2O_3$
F - ascorbic acid[2], then HCl
G - $Na_2S_2O_3$+EDTA
H - EDTA
N - No chemical preservation
P - Bottles pre-preserved at lab
T - To be preserved at the lab
[2] $Na_2S_2O_3$ if required by plan.
W - Sample frozen prior to shipment
☐ Check here if the cooler is iced
④ Enter the letter or range of letters on each container for each group of containers with the same preservative type. Each container for each unique sample number must have a unique letter on it.

Laboratory: see the applicable QAPP, SOW and/or Analytical Support Request for specific methods and detection, reporting, and/or quantitation limits
Retain all sample material for return

Sampler's comments for the laboratory:
PCB Congener Analysis – All remaining sample material will be returned to Region 10 after analysis

| EPA Sample number (Yr Wk Sequence) | Sampling Date & Time (Yr Mo Day Time) | Matrix ① | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | Sampler Initials | Sample/Station Description/Field Measurements | Organics (see reverse): VOA | BNA | Pest | PCB Congener | PAH | Metals (see reverse): CLP | Selected | Mercury | Micro (see reverse): E. Coli | F. Coliform | T. Coliform | General Chemistry (see reverse): TSS | TDS | BOD 5 | NO2+NO3 | Oil & Grease | Asbestos | Additional Write in Analyses (see reverse) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 46 261 8 | 11 09 22 1201 | 70 | | | | | | | | | | SB05W-04/11422509 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 20 | 11 09 28 1012 | 70 | | | | | | | | | | SB11W-08/11422510 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 22 | 11 09 19 0705 | 70 | | | | | | | | | | SB11E-07/11422511 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 24 | 11 10 07 1236 | 70 | | | | | | | | | | SB11E-09/11422512 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 26 | 11 09 16 0714 | 70 | | | | | | | | | | SB11W-06/11422513 ERDC | | | | X | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 28 | 11 09 27 1000 | 70 | | | | | | | | | | SB08W-05/11422514/JEAH5 | | | | X | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 30 | 11 09 27 1133 | 70 | | | | | | | | | | SB08W-01/11422515/JEAH6 | | | | X | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| 32 | 11 09 28 0822 | 70 | | | | | | | | | | SB11W-05/11422516/JEAH7 | | | | X | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |

## Chain of Custody Record

| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
|---|---|---|---|---|---|
| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
| Relinquished by (Signature) | Date | Time | Received by **Mobile Lab** for Field Analysis (Signature) | Date | Time |
| **Shipped** by (Signature) | Date 1/17/12 | Time 10:00 | Received for **lab** by (Signature) | Date | Time |

(360) 871-8760

**Receiving Laboratory Information** Condition of Samples upon Receipt at Lab:

Custody Seals Intact: ☐ yes ☐ no ☐ none

**Distribution:** White - Laboratory Copy; Yellow - Regional Sample Control Center (RSCC) Copy; Pink - Field or Office Copy

#3

EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101

# Sample Custody & Analysis Required Form

EPA Manchester Laboratory, 7411 Beach Drive East, Port Orchard, WA 98366, 360-871-8700

Form Effective Date: July 2005

Revision 1

Primary Contract #

| Project Name | Project Code | Method of Shipment/carrier | Airbill Number (if known prior to sealing): |
|---|---|---|---|
| P.0107745 EP-W-07-078 | SPP-013A | | |

| Account Code | EPA Project Manager/phone number | Check all that apply |
|---|---|---|
| TR2B/ 108T | Younus Burhan 703 990-0657 | ☐ Enforce/Custody ☐ Possible Toxic/Hazardous ☐ Data Confidential |

*Sampler Names* (Print & Sign). *Mark* (R) *after name of principal recorder.*

Ship to: Pace Analytical Services
1700 Elm St SE
Minneapolis MN 55414
PM Scott Unze 612 607-6383

