Portland Harbor Sample Receipt, Analysis, and Results Report

Tetra Tech, EM Inc.
August 2012

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 and subsequent processing and 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 data 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 for analysis. The other sample aliquot was shipped to Pace in Minneapolis, Minnesota, for additional analysis.

KAP analyzed samples for the following analyte groups under the Organic Statement of Work (SOW) SOM01.2, as modified in the SAP:

- SVOC following SOW SOM01.2 as modified by modification reference number 2188.0.

- PAH following SOW SOM01.2 as modified by modification reference number 2188.0.
- Pesticides following SOW SOM01.2 as modified by modification reference number 2189.0.

Pace analyzed samples 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 1 summarizes the results of the data validation (see tables attached to this report). The data validation report is included in Appendix A 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 RAs 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.

Table 2 lists the summation group results to be calculated for each sample. Table 3 summarizes the laboratory data, including the summed totals as defined in Table 2 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.

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.

Tables

Table 1: 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 2. 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 2. Summary of Analyte Summation Groups
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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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB04E-02	EPA1-SB04E-02	EPA1-SB04E-06	EPA1-SB04E-06	EPA1-SB05E-02	EPA1-SB05E-02	EPA1-SB05E-03	EPA1-SB05E-03
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7618740.363	7618740.363	7618995.081	7618995.081	7621025.952	7621025.952	7621611.18	7621611.18
Y-coordinate	714962.802	714962.802	714296.5253	714296.5253	710385.5935	710385.5935	709354.4934	709354.4934
RiverMile	4.2	4.2	4.3	4.3	5.2	5.2	5.4	5.4
SampleDate	29-Sep-11	29-Sep-11	29-Sep-11	29-Sep-11	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11
SampleTime	18:34	18:34	17:10	17:10	9:54	9:54	9:32	9:32
PCB001	21.6 U	21.4 U	38.6	22.3 U	36.8 U	15 U	21 U	22.1 U
PCB002	26.8 U	26.6 U	26.6 U	27.6 U	45.6 U	18.6 U	26.1 U	27.4 U
PCB003	16.9	14 U	34.2	16.3	24 U	9.8 U	16.9	14.4 U
PCB004	465	88.2	757	151	264	46.5	500	154
PCB005	26.8 U	26.6 U	26.6 U	27.6 U	45.6 U	18.6 U	26.1 U	27.4 U
PCB006	79.1	24.9 U	113	28.7	42.6 U	17.4 U	48.2	25.6 U
PCB007	34 U	33.7 U	33.7 U	35 U	57.8 U	23.6 U	33.1 U	34.7 U
PCB008	384	93.1	407	106	130 U	46.7 U	204	95
PCB009	25.8	16.3 U	23.8 J	16.9 U	27.9 U	11.4 U	16 U	16.8 U
PCB010	22.8	17.7 U	38.4	18.4 U	30.4 U	12.4 U	19.5	18.2 U
PCB011	241	172	269	159	239 U	154	329	182
PCB012 & 013	23.9 U	23.7 U	23.7 U	24.7 U	40.7 U	16.6 U	23.3 U	24.4 U
PCB014	26.3 U	26 U	26 U	27 U	44.6 U	18.2 U	25.5 U	26.8 U
PCB015	170	57.2	169	86.8	67.2 U	27.4 U	115	59.9
PCB016	471	102	382	108	163	36.4	167	113
PCB017	942	181	1,010	224	418	67.6	587	250
PCB018 & 030	1,370	273	1,250	327	491	92.1 U	528 U	314
PCB019	751	132	687	146	528	78.7	822	250
PCB020 & 028	5,770	1,110	8,570	1,820	2,150	348 U	1,840	1,340
PCB021 & 033	1,090	249	873	277	367	90.2 U	366	231
PCB022	1,310	269	1,330	336	418	79.3	331	310
PCB023	31.7 U	31.4 U	31.4 U	32.7 U	53.9 U	22 U	30.8 U	32.4 U
PCB024	27.3	19.1 U	28.5	19.9 U	32.8 U	13.4 U	18.8 U	19.7 U
PCB025	301	56.5	326	69.5	110	19.6 U	121	86.7
PCB026 & 029	773	145	787	170	284	45.2	282	195
PCB027	162	31.9	294	61.7	97.8	19 U	127	42.8
PCB031	3,140	616	3,100	717	1,010	183 U	930	812
PCB032	497	97.1 U	1,420	283	216	40.1 U	326	126
PCB034	22.8 U	22.6 U	24.2	23.5 U	38.7 U	15.8 U	22.1 U	23.2 U
PCB035	23.7 U	23.4 U	23.4 U	24.4 U	40.2 U	16.4 U	23 U	24.1 U
PCB036	25.1 U	24.9 U	24.9 U	25.8 U	42.6 U	17.4 U	24.4 U	25.6 U
PCB037	930	195	482	195	142	46.1	239	148
PCB038	18.2 U	18 U	23	18.7 U	30.9 U	12.6 U	17.7 U	18.5 U
PCB039	22.8 U	22.6 U	22.6 U	23.5 U	38.7 U	15.8 U	22.1 U	23.2 U
PCB040 & 041 & 071	2,620	501	10,600	1,920	1,120	204	1,430	659
PCB042	2,160	403	6,110	1,100	878	145	725	602
PCB043 & 073	226	40.7	672	119	174	27.5	161	66.9
PCB044 & 047 & 065	10,600	1,890	29,000	5,170	5,550	928	10,500	3,170
PCB045 & 051	1,420	256	3,010	516	592	89.2	1,760	439
PCB046	273	71.4 U	669	120	123 U	50 U	145	73.5 U