If applicable, circle the set of selected metals:

| | | | | |
|---|---|---|---|---|
| Al | Sb | As | Ba | Be |
| B | Cd | Ca | Cr | Co |
| Cu | Fe | Pb | Mg | Mn |
| Mo | Ni | K | Se | Ag |
| Na | Sn | Tl | V | Zn |

*(see reverse for more to add/circle)*

① Matrix Codes:
10 Water/Liquid (Total)
20 Water/Liquid (Filtered)
40 Sediment/Soil/Solid/Bulk
70 Tissue
80 Oil/Solvent
44 Air filter
42 Wipe/Swab[1]
00 _____

[1] PCB wipe is to be 10cm x 10cm (100 cm²)

#C ② enter the number of containers for each preservative type followed by the appropriate preservation code P ③:

A - HCl
B - $HNO_3$
C - NaOH
D - $H_2SO_4$
E - $Na_2S_2O_3$
F - ascorbic acid[2], then HCl
G - $Na_2S_2O_3$+EDTA
H - EDTA
N - No chemical preservation
P - Bottles pre-preserved at lab
T - To be preserved at the lab

[2] $Na_2S_2O_3$ if required by plan.

Weather: Samples frozen prior to shipment

☐ Check here if the cooler is iced

④ Enter the letter or range of letters on each container for each group of containers with the same preservative type. Each container for each unique sample number must have a unique letter on it.

**Laboratory:** *see the applicable QAPP, SOW and/or Analytical Support Request for specific methods and detection, reporting, and/or quantitation limits*

Return all sample material for return

*Sampler's comments for the laboratory:*

PCB Congener Analysis – All remaining sample material will be returned to Region 10 after analysis

| EPA Sample number Yr | Wk | Sequence | Sampling Date & Time Yr | Mo | Day | Time | Matrix ① | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | Sampler Initials | Sample/Station Description/Field Measurements | VOA | BNA | Pest | PCB (Congener) | PAH | CLP | Selected | Mercury | E. Coli | F. Coliform | T. Coliform | TSS | TDS | BOD 5 | NO2+NO3 | Oil & Grease | Asbestos | Additional Write in Analyses | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 46 | 34 | 11 | 09 | 28 | 1257 | 70 | | | | | | | | | | SB10E-04/11422517/JEAH8 | | | | X | | | | | | | | | | | | | | | | |
| | | 35 | " | " | " | " | " | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| | | 36 | 11 | 09 | 28 | 1413 | 70 | | | | | | | | | | SB09E-05/11422518/JEAH9 | | | | X | | | | | | | | | | | | | | | | |
| | | 37 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| | | 40 | 11 | 09 | 29 | 1710 | 70 | | | | | | | | | | SB04E-06/11422520/JEAJ1 | | | | X | | | | | | | | | | | | | | | | |
| | | 41 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| | | 42 | 11 | 09 | 29 | 1834 | 70 | | | | | | | | | | SB04E-02/11422521/JEAJ2 | | | | X | | | | | | | | | | | | | | | | |
| | | 43 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| | | 44 | 11 | 10 | 02 | 1250 | 70 | | | | | | | | | | SB05W-02/11422522/JEAJ3 | | | | X | | | | | | | | | | | | | | | | |
| | | 45 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| | | 46 | 11 | 10 | 03 | 0932 | 70 | | | | | | | | | | SB05E-03/11422523/JEAJ4 | | | | X | | | | | | | | | | | | | | | | |
| | | 47 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| | | 50 | 11 | 10 | 03 | 1530 | 70 | | | | | | | | | | SB07E-05/11422525/JEAJ6 | | | | X | | | | | | | | | | | | | | | | |
| | | 51 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| | | 52 | 11 | 10 | 03 | 1542 | 70 | | | | | | | | | | SB07E-06/11422526/JEAJ7 | | | | X | | | | | | | | | | | | | | | | |
| | | 53 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |

## Chain of Custody Record

| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
|---|---|---|---|---|---|
| | | | | | |
| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
| | | | | | |
| Relinquished by (Signature) | Date | Time | Received by **Mobile Lab** for Field Analysis (Signature) | Date | Time |
| | | | | | |
| **Shipped** by (Signature) | Date | Time | Received for **lab** by (Signature) | Date | Time |
| [signature] | 1/17/12 | 10:00 | | | |