Table 3. Analytical Results Including Summation Groups
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RiverMile	4.2	4.2	4.3	4.3	5.2	5.2	5.4	5.4
SampleDate	29-Sep-11	29-Sep-11	29-Sep-11	29-Sep-11	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11
SampleTime	18:34	18:34	17:10	17:10	9:54	9:54	9:32	9:32
PCB048	1,240	223	3,530	648	513	90.2	433	288
PCB049 & 069	7,030	1,270	21,100	3,770	3,540	565	5,330	2,190
PCB050 & 053	908	159	2,730	477	432	63.7	1,080	226
PCB052	11,400	2,140	35,700	6,610	5,660	873	7,150	3,270
PCB054	120	22.5	99.7	21.1 U	109	16.3	232	45.6
PCB055	21.6 U	21.4 U	21.4 U	22.3 U	36.8 U	15 U	21 U	22.1 U
PCB056	1,990	375	5,910	1,090	889	156	611	656
PCB057	47.7	18 U	87.1	18.7 U	30.9 U	12.6 U	22.7	18.5 U
PCB058	30.6	19.1 U	54.7	19.9 U	32.8 U	13.4 U	23.3	19.7 U
PCB059 & 062 & 075	872	214 U	2,190	369	368 U	150 U	427	221 U
PCB060	2,010	377	7,940	1,440	1,270	207	710	509
PCB061 & 070 & 074 & 076	12,900	2,340	36,600	6,250	6,320	1,180	6,190	3,640
PCB063	511	88.5	1,390	228	269	53.1	278	120
PCB064	4,320	801	14,600	2,600	1,490	289	1,450	1,180
PCB066	9,640	1,770	34,300	6,030	6,490	1,030	5,170	2,500
PCB067	226	41.7	366	63.6	107	19.6	99	64.3
PCB068	109	57.1 U	128	59.4 U	98 U	40 U	181	58.8 U
PCB072	134	22.9	232	38.6	85.8	15.5	137	43.3
PCB073	31.7 U	31.4 U	31.4 U	32.7 U	53.9 U	22 U	30.8 U	32.4 U
PCB077	625	111	1,140	198	276	42.5	249	149
PCB078	13.3 U	13.1 U	13.1 U	13.7 U	22.5 U	9.2 U	12.9 U	13.5 U
PCB079	75.9	22.3 U	260	51.2	47	15.6 U	93.8	30.8
PCB080	21.3 U	21.1 U	21.1 U	22 U	36.3 U	14.8 U	20.7 U	21.8 U
PCB081	46	25.7 U	85.9	26.7 U	44.1 U	18 U	25.7	26.5 U
PCB082	1,010	185	2,710	480	663	103	612	330
PCB083	739	111	1,580	274	489	74.2	752	256
PCB084	2,620	467	4,910	809	1,230	200	1,850	904
PCB085 & 117 & 116	3,450	591	10,700	1,980	3,710	545	3,120	1,010
PCB086 & 087 & 097 & 108 & 119 & 12	8,710	1,550	22,800	4,090	7,290	1,100	7,430	2,900
PCB088 & 091	2,380	407	5,020	818	1,170	228	2,130	846
PCB089	78.5	16.6 U	352	62.7	48.4	11.6 U	52.8	25.8
PCB090 & 101 & 113	17,000	2,980	38,200	6,690	16,300	2,380	20,100	5,580
PCB092	3,540	602	7,800	1,310	3,430	496	4,520	1,140
PCB093 & 098 & 100 & 102	983	329 U	1,620	342 U	942	230 U	1,970	343
PCB094	79.5	71.4 U	140	74.3 U	123 U	50 U	129	73.5 U
PCB095	9,910	1,770	18,200	3,010	5,240	955	10,100	3,090
PCB096	91.7	32 U	254	42.7	54.9 U	22.4 U	156	32.9 U
PCB099	9,460	1,660	25,000	4,170	11,600	1,680	12,700	2,810
PCB103	281	47.9	321	57	244	40.7	625	116
PCB104	43 U	42.6 U	42.6 U	44.3 U	73 U	29.8 U	41.8 U	43.8 U

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LocationID	EPA1-SB04E-02	EPA1-SB04E-02	EPA1-SB04E-06	EPA1-SB04E-06	EPA1-SB05E-02	EPA1-SB05E-02	EPA1-SB05E-03	EPA1-SB05E-03
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7618740.363	7618740.363	7618995.081	7618995.081	7621025.952	7621025.952	7621611.18	7621611.18
Y-coordinate	714962.802	714962.802	714296.5253	714296.5253	710385.5935	710385.5935	709354.4934	709354.4934
RiverMile	4.2	4.2	4.3	4.3	5.2	5.2	5.4	5.4
SampleDate	29-Sep-11	29-Sep-11	29-Sep-11	29-Sep-11	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11
SampleTime	18:34	18:34	17:10	17:10	9:54	9:54	9:32	9:32
PCB105	6,610	1,180	19,400	3,440	7,370	1,070	5,330	1,760
PCB106	42.7 U	42.3 U	42.3 U	44 U	72.5 U	29.6 U	41.5 U	43.5 U
PCB107 & 124	509	87.2	1,050	182	490	65.5	349	146
PCB109	1,360	232	2,950	501	1,660	230	1,500	373
PCB110 & 115	14,000	2,590	32,900	5,890	11,900	1,730	11,500	4,710
PCB111	21.3 U	21.1 U	23.5	22 U	53.1	14.8 U	67.3	21.8 U
PCB112	31.7 U	31.4 U	31.4 U	32.7 U	53.9 U	22 U	30.8 U	32.4 U
PCB114	508	89.3	1,390	251	616	83.1	427	120
PCB118	19,800	3,520	44,900	8,110	23,100	3,180	23,300	5,310
PCB120	90.7	71.4 U	113	74.3 U	170	50 U	235	73.5 U
PCB121	20.9	19.7 U	19.7 U	20.5 U	38.9	13.8 U	56.6	20.3 U
PCB122	117	26 U	217	42.1	77.4	18.2 U	25.5 U	35.5
PCB123	340	57.9	918	162	508	62.9	303	89.7
PCB126	41.5	38.6 U	77.3	40.1 U	66.2 U	27 U	49.7	39.7 U
PCB127	39.5	24.6 U	74.1	25.5 U	42.2	17.2 U	67.7	25.3 U
PCB128 & 166	3,140	515	5,890	968	4,580	571	5,530	822
PCB129 & 138 & 163	29,500	4,780	43,200	6,920	45,700	5,500	74,900	8,120
PCB130	1,490	238	2,090	323	1,600	196	2,010	407
PCB131	149	26.8	206	32.5	140	20.6	155	56.5
PCB132	4,270	722	5,260	799	3,590	509	4,330	1,440
PCB133	521	83.6	648	98	1,260	152	1,510	149
PCB134 & 143	734	143 U	1,010	149	710	100 U	937	236
PCB135 & 151	7,610	1,300	8,990	1,390	10,400	1,370	16,100	2,420
PCB136	1,790	307	2,270	357	1,650	224	3,120	622
PCB137	1,480	226	2,180	364	1,760	215	2,100	326
PCB139 & 140	428	68.8	790	117	662	86.8	729	114
PCB141	4,100	692	6,440	982	5,440	668	10,400	1,220
PCB142	24.5 U	24.3 U	24.3 U	25.2 U	41.7 U	17 U	23.8 U	25 U
PCB144	897	145	1,160	172	825	109	1,340	264
PCB145	27.1 U	26.9 U	26.9 U	27.9 U	46.1 U	18.8 U	26.4 U	27.6 U
PCB146	5,070	818	6,360	970	11,700	1,410	14,100	1,470
PCB147 & 149	15,200	2,590	16,000	2,430	13,200	1,850	16,200	5,150
PCB148	69.1	42.9 U	70.6	44.6 U	108	30 U	168	44.1 U
PCB150	47	30.9 U	39.3	32.1 U	52.9 U	21.6 U	72.8	31.8 U
PCB152	33.8	33.4 U	35.5	34.8 U	57.4 U	23.4 U	93.8	34.4 U
PCB153 & 168	29,000	4,640	36,000	5,690	52,400	6,210	93,100	8,280
PCB154	467	77.1	572	84.8	860	101	1,510	153
PCB155	35.5	35.1 U	35.1 U	36.5 U	60.3 U	24.6 U	34.5 U	36.2 U
PCB156 & 157	2,920	502	4,500	804	4,660	599	6,410	680
PCB158	2,300	367	4,030	652	3,290	398	6,100	2.65

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB04E-02	EPA1-SB04E-02	EPA1-SB04E-06	EPA1-SB04E-06	EPA1-SB05E-02	EPA1-SB05E-02	EPA1-SB05E-03	EPA1-SB05E-03
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7618740.363	7618740.363	7618995.081	7618995.081	7621025.952	7621025.952	7621611.18	7621611.18
Y-coordinate	714962.802	714962.802	714296.5253	714296.5253	710385.5935	710385.5935	709354.4934	709354.4934
RiverMile	4.2	4.2	4.3	4.3	5.2	5.2	5.4	5.4
SampleDate	29-Sep-11	29-Sep-11	29-Sep-11	29-Sep-11	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11
SampleTime	18:34	18:34	17:10	17:10	9:54	9:54	9:32	9:32
PCB159	72.1 U	71.4 U	71.4 U	74.3 U	123 U	50 U	91.6	73.5 U
PCB160	2.6 U	2.57 U	2.57 U	2.67 U	4.41 U	1.8 U	2.52 U	2.65 U
PCB161	34.3 U	34 U	34 U	35.3 U	58.3 U	23.8 U	33.4 U	35 U
PCB162	92.4	24.1 U	150	25.1 U	92.6	16.9 U	201	24.9 U
PCB164	1,210	211	1,970	301	1,870	225	2,200	355
PCB165	34 U	33.7 U	33.7 U	35 U	68.5	23.6 U	82	34.7 U
PCB167	1,210	201	1,510	256	1,710	205	2,440	275
PCB169	84.7	22.6 U	22.6 J	23.5 U	38.8 U	15.8 U	318	0 J
PCB170	4,140	697	4,090	827	7,800	911	20,100	1,200
PCB171 & 173	1,520	241	1,660	290	2,610	312	7,360	413
PCB172	976	149	954	167	1,600	172	3,850	261
PCB174	3,640	603	3,060	524	3,400	420	4,550	1,110
PCB175	223	42 U	215	43.7 U	318	37.4	633	62.3
PCB176	406	63.2	324	54.4 U	361	44.6	470	134
PCB177	2,970	484	2,660	455	3,730	446	5,660	885
PCB178	1,500	231	1,460	236	2,910	317	4,940	435
PCB179	1,740	286	1,550	258	2,070	265	3,090	554
PCB180 & 193	13,600	2,260	11,200	2,190	26,200	2,970	61,700	4,100
PCB181	65.9	38.3 U	68.7	39.8 U	103	26.8 U	174	39.4 U
PCB182	37.1	26 U	44.4	27 U	44.6 U	18.2 U	88.9	26.8 U
PCB183 & 185	4,410	701	4,220	718	7,960	921	18,200	1,280
PCB184	31.4 U	31.1 U	31.1 U	32.4 U	53.4 U	21.8 U	30.6 U	32.1 U
PCB186	45.6 U	45.1 U	45.1 U	46.9 U	77.5 U	31.6 U	44.3 U	46.5 U
PCB187	10,200	1,640	8,860	1,480	23,700	2,490	31,200	2,910
PCB188	45.6 U	36.3 U	36.3 U	37.7 U	62.3 U	25.4 U	58.4	37.4 U
PCB189	191	30.1	185	38	434	46	1,010	48.7
PCB190	442	86.8	432	120	1,490	176	2,130	144
PCB191	209	36.3 U	208	37.7 U	375	41.6	1,180	58.7
PCB192	25.4 U	25.1 U	25.1 U	26.1 U	43.1 U	17.6 U	24.7 U	25.9 U
PCB194	1,540	286	1,210	252	3,570	343	7,960	458
PCB195	708	118	619	115	1,650	175	4,150	196
PCB196	918	163	731	146	1,920	203	4,660	277
PCB197 & 200	260	59.3 U	198	61.7 U	367	41.5 U	672	77
PCB198 & 199	1,960	391	1,450	334	5,280	537	6,070	679
PCB201	328	51.3	263	43.4	595	63.5	1,020	85.9
PCB202	691	111	578	106	1,340	141	1,940	195
PCB203	1,570	264	1,300	236	2,860	310	5,910	442
PCB204	35.2 U	34.8 U	34.8 U	36.2 U	59.8 U	24.4 U	34.2 U	35.9 U
PCB205	91.7	34.7 U	81	36 U	223	24.3 U	528	35.7 U
PCB206	710	142	496	102	2,560	294	2,090	340