(360) 871-8760

**Receiving Laboratory Information** Condition of Samples upon Receipt at Lab:

Custody Seals Intact: ☐ yes ☐ no ☐ none

**Distribution:** White - Laboratory Copy;
Yellow - Regional Sample Control Center (RSCC) Copy; Pink - Field or Office Copy

#4

EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101

# Sample Custody & Analysis Required Form

EPA Manchester Laboratory, 7411 Beach Drive East, Port Orchard, WA 98366, 360-871-8700

Form Effective Date: July 2005

Revision 1

Primary Contract #

| Project Name | Project Code | Method of Shipment/carrier | Airbill Number (if known prior to sealing): |
|---|---|---|---|
| PO 107745 EP-W-07-078 | SFP-013A | | |

| Account Code | EPA Project Manager/phone number | Check all that apply |
|---|---|---|
| TRDB / 108T | Younus Burhan 703 390-0657 | ☐ Enforce/Custody ☐ Possible Toxic/Hazardous ☐ Data Confidential |

Sampler Names (Print & Sign). Mark (R) after name of principal recorder.

Ship to: Pace Analytical Services
1700 Elm St SE
Minneapolis MN 55414
P.O. Scott Unze 612 607-6383

If applicable, circle the set of selected metals:

| | | | | |
|---|---|---|---|---|
| Al | Sb | As | Ba | Be |
| B | Cd | Ca | Cr | Co |
| Cu | Fe | Pb | Mg | Mn |
| Mo | Ni | K | Se | Ag |
| Na | Sn | Tl | V | Zn |

(see reverse for more to add/circle)

① Matrix Codes:
10 Water/Liquid (Total)
20 Water/Liquid (Filtered)
40 Sediment/Soil/Solid/Bulk
70 Tissue
80 Oil/Solvent
44 Air filter
42 Wipe/Swab[1]
00 _____

[1] PCB wipe is to be 10cm x 10cm (100 cm²)

#C ② enter the number of containers for each preservative type followed by the appropriate preservation code P ③:

A - HCl
B - $HNO_3$
C - NaOH
D - $H_2SO_4$
E - $Na_2S_2O_3$
F - ascorbic acid[2], then HCl
G - $Na_2S_2O_3$+EDTA
H - EDTA
N - No chemical preservation
P - Bottles pre-preserved at lab
T - To be preserved at the lab

[2] $Na_2S_2O_3$ if required by plan.

W Samples frozen prior to shipment

☐ Check here if the cooler is iced

④ Enter the letter or range of letters on each container for each group of containers with the same preservative type. Each container for each unique sample number must have a unique letter on it.

Laboratory: see the applicable QAPP, SOW and/or Analytical Support Request for specific methods and detection, reporting, and/or quantitation limits

Retain all sample material for return

Sampler's comments for the laboratory:

PCB Congener Analysis — All remaining sample material will be returned to Region 10 after analysis

| EPA Sample number Yr | Wk | Sequence | Sampling Date & Time Yr | Mo | Day | Time | Matrix ① | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | #C ② | P ③ | Sampler Initials | Sample/Station Description/Field Measurements | Organics (see reverse) VOA | BNA | Pest | PCB Congener | PAH | Metals (see reverse) CLP | Selected | Mercury | Micro (see reverse) E. Coli | F. Coliform | T. Coliform | General Chemistry (see reverse) TSS | TDS | BOD 5 | NO2+NO3 | Oil & Grease | Asbestos | Additional Write in Analyses (see reverse) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 46 | 2654 | 11 | 10 | 03 | 1615 | 70 | | | | | | | | | | SB07E-04/11422527/JEAJ8 | | | | X | | | | | | | | | | | | | | |
| | | 55 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| | | 56 | 11 | 10 | 03 | 1730 | 70 | | | | | | | | | | SB06E-02/11422528/JEAJ9 | | | | X | | | | | | | | | | | | | | |
| | | 57 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| | | 58 | 11 | 10 | 06 | 1645 | 70 | | | | | | | | | | SB06W-04/11422529/JEAK0 | | | | X | | | | | | | | | | | | | | |
| | | 59 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| | | 60 | 11 | 10 | 06 | 1810 | 70 | | | | | | | | | | SB05E-04/11422530/JEAK1 | | | | X | | | | | | | | | | | | | | |
| | | 61 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| | | 62 | 11 | 10 | 07 | 0820 | 70 | | | | | | | | | | SB06W-01/11422531/JEAK2 | | | | X | | | | | | | | | | | | | | |
| | | 63 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |