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB04E-02	EPA1-SB04E-02	EPA1-SB04E-06	EPA1-SB04E-06	EPA1-SB05E-02	EPA1-SB05E-02	EPA1-SB05E-03	EPA1-SB05E-03
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7618740.363	7618740.363	7618995.081	7618995.081	7621025.952	7621025.952	7621611.18	7621611.18
Y-coordinate	714962.802	714962.802	714296.5253	714296.5253	710385.5935	710385.5935	709354.4934	709354.4934
RiverMile	4.2	4.2	4.3	4.3	5.2	5.2	5.4	5.4
SampleDate	29-Sep-11	29-Sep-11	29-Sep-11	29-Sep-11	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11
SampleTime	18:34	18:34	17:10	17:10	9:54	9:54	9:32	9:32
PCB207	113	68.6 U	78.8	71.3 U	313	48 U	377	70.6 U
PCB208	300	69.8 U	194	72.6 U	866	97.2	563	169
PCB209	316	65.3	208	51.3	966	151	618	201
Monochlorobiphenyl homologs	27.7 T	26.6 UT	72.8 T	27.5 T	45.6 UT	18.6 UT	27.4 T	27.4 UT
Dichlorobiphenyl homologs	1,390 T	440 T	1,780 JT	549 T	533 T	258 T	1,220 T	521 T
Trichlorobiphenyl homologs	17,600 T	3,450 T	20,600 T	4,780 T	6,470 T	778 T	6,440 T	4,260 T
Tetrachlorobiphenyl homologs	71,600 T	13,100 T	219,000 T	38,900 T	36,200 T	6,160 T	44,600 T	20,100 T
Pentachlorobiphenyl homologs	104,000 T	18,500 T	244,000 T	42,700 T	98,500 T	14,500 T	109,000 T	32,100 T
Hexachlorobiphenyl homologs	114,000 T	18,700 T	151,000 JT	24,000 T	168,000 T	20,800 T	266,000 T	32,700 JT
Heptachlorobiphenyl homologs	46,300 T	7,580 T	41,200 T	7,440 T	85,100 T	9,620 T	166,000 T	13,700 T
Octachlorobiphenyl homologs	8,070 T	1,430 T	6,430 T	1,280 T	17,800 T	1,810 T	32,900 T	2,430 T
Nonachlorobiphenyl homologs	1,120 T	211 T	769 T	174 T	3,740 T	415 T	3,030 T	544 T
Total PCB Congeners	364,000 JT	62,300 JT	685,000 JT	119,000 JT	417,000 JT	53,300 JT	631,000 JT	106,000 JT
Total PCB Congeners (calc'd)	364,000 JT	63,500 JT	685,000 JT	120,000 JT	418,000 JT	54,400 JT	631,000 JT	106,000 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	7.71 T	0.179 JT	10.7 JT	0.412 JT	1.18 JT	0.162 JT	15.7 T	0.263 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	7.71 T	2.45 JT	10.7 JT	2.77 JT	5.08 JT	1.75 JT	15.7 T	2.25 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	41.3 T	8.99 JT	76.3 JT	13.8 JT	20.9 JT	4.59 JT	21.8 T	11.1 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.455 T	0.142 JT	0.909 JT	0.193 JT	0.397 JT	0.103 JT	0.498 T	0.162 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB05E-04	EPA1-SB05E-04	EPA1-SB05W-02	EPA1-SB05W-02	EPA1-SB05W-03	EPA1-SB05W-03	EPA1-SB05W-04	EPA1-SB05W-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7622425.679	7622425.679	7620011.504	7620011.504	7620605.967	7620605.967	7622425.679	7622425.679
Y-coordinate	708300.1288	708300.1288	709612.5127	709612.5127	708796.5154	708796.5154	708300.1288	708300.1288
RiverMile	5.7	5.7	5.2	5.2	5.4	5.4	5.7	5.7
SampleDate	6-Oct-11	6-Oct-11	2-Oct-11	2-Oct-11	28-Sep-11	28-Sep-11	22-Sep-11	22-Sep-11
SampleTime	18:10	18:10	12:50	12:50	15:11	15:11	12:01	12:01
PCB001	32.9 U	35 U	27.3	21.8 U	14.2 U	14.9 U	36.8 U	36.4 U
PCB002	40.8 U	43.5 U	27.4 U	27.1 U	17.5 U	18.4 U	45.6 U	45.1 U
PCB003	21.5 U	22.9 U	15.9	14.3 U	9.25 U	9.7 U	24 U	23.8 U
PCB004	405	83.1	606	183	299	63.6	300	73.8 U
PCB005	40.8 U	43.5 U	27.4 U	27.1 U	17.5 U	18.4 U	45.6 U	45.1 U
PCB006	44.8	40.7 U	91.1	27.9	45.9	17.2 U	46.8	42.2 U
PCB007	51.8 U	55.1 U	34.7 U	34.4 U	22.3 U	23.4 U	57.8 U	57.3 U
PCB008	182	58.1	447	138	192 U	55.4 U	169	58.8
PCB009	25 U	26.6 U	19.3 J	16.6 U	11.9	11.3 U	27.9 U	27.7 U
PCB010	27.2 U	29 U	32.3	18.1 U	11.7 U	12.3 U	30.4 U	30.1 U
PCB011	308	228 U	292	177	212	125	285	237 U
PCB012 & 013	36.4 U	38.8 U	24.4 U	24.2 U	15.7 U	16.4 U	40.7 U	40.3 U
PCB014	39.9 U	42.5 U	26.8 U	26.5 U	17.2 U	18 U	44.6 U	44.2 U
PCB015	79.5	64 U	111	48.3	77.2	28.3	70.2	66.5 U
PCB016	224	51.4 U	279	91.6	163	40.4	137	53.4 U
PCB017	627	114	803	242	410	91.1	408	99.2
PCB018 & 030	737	149 U	892	294	517	118	504	127 U
PCB019	712	142	549	173	454	83.8	431	94.3
PCB020 & 028	3,650	423	4,250	1,290	2,070	437 U	1,940	449
PCB021 & 033	444	211 U	775	268	283	89.3 U	376	219 U
PCB022	781	87.9	711	220	423	98.7	341	89.8
PCB023	48.2 U	51.4 U	32.4 U	32 U	20.8 U	21.8 U	53.9 U	53.4 U
PCB024	29.4 U	31.3 U	19.7 U	19.5 U	12.6 U	13.3 U	32.8 U	32.5 U
PCB025	233	45.8 U	229	70.3	131	28.2	102	47.6 U
PCB026 & 029	516	98.1 U	608	181	303	63.2	283	102 U
PCB027	116	44.4 U	128	41.9	85.9	18.8 U	79.1	46.1 U
PCB031	2,080	267	1,980	620	1,130	244 U	914	232
PCB032	288	66.7	523	158 U	212	48.6 U	238	59.2
PCB034	34.6 U	36.9 U	23.2 U	23 U	14.9 U	15.6 U	38.7 U	38.3 U
PCB035	36 U	38.3 U	24.1 U	23.9 U	15.5 U	16.2 U	40.2 U	39.8 U
PCB036	38.2 U	40.7 U	25.6 U	25.3 U	16.4 U	17.2 U	42.6 U	42.2 U
PCB037	414	50.8	180	75.3	281	65.4	151	48.7
PCB038	27.6 U	29.4 U	18.5 U	18.3 U	11.9 U	12.5 U	30.9 U	30.6 U
PCB039	34.6 U	36.9 U	23.2 U	23 U	14.9 U	15.6 U	38.7 U	38.3 U
PCB040 & 041 & 071	1,850	274	2,620	761	1,010	191	1,110	248
PCB042	1,740	167	1,860	532	924	181	771	152
PCB043 & 073	194	51.4 U	205	63.1	176	23.3 U	96.1	53.4 U
PCB044 & 047 & 065	9,620	1,090	11,100	3,260	4,820	934	5,130	1,070
PCB045 & 051	1,200	140	1,000	301	557	117	511	112
PCB046	181	117 U	159	72.8 U	97.4	49.5 U	123 U	121 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB05E-04	EPA1-SB05E-04	EPA1-SB05W-02	EPA1-SB05W-02	EPA1-SB05W-03	EPA1-SB05W-03	EPA1-SB05W-04	EPA1-SB05W-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7622425.679	7622425.679	7620011.504	7620011.504	7620605.967	7620605.967	7622425.679	7622425.679
Y-coordinate	708300.1288	708300.1288	709612.5127	709612.5127	708796.5154	708796.5154	708300.1288	708300.1288
RiverMile	5.7	5.7	5.2	5.2	5.4	5.4	5.7	5.7
SampleDate	6-Oct-11	6-Oct-11	2-Oct-11	2-Oct-11	28-Sep-11	28-Sep-11	22-Sep-11	22-Sep-11
SampleTime	18:10	18:10	12:50	12:50	15:11	15:11	12:01	12:01
PCB048	816	91.6	1,240	376	399	83.9	438	95.7
PCB049 & 069	6,330	754	8,400	2,530	3,220	612	3,820	780
PCB050 & 053	597	103	857	259	390	78.7	447	96.4
PCB052	9,860	1,190	12,500	3,730	5,170	1,020	5,890	1,300
PCB054	136	33.2 U	105	31	76.5	14.7	78.2	34.5 U
PCB055	32.9 U	35 U	22.1 U	21.8 U	14.2 U	14.9 U	36.8 U	36.4 U
PCB056	2,050	152	1,390	432	1,010	204	760	158
PCB057	35.9	29.4 U	54.8	18.3 U	12.6	12.5 U	30.9 U	30.6 U
PCB058	34.6	31.3 U	37.9	19.5 U	17.3	13.3 U	32.8 U	32.5 U
PCB059 & 062 & 075	674	350 U	801	235	339	149 U	368 U	364 U
PCB060	1,670	166	2,290	687	835	164	1,220	238
PCB061 & 070 & 074 & 076	11,600	1,210	14,000	4,160	5,950	1,120	7,150	1,480
PCB063	393	49.8	657	189	234	42.5	333	65.6
PCB064	3,500	352	3,900	1,150	1,750	341	1,810	373
PCB066	7,780	910	12,200	3,630	4,450	854	6,050	1,230
PCB067	210	28 U	199	56.8	101	19.7	76.8	29.1 U
PCB068	112	93.5 U	132	58.3 U	61	39.6 U	98 U	97.1 U
PCB072	133	21 U	187	53.6	67.9	12.7	96.9	21.8 U
PCB073	194	0 U	32.4 U	21.8 U	20.8 U	21.8 U	53.9 U	53.4 U
PCB077	535	48.7	486	148	304	54.9	260	52.4
PCB078	20.2 U	21.5 U	13.5 U	13.4 U	8.68 U	9.11 U	22.5 U	22.3 U
PCB079	94.8	36.4 U	92.1	34.8	35.7	15.4 U	61	37.9 U
PCB080	32.5 U	34.6 U	21.8 U	21.6 U	14 U	14.7 U	36.3 U	35.9 U
PCB081	53.6	42.1 U	38.7	26.2 U	17.7	17.8 U	44.1 U	43.7 U
PCB082	1,080	83.2	911	260	544	97.8	524	108
PCB083	632	67.2	828	225	422	65.1	421	82.4
PCB084	2,660	215	2,040	579	1,390	257	1,040	141 U
PCB085 & 117 & 116	3,290	444	6,130	1,780	1,740	299	3,230	627
PCB086 & 087 & 097 & 108 & 119 & 12	9,420	887	10,800	3,130	4,600	822	5,740	1,140
PCB088 & 091	2,530	236	2,400	675	1,290	221	1,140	57.3 U
PCB089	72.5	27.1 U	84.9	25.5	38.8	11.5 U	33	28.2 U
PCB090 & 101 & 113	18,000	1,970	22,400	6,390	9,070	1,600	11,900	2,340
PCB092	3,560	416	4,990	1,410	1,750	308	2,520	496
PCB093 & 098 & 100 & 102	1,070	537 U	1,130	335 U	456	228 U	601	558 U
PCB094	110 U	117 U	73.5 U	72.8 U	47.2 U	49.5 U	123 U	121 U
PCB095	8,970	1,000	10,000	2,860	4,880	878	4,980	1,060
PCB096	85.4	52.3 U	117	33.3	48.8	22.2 U	55.3	54.4 U
PCB099	9,690	1,640	16,700	4,740	5,270	917	10,800	1,920
PCB103	331	43 U	327	92.9	145	29.9	165	44.7 U
PCB104	65.4 U	69.6 U	43.8 U	43.4 U	28.1 U	29.5 U	73 U	72.3 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB05E-04	EPA1-SB05E-04	EPA1-SB05W-02	EPA1-SB05W-02	EPA1-SB05W-03	EPA1-SB05W-03	EPA1-SB05W-04	EPA1-SB05W-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7622425.679	7622425.679	7620011.504	7620011.504	7620605.967	7620605.967	7622425.679	7622425.679
Y-coordinate	708300.1288	708300.1288	709612.5127	709612.5127	708796.5154	708796.5154	708300.1288	708300.1288
RiverMile	5.7	5.7	5.2	5.2	5.4	5.4	5.7	5.7
SampleDate	6-Oct-11	6-Oct-11	2-Oct-11	2-Oct-11	28-Sep-11	28-Sep-11	22-Sep-11	22-Sep-11
SampleTime	18:10	18:10	12:50	12:50	15:11	15:11	12:01	12:01
PCB105	6,110	755	12,100	3,560	2,960	534	7,390	1,450
PCB106	64.9 U	69.2 U	43.5 U	43.1 U	27.9 U	29.3 U	72.5 U	71.8 U
PCB107 & 124	534	50.9 U	697	195	238	42.9	354	68.8
PCB109	1,300	206	2,250	631	757	120	1,340	269
PCB110 & 115	15,300	1,520	16,700	4,840	7,230	1,330	9,600	1,920
PCB111	32.5 U	34.6 U	40.1	21.6 U	15.5	14.7 U	36.3 U	35.9 U
PCB112	48.2 U	51.4 U	32.4 U	32 U	20.8 U	21.8 U	53.9 U	53.4 U
PCB114	429	57.5 U	983	275	231	39.7	606	117
PCB118	18,600	2,740	36,900	10,500	9,030	1,620	22,800	4,360
PCB120	110 U	117 U	139	72.8 U	54	49.5 U	123 U	121 U
PCB121	30.3 U	32.2 U	31.8	20.1 U	13 U	13.7 U	33.8 U	33.5 U
PCB122	141	42.5 U	116	32.4	50.3	18 U	67.3	44.2 U
PCB123	426	56.2	607	164	172	35.2	482	91.5
PCB126	59.2 U	63.1 U	67.4	39.3 U	25.5 U	26.7 U	66.2 U	65.5 U
PCB127	37.7 U	40.2 U	87.3	33.9	16.2 U	17 U	49.8	41.7 U
PCB128 & 166	3,020	406	6,300	1,670	1,230	231	3,500	692
PCB129 & 138 & 163	29,800	4,420	54,200	13,900	13,100	2,480	30,700	6,120
PCB130	1,530	157	2,030	502	691	130	1,110	220
PCB131	213	39.7 U	159	41.7	91.8	17	107	41.3 U
PCB132	5,140	416	3,990	1,000	2,150	427	2,350	463
PCB133	580	153	985	238	310	53.9	661	127
PCB134 & 143	835	234 U	832	199	381	99 U	463	243 U
PCB135 & 151	8,010	1,090	9,400	2,390	3,940	720	5,490	1,060
PCB136	1,880	216	1,990	513	955	174	1,090	215
PCB137	1,070	185	3,150	767	600	92.7	1,540	278
PCB139 & 140	426	67.3	900	214	205	35.4	487	94.8
PCB141	4,310	428	6,180	1,510	1,680	331	2,970	571
PCB142	37.3 U	39.7 U	25 U	24.8 U	16 U	16.8 U	41.7 U	41.3 U
PCB144	906	96.5	941	249	373	77.2	512	96.1
PCB145	41.2 U	43.9 U	27.6 U	27.4 U	17.7 U	18.6 U	46.1 U	45.6 U
PCB146	5,770	1,320	8,530	2,140	3,120	528	6,220	1,200
PCB147 & 149	17,300	1,630	12,700	3,320	6,450	1,520	7,680	1,550
PCB148	82.5	70.1 U	93.2	43.7 U	42.9	29.7 U	73.5 U	72.8 U
PCB150	63.5	50.5 U	39.5	31.5 U	31.7	21.4 U	52.9 U	52.4 U
PCB152	51.3 U	54.7 U	34.7	34.1 U	22.1 U	23.2 U	57.4 U	56.8 U
PCB153 & 168	31,000	5,500	55,900	14,000	14,100	2,600	33,900	6,720
PCB154	538	103	850	220	261	46.4	588	111
PCB155	53.9 U	57.5 U	36.2 U	35.8 U	23.2 U	24.4 U	60.3 U	59.7 U
PCB156 & 157	2,500	457	5,980	1,700	1,400	228	3,820	744
PCB158	2,210	319	4,650	1,180	877	163	2,630	523