## Chain of Custody Record

| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
|---|---|---|---|---|---|
| | | | | | |
| Relinquished by (Signature) | Date | Time | Received by (Signature) | Date | Time |
| | | | | | |
| Relinquished by (Signature) | Date | Time | Received by Mobile Lab for Field Analysis (Signature) | Date | Time |
| | | | | | |
| Shipped by (Signature) [signature] | Date 1/17/12 | Time 10:00 | Received for lab by (Signature) | Date | Time |

360 871-8760

**Receiving Laboratory Information** Condition of Samples upon Receipt at Lab:

Custody Seals Intact: ☐ yes ☐ no ☐ none

**Distribution:** White - Laboratory Copy; Yellow - Regional Sample Control Center (RSCC) Copy; Pink - Field or Office Copy

# Appendix B

# Data Validation Report

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 10**
1200 Sixth Avenue
Seattle, Washington 98101

June 13, 2012

Reply to: OEA-095
Attn of: Ginna Grepo-Grove

MEMORANDUM

Subject: Data Validation Report for the full list of 209 Polychlorinated Biphenyl Congener (PCB Congeners) Analyses of Small-Mouthed Bass Tissue Samples Collected for the Portland Harbor RI/FS PACE Project Numbers: 10180829; 10180826; 10180867; 10180870

From: Ginna Grepo-Grove, R10 QA Manager
Office of Environmental Assessment, USEPA

To: Chip Humphrey, Remedial Project Manager, ECL
Matthew Lambert, Contract WAM OSRTI, HQ

CC: Younus Burhan, Project Manager, Tetratech, Inc.

The quality assurance (QA) review of the analytical data generated from the analysis of 63 fish tissue and 4 water (rinsate) samples collected from the above referenced site has been completed. These samples were analyzed for the 209 Polychlorinated Bipheny Congeners (PCB Congeners) in accordance with the Method 1668C, "Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Bio-solids and Tissue by High Resolution Gas Chromatograph (HRGC)/High Resolution Mass Spectrometer (HRMS)", April 2010 by Pace Analytical Services located in Minneapolis, MN. All sample analyses were validated following the requirements of the EPA's Stage 4 Manual Data Validation (S4VM).

The following samples were evaluated in this validation report:



Printed on Recycled Paper

ED_000959_NSF_00075396-00077 09/03/2019 SEMS_0333238

**Table 1 – Sample Index, Dates of Collection, Extraction and Analysis**

| EPA Sample No. | EPA Station Locations | Sample Description | Lab Sample No. | Collection Dates | VTSR * | Extraction Dates | Extract Clean-Up | Analysis Dates (1) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| 11462600 | EPA1-SB10E-06 | Fillet | 10180867001 | 09/28/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/14/12 |
| 11462601 | EPA1-SB10E-06 | Carcass | 10180867002 | 09/28/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/14/12 |
| 11462602 | EPA1-SB11W-07 | Fillet | 10180867003 | 09/28/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462603 | EPA1-SB11W-07 | Carcass | 10180867004 | 09/28/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462604 | EPA1-SB06E-11 | Fillet | 10180867005 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462605 | EPA1-SB06E-11 | Carcass | 10180867006 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462606 | EPA1-SB08W-06 | Fillet | 10180867007 | 10/07/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462607 | EPA1-SB08W-06 | Carcass | 10180867008 | 10/07/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462608 | EPA1-SB11E-08 | Fillet | 10177246001-R | 10/08/11 | 12/02/11 | 12/16/11 | 12/20/11 | 12/21/11 |
| 11462609 | EPA1-SB11E-08 | Carcass | 10177246002-R | 10/08/11 | 12/02/11 | 12/16/11 | 12/20/11 | 12/21/11 |
| 11462610 | EPA1-SB06E-08 | Fillet | 10180867009 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462611 | EPA1-SB06E-08 | Carcass | 10180867010 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462612 | EPA1-SB06E-09 | Fillet | 10180867011 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462613 | EPA1-SB06E-09 | Carcass | 10180867012 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462614 | EPA1-SB11E-10 | Fillet | 10180867013 | 10/07/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/15/12 |
| 11462615 | EPA1-SB11E-10 | Carcass | 10180867014 | 10/07/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/16/12 |
| 11462616 | EPA1-SB06E-10 | Fillet | 10180867015 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/18/12 |
| 11462617 | EPA1-SB06E-10 | Carcass | 10180867016 | 10/08/11 | 01/18/12 | 02/10/12 | 02/13/12 | 02/16/12 |
| 11462618 | EPA1-SB05W-04 | Fillet | 10180829001-R | 09/22/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462619 | EPA1-SB05W-04 | Carcass | 10180829002-R | 09/22/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462620 | EPA1-SB11W-08 | Fillet | 10180829003-R | 09/28/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462621 | EPA1-SB11W-08 | Carcass | 10180829004-R | 09/28/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/27/12 |
| 11462622 | EPA1-SB11E-07 | Fillet | 10180829005-R | 09/19/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462623 | EPA1-SB11E-07 | Carcass | 10180829006-R | 09/19/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462624 | EPA1-SB11E-09 | Fillet | 10180829007-R | 10/07/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462625 | EPA1-SB11E-09 | Carcass | 10180829008-R | 10/07/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |

| EPA Sample No. | EPA Station Locations | Sample Description | Lab Sample No. | Collection Dates | VTSR * | Extraction Dates | Extract Clean-Up | Analysis Dates (1) |
|---|---|---|---|---|---|---|---|---|
| 11462626 | EPA1-SB11W-06 | Fillet | 10180829009-R | 09/16/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462627 | EPA1-SB11W-06 | Carcass | 10180829010-R | 09/16/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/27/12 |
| 11462628 | EPA1-SB08W-05 | Fillet | 10180829011 | 09/27/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/07/12 |
| 11462629 | EPA1-SB08W-05 | Carcass | 10180829012 | 09/27/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/07/12 |
| 11462630 | EPA1-SB08W-01 | Fillet | 10180829013 | 09/27/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462631 | EPA1-SB08W-01 | Carcass | 10180829014 | 09/27/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462632 | EPA1-SB11W-05 | Fillet | 10180829015 | 09/28/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462633 | EPA1-SB11W-05 | Carcass | 10180829016 | 09/28/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462634 | EPA1-SB110E-04 | Fillet | 10180830001 | 09/28/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462635 | EPA1-SB110E-04 | Carcass | 10180830002 | 09/28/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462636 | EPA1-SB09E-05 | Fillet | 10180830003 | 09/28/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462637 | EPA1-SB09E-05 | Carcass | 10180830004 | 09/28/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462638 | EPA1-SB05W-03 | Fillet | 10177246003-R | 09/28/11 | 12/02/11 | 12/16/11 | 12/20/11 | 12/20/11 |
| 11462639 | EPA1-SB05W-03 | Carcass | 10177246004-R | 09/28/11 | 12/02/11 | 12/16/11 | 12/20/11 | 12/20/11 |
| 11462640 | EPA1-SB04E-06 | Fillet | 10180830005 | 09/29/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462641 | EPA1-SB04E-06 | Carcass | 10180830006 | 09/29/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462642 | EPA1-SB04E-02 | Fillet | 10180830007 | 09/29/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462643 | EPA1-SB04E-02 | Carcass | 10180830008 | 09/29/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462644 | EPA1-SB05W-02 | Fillet | 10180830009 | 10/02/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/08/12 |
| 11462645 | EPA1-SB05W-02 | Carcass | 10180830010 | 10/02/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/09/12 |
| 11462646 | EPA1-SB05E-03 | Fillet | 10180830011 | 10/03/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/09/12 |
| 11462647 | EPA1-SB05E-03 | Carcass | 10180830012 | 10/03/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/09/12 |
| 11462648 | EPA1-SB05E-02 | Fillet | 10177246005-R | 10/03/11 | 12/02/11 | 12/16/11 | 12/20/11 | 12/20/11 |
| 11462649 | EPA1-SB05E-02 | Carcass | 10177246006-R | 10/03/11 | 12/02/11 | 12/16/11 | 12/20/11 | 12/21/11 |
| 11462650 | EPA1-SB07E-05 | Fillet | 10180830013 | 10/03/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/09/12 |
| 11462651 | EPA1-SB07E-05 | Carcass | 10180830014 | 10/03/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/14/12 |
| 11462652 | EPA1-SB07E-06 | Fillet | 10180830015 | 10/03/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/15/12 |
| 11462653 | EPA1-SB07E-06 | Carcass | 10180830016 | 10/03/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/14/12 |
| 11462654 | EPA1-SB07E-04 | Fillet | 1018082601-R | 10/03/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/15/12 |
| 11462655 | EPA1-SB07E-04 | Carcass | 1018082602-R | 10/03/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462656 | EPA1-SB06E-02 | Fillet | 1018082603 | 10/03/11 | 01/18/12 | 02/02/12 | 02/06/12 | 02/07/12 |