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB05E-04	EPA1-SB05E-04	EPA1-SB05W-02	EPA1-SB05W-02	EPA1-SB05W-03	EPA1-SB05W-03	EPA1-SB05W-04	EPA1-SB05W-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7622425.679	7622425.679	7620011.504	7620011.504	7620605.967	7620605.967	7622425.679	7622425.679
Y-coordinate	708300.1288	708300.1288	709612.5127	709612.5127	708796.5154	708796.5154	708300.1288	708300.1288
RiverMile	5.7	5.7	5.2	5.2	5.4	5.4	5.7	5.7
SampleDate	6-Oct-11	6-Oct-11	2-Oct-11	2-Oct-11	28-Sep-11	28-Sep-11	22-Sep-11	22-Sep-11
SampleTime	18:10	18:10	12:50	12:50	15:11	15:11	12:01	12:01
PCB159	110 U	117 U	73.5 U	72.8 U	47.2 U	49.5 U	123 U	121 U
PCB160	3.95 U	4.21 U	2.65 U	2.62 U	1.7 U	1.78 U	4.41 U	4.37 U
PCB161	52.2 U	55.6 U	35 U	34.7 U	22.5 U	23.6 U	58.3 U	57.8 U
PCB162	73.5	39.5 U	158	40.3	17.5	16.7 U	129	41 U
PCB164	1,410	150	1,540	394	568	102	945	198
PCB165	51.8 U	55.1 U	44.8	34.4 U	22.3 U	23.4 U	57.8 U	57.3 U
PCB167	1,120	177	2,020	567	577	91.5	1,350	252
PCB169	57.5 U	37 U	130	37.8 J	18.7	15.7 U	68.3 J	38.4 U
PCB170	4,320	856	7,730	2,420	1,900	326	5,540	1,080
PCB171 & 173	1,420	257	2,870	766	697	113	1,730	345
PCB172	943	167	1,540	426	492	73.5	1,060	203
PCB174	3,630	333	2,750	711	1,850	326	1,800	333
PCB175	212	68.7 U	272	74.4	116	29.1 U	189	71.4 U
PCB176	478	85.5 U	297	77	229	40.9	220	88.8 U
PCB177	2,990	418	2,900	753	1,580	263	2,020	389
PCB178	1,480	339	2,320	610	795	132	1,670	315
PCB179	1,870	199	1,730	459	978	163	1,150	222
PCB180 & 193	13,500	4,080	25,100	7,560	6,800	1,070	18,200	3,630
PCB181	58.8 U	62.6 U	133	39 U	31.3	26.5 U	89.6	65 U
PCB182	39.9 U	42.5 U	83	26.5 U	17.2 U	18 U	49.3	44.2 U
PCB183 & 185	4,660	798	7,270	1,970	2,350	380	4,540	925
PCB184	47.8 U	50.9 U	32.1 U	31.7 U	20.6 U	21.6 U	53.4 U	52.9 U
PCB186	69.3 U	73.8 U	46.5 U	46 U	29.8 U	31.3 U	77.5 U	76.7 U
PCB187	10,100	2,830	14,600	3,900	5,750	935	11,400	2,220
PCB188	55.7 U	59.3 U	37.4 U	37 U	24 U	25.1 U	62.3 U	61.7 U
PCB189	195	45.9	376	104	120	18.6	310	56.4
PCB190	650	162	897	348	291	21.3 U	964	207
PCB191	214	59.3 U	439	120	91.4	25.1 U	293	61.7 U
PCB192	38.6 U	41.1 U	25.9 U	25.6 U	16.6 U	17.4 U	43.1 U	42.7 U
PCB194	1,670	1,140	3,150	1,020	962	156	2,500	518
PCB195	725	326	1,450	447	28.2 U	68.7	1,130	233
PCB196	1,010	603	1,670	572	406	85.1	1,400	286
PCB197 & 200	272	97 U	350	95	155	41.1 U	228	101 U
PCB198 & 199	2,610	1,440	2,860	1,000	31.7 U	252	2,630	555
PCB201	310	143	450	124	194	33	329	67.7
PCB202	723	269	1,150	333	354	56.8	871	178
PCB203	1,620	589	3,190	964	629	125	2,230	441
PCB204	53.5 U	57 U	35.9 U	35.5 U	23 U	24.1 U	59.8 U	59.2 U
PCB205	97.8	56.7 U	196	57.7	57.4	24 U	145	58.9 U
PCB206	1,200	1,250	1,380	450	394	26.9 U	1,190	281

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB05E-04	EPA1-SB05E-04	EPA1-SB05W-02	EPA1-SB05W-02	EPA1-SB05W-03	EPA1-SB05W-03	EPA1-SB05W-04	EPA1-SB05W-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7622425.679	7622425.679	7620011.504	7620011.504	7620605.967	7620605.967	7622425.679	7622425.679
Y-coordinate	708300.1288	708300.1288	709612.5127	709612.5127	708796.5154	708796.5154	708300.1288	708300.1288
RiverMile	5.7	5.7	5.2	5.2	5.4	5.4	5.7	5.7
SampleDate	6-Oct-11	6-Oct-11	2-Oct-11	2-Oct-11	28-Sep-11	28-Sep-11	22-Sep-11	22-Sep-11
SampleTime	18:10	18:10	12:50	12:50	15:11	15:11	12:01	12:01
PCB207	147	194	221	70.1	45.3 U	47.5 U	172	117 U
PCB208	597	458	405	128	156	48.4 U	392	119 U
PCB209	612	601	573	173	205	46	636	144
Monochlorobiphenyl homologs	40.8 UT	43.5 UT	43.2 T	27.1 UT	17.5 UT	18.4 UT	45.6 UT	45.1 UT
Dichlorobiphenyl homologs	1,050 T	335 T	1,600 JT	592 T	748 T	265 T	900 T	297 T
Trichlorobiphenyl homologs	10,900 T	1,520 T	11,900 T	3,690 T	6,490 T	1,040 T	5,970 T	1,440 T
Tetrachlorobiphenyl homologs	61,600 T	7,110 T	76,500 T	22,700 T	32,000 T	6,220 T	36,500 T	7,910 T
Pentachlorobiphenyl homologs	104,000 T	12,900 T	150,000 T	42,700 T	52,400 T	9,460 T	86,100 T	16,800 T
Hexachlorobiphenyl homologs	120,000 T	17,700 T	184,000 T	46,900 JT	53,200 T	10,200 T	109,000 JT	21,600 T
Heptachlorobiphenyl homologs	46,800 T	10,700 T	71,300 T	20,400 T	24,100 T	3,920 T	51,300 T	10,100 T
Octachlorobiphenyl homologs	9,040 T	4,590 T	14,500 T	4,610 T	2,790 T	809 T	11,500 T	2,360 T
Nonachlorobiphenyl homologs	1,940 T	1,900 T	2,010 T	648 T	573 T	48.4 UT	1,750 T	399 T
Total PCB Congeners	356,000 JT	55,000 JT	512,000 JT	142,000 JT	172,000 JT	30,800 JT	302,000 JT	58,500 JT
Total PCB Congeners (calc'd)	356,000 JT	57,300 JT	512,000 JT	142,000 JT	173,000 JT	32,000 JT	303,000 JT	61,100 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	0.951 JT	0.132 JT	12.5 T	1.65 JT	1.03 JT	0.0825 JT	3.18 JT	0.217 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	4.77 JT	3.85 JT	12.5 T	3.62 JT	2.31 JT	1.66 JT	6.49 JT	4.07 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	36.2 JT	7.87 JT	37.3 T	11.4 JT	18.8 JT	5.08 JT	20 JT	8.38 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.377 JT	0.195 JT	0.706 T	0.206 JT	0.176 JT	0.0899 JT	0.39 JT	0.216 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-02	EPA1-SB06E-02	EPA1-SB06E-08	EPA1-SB06E-08	EPA1-SB06E-09	EPA1-SB06E-09	EPA1-SB06E-10	EPA1-SB06E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7625302.748	7625302.748	7627751.005	7627751.005	7627261.88	7627261.88	7627239.777	7627239.777
Y-coordinate	706147.4378	706147.4378	704513.7004	704513.7004	704853.8424	704853.8424	704870.1191	704870.1191
RiverMile	6.4	6.4	6.9	6.9	6.8	6.8	6.8	6.8
SampleDate	3-Oct-11	3-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11
SampleTime	17:30	17:30	14:40	14:40	15:49	15:49	16:10	16:10
PCB001	35.4 U	22.1 U	35.4 U	35.4 U	32.1 U	35.7 U	36.4 U	35 U
PCB002	43.9 U	27.4 U	43.9 U	43.9 U	39.7 U	44.3 U	45.1 U	43.5 U
PCB003	23.1 U	14.4 U	23.1 U	23.1 U	20.9 U	23.3 U	23.8 U	22.9 U
PCB004	1,080	346	362	75.1	227	72.4 U	237	71.5
PCB005	43.9 U	27.4 U	43.9 U	43.9 U	39.7 U	44.3 U	45.1 U	43.5 U
PCB006	41 U	25.6 U	41 U	41 U	37.2 U	41.4 U	63.6	40.7 U
PCB007	55.7 U	34.7 U	55.7 U	55.7 U	50.4 U	56.2 U	57.3 U	55.1 U
PCB008	148	54.9	132	59.8	85.5	57.9	204	74.4
PCB009	26.9 U	16.8 U	26.9 U	26.9 U	24.4 U	27.1 U	27.7 U	26.6 U
PCB010	74.8	22.2	29.2 U	29.2 U	26.5 U	29.5 U	30.1 U	29 U
PCB011	347	180	260	230 U	209 U	232 U	334	228 U
PCB012 & 013	39.2 U	24.4 U	39.2 U	39.2 U	35.5 U	39.5 U	40.3 U	38.8 U
PCB014	42.9 U	26.8 U	42.9 U	42.9 U	38.9 U	43.3 U	44.2 U	42.5 U
PCB015	70	41	64.6 U	64.6 U	58.5 U	65.2 U	76	64 U
PCB016	111	46.7	116	51.9 U	77.8	52.4 U	83.2	51.4 U
PCB017	513	164	320	81.3	273	73.3	499	144
PCB018 & 030	404	126 U	352	107	257	89.3	545	167
PCB019	2,210	625	641	126	560	110	184	55.7
PCB020 & 028	1,580	515	1,310	290	871	205	1,490	465
PCB021 & 033	249	133 U	231	213 U	193 U	215 U	219 U	211 U
PCB022	211	93.5	261	66.5	149	47.6 U	224	78.6
PCB023	51.9 U	32.4 U	51.9 U	51.9 U	47 U	52.4 U	53.4 U	51.4 U
PCB024	31.6 U	19.7 U	31.6 U	31.6 U	28.6 U	31.9 U	32.5 U	31.3 U
PCB025	86	29.3	85.7	46.2 U	65.8	46.7 U	181	52.5
PCB026 & 029	206	70.3	189	99.1 U	143	100 U	439	133
PCB027	189	53	74.8	44.8 U	68.8	45.2 U	138	44.4 U
PCB031	613	229	687	168	426	118	932	291