| EPA Sample No. | EPA Station Locations | Sample Description | Lab Sample No. | Collection Dates | VTSR * | Extraction Dates | Extract Clean-Up | Analysis Dates (1) |
|---|---|---|---|---|---|---|---|---|
| 11462657 | EPA1-SB06E-02 | Carcass | 1018082604-R | 10/03/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/27/12 |
| 11462658 | EPA1-SB06W-04 | Fillet | 10180826-5-R | 10/06/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/25/12 |
| 11462659 | EPA1-SB06W-04 | Carcass | 1018082606-R | 10/06/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462660 | EPA1-SB05E-04 | Fillet | 1018082607-R | 10/06/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/25/12 |
| 11462661 | EPA1-SB05E-04 | Carcass | 1018082608-R | 10/06/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462662 | EPA1-SB06W-01 | Fillet | 1018082609-R | 10/07/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462663 | EPA1-SB06W-01 | Carcass | 1018082610-R | 10/07/11 | 01/18/12 | 02/23/12 | 02/24/12 | 02/26/12 |
| 11462664 | Mix Blender Blank | Mix F/C Blender Blank | 10180870001 | 11/23/11 | 01/18/12 | 01/25/12 | 01/25/12 | 01/30/12 |
| 11462665 | Carcass Blender Blank | Carcass Blender Blank | 10180870002 | 11/30/11 | 01/18/12 | 01/25/12 | 01/25/12 | 01/30/12 |
| 11462666 | Fillet Blender Blank | Fillet Blender Blank | 10180870003 | 12/08/11 | 01/18/12 | 01/25/12 | 01/25/12 | 01/30/12 |
| 11462667 | Carcass Blender Blank | Carcass Blender Blank | 10180870004 | 12/08/11 | 01/18/12 | 01/25/12 | 01/25/12 | 01/30/12 |

* VTSR – Verified Time of Sample Receipt at the laboratory

**DATA QUALIFICATIONS**

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the Quality Assurance Project Plan for the Portland Harbor RI/FS Addendum for the Small-Mouth Bass Fish Tissue Sampling and Analysis Quality Assurance Project Plan (QAPP), and the technical specifications of Method 1668C. Some of the data quality elements were qualified using the reviewer's professional judgment. The conclusions presented herein are based on the information provided for the review.

The following QA elements were evaluated against the method specified technical acceptance criteria during data validation:

- Sample Handling and Sample Conditions Upon Receipt at the Laboratory
- Holding Time
- Instrument Performance
- Initial and Continuing Calibrations
- On-going Precision and Recovery
- Retention Time and Compound Elution
- Internal Standards Recovery
- Clean-up Standards Recovery
- Injection Standards Recovery
- Analytical Sequence and Instrument Stability
- Compound Identification
- Compound Quantitation and Detection Limits
- Blanks Analysis
- Toxicity Equivalence Quotients (TEQ)

All of the method and project specified QC and technical acceptance criteria were met by all analysis with a few exceptions below:

BLANK ANALYSES Associated results were flagged accordingly: ≥5x blank value is flagged "J", estimated; <5x Blank value = "U", non-detects.

- Target PCB congeners were detected at trace levels in the following method blanks.
    - Blank 31517 – associated with samples extracted on 2/2/12: PCB18/30, PCB 32 and PCB 20/28
    - Blank 31761 – associated with samples extracted on 2/23/12: PCB 18/30 and PCB 20/28
    - Blank 31109 - associated with samples extracted on 12/16/11: PCBs 8, 18/30, 20/28, 31, 32, 52, 44/47/65 and 61/70/74/76
    - Blank 31424- associated with samples extracted on 1/25/11: PCBs 11 & 15.



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- The following target compounds were flagged due to the contamination of proof blank (rinsates collected off tissuemizers/blender after each batch of homogenization):

    - 11462664 - Rinsate collected during sample homogenization on 11/23/11
        - Trace levels of 2, 3, 4'-TrCB, 2, 2'-DiCB, 2, 4', 5-TrCB. PCBs20/28 and 3, 4, 4'-TrCB were detected.
    - 11464665 - Rinsate collected during sample homogenization on 11/30/11:
        - Trace levels of 4 ,4'-DiCB was detected
    - 11462666 – Rinsate Blank collected during sample homogenization on 12/8/11.
        - Trace levels of PCBs 2, 4', 5-TrCB and 2, 2'-DiCB were detected
    - 11264667 – Rinsate blank collected on 12/8/11 during sample homogenization
        - Trace level of 4, 4'-DiCB.
    - When detected in the associated samples, the concentrations of the contaminants listed above were greater than 5x the values in their respective rinsate blank(s). No sample result was qualified on the basis of rinsate contamination.

**Analytical Data:**

The fish fillet % Lipids ranged from 0.35 – 3.71%. The fish carcass %lipids range up to a high end of 12.7%. Only 32 fish tissue samples had % lipids that were ≤3%. The variability in %lipids indicates the complexity of the sample matrix and explains the chromatographic interferences encountered during analysis. Most of the samples had multiple analyses due to the concentration levels of PCB congeners and interferences present in the samples. Some of the samples had several dilutions and some of the final dilutions reported were still above the instrument's linear range. These values lab maybe biased, were flagged "DN or DN2" by the lab and were qualified estimated, "J", by this reviewer. Sample results with heavy interferences were also qualified estimated, "J".

**Laboratory Contact**

The laboratory was not contacted for this review.

**Overall Assessment**

All of the samples were analyzed in accordance with the method specifications. Less than 1% of the 11,150 total data points were qualified estimated or non-detects due to method and proof blank contamination, chromatographic interferences or chromatographic peak saturation. No other reported results were qualified. The data, as qualified, are acceptable and can be used for all purposes.

| Data Qualifiers | | |
|---|---|---|
| | U | The analyte was not detected at or above the reported result. |
| | J | The analyte was positively identified. The associated numerical result is an estimate. |
| | UJ | The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample. |
| | R | The data are unusable for all purposes. |
| | N | There is evidence the analyte is present in this sample. |
| | JN | There is evidence that the analyte is present. The associated numerical result is an estimate. |