PCB032	233	77.9 U	158	43.5	137	39.7	377	112
PCB034	37.3 U	23.2 U	37.3 U	37.3 U	33.8 U	37.6 U	38.3 U	36.9 U
PCB035	38.7 U	24.1 U	38.7 U	38.7 U	35 U	39 U	39.8 U	38.3 U
PCB036	41 U	25.6 U	41 U	41 U	37.2 U	41.4 U	42.2 U	40.7 U
PCB037	150	66.8	170	43.9	134	31.9 U	114	44.6
PCB038	29.7 U	18.5 U	29.7 U	29.7 U	26.9 U	30 U	30.6 U	29.4 U
PCB039	37.3 U	23.2 U	37.3 U	37.3 U	33.8 U	37.6 U	38.3 U	36.9 U
PCB040 & 041 & 071	1,030	340	680	128	533	112	1,110	340
PCB042	606	181	515	93.8	310	61.6	541	160
PCB043 & 073	96.8	35.1	57.2	51.9 U	55.5	52.4 U	82.4	51.4 U
PCB044 & 047 & 065	7,860	2,340	4,140	717	4,190	756	3,260	975
PCB045 & 051	891	291	530	99.9	490	94.6	330	93.6
PCB046	118 U	73.5 U	118 U	118 U	107 U	119 U	121 U	117 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-02	EPA1-SB06E-02	EPA1-SB06E-08	EPA1-SB06E-08	EPA1-SB06E-09	EPA1-SB06E-09	EPA1-SB06E-10	EPA1-SB06E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7625302.748	7625302.748	7627751.005	7627751.005	7627261.88	7627261.88	7627239.777	7627239.777
Y-coordinate	706147.4378	706147.4378	704513.7004	704513.7004	704853.8424	704853.8424	704870.1191	704870.1191
RiverMile	6.4	6.4	6.9	6.9	6.8	6.8	6.8	6.8
SampleDate	3-Oct-11	3-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11
SampleTime	17:30	17:30	14:40	14:40	15:49	15:49	16:10	16:10
PCB048	376	130	252	49	174	36.4	327	99.5
PCB049 & 069	5,190	1,550	2,320	396	1,940	343	2,820	819
PCB050 & 053	665	206	449	82.5	430	78.5	326	94.5
PCB052	11,100	3,300	3,730	658	2,850	534	4,350	1,220
PCB054	361	105	111	33.5 U	112	33.8 U	34.5 U	33.2 U
PCB055	35.4 U	22.1 U	35.4 U	35.4 U	32.1 U	35.7 U	36.4 U	35 U
PCB056	398	129	579	109	260	56.4	512	163
PCB057	29.7 U	18.5 U	29.7 U	29.7 U	26.9 U	30 U	30.6 U	29.4 U
PCB058	31.6 U	19.7 U	31.6 U	31.6 U	28.6 U	31.9 U	32.5 U	31.3 U
PCB059 & 062 & 075	356	221 U	354 U	354 U	321 U	357 U	364 U	350 U
PCB060	1,540	405	552	98.8	387	72.4	711	211
PCB061 & 070 & 074 & 076	8,460	2,420	4,420	758	3,450	640	4,790	1,410
PCB063	411	109	181	30.2	229	39.9	197	58.2
PCB064	2,180	637	1,020	183	598	119 U	1,270	382
PCB066	7,890	2,210	3,360	572	3,430	606	3,350	983
PCB067	81.6	24.3	73.1	28.3 U	74.3	28.6 U	47.4	28 U
PCB068	99.3	58.8 U	94.3 U	94.3 U	87.6	95.2 U	97.1 U	93.5 U
PCB072	91.8	27.3	66.7	21.2 U	64	21.4 U	71.4	21 U
PCB073	96.8	35.1 U	51.9 U	51.9 U	55.5 U	52.4 U	53.4 U	51.4 U
PCB077	225	55.1	198	43.4 U	289	50.3	149	44
PCB078	21.7 U	13.5 U	21.7 U	21.7 U	19.7 U	21.9 U	22.3 U	21.5 U
PCB079	199	49.3	40.1	36.8 U	33.3 U	37.1 U	37.9 U	36.4 U
PCB080	34.9 U	21.8 U	34.9 U	34.9 U	31.6 U	35.2 U	35.9 U	34.6 U
PCB081	62.4	26.5 U	42.5 U	42.5 U	38.5 U	42.9 U	43.7 U	42.1 U
PCB082	1,390	368	420	71.9	222	41.7	355	106
PCB083	1,250	423	308	62.7 U	271	63.3 U	241	71.3
PCB084	2,210	743	957	164	620	138 U	806	234
PCB085 & 117 & 116	9,390	2,550	1,750	288	1,630	284	1,850	573
PCB086 & 087 & 097 & 108 & 119 & 12	22,400	6,000	4,150	708 U	3,320	714 U	3,800	1,110
PCB088 & 091	2,880	918	1,060	177	780	136	750	218
PCB089	117	33.8	27.4 U	27.4 U	24.8 U	27.6 U	40.3	27.1 U
PCB090 & 101 & 113	42,800	11,400	9,060	1,470	8,230	1,410	6,840	2,010
PCB092	8,160	2,400	1,820	298	1,730	290	1,340	377
PCB093 & 098 & 100 & 102	1,540	468	782	542 U	2,040	548 U	558 U	537 U
PCB094	118 U	73.5 U	118 U	118 U	107 U	119 U	121 U	117 U
PCB095	12,200	4,100	4,110	707	3,350	590	2,810	830
PCB096	123	39.7	52.8 U	52.8 U	49	53.3 U	54.4 U	52.3 U
PCB099	30,800	8,020	6,590	1,040	7,860	1,290	5,350	1,400
PCB103	311	100	227	43.4 U	215	43.8 U	63.7	43 U
PCB104	70.3 U	43.8 U	70.3 U	70.3 U	63.7 U	71 U	72.3 U	69.6 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-02	EPA1-SB06E-02	EPA1-SB06E-08	EPA1-SB06E-08	EPA1-SB06E-09	EPA1-SB06E-09	EPA1-SB06E-10	EPA1-SB06E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7625302.748	7625302.748	7627751.005	7627751.005	7627261.88	7627261.88	7627239.777	7627239.777
Y-coordinate	706147.4378	706147.4378	704513.7004	704513.7004	704853.8424	704853.8424	704870.1191	704870.1191
RiverMile	6.4	6.4	6.9	6.9	6.8	6.8	6.8	6.8
SampleDate	3-Oct-11	3-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11
SampleTime	17:30	17:30	14:40	14:40	15:49	15:49	16:10	16:10
PCB105	24,300	6,130	3,420	573	3,390	586	3,940	1,120
PCB106	69.8 U	43.5 U	69.8 U	69.8 U	63.2 U	70.5 U	71.8 U	69.2 U
PCB107 & 124	349	88.7	228	51.4 U	180	51.9 U	232	67.8
PCB109	3,540	891	933	153	1,080	187	660	207
PCB110 & 115	38,700	9,930	6,440	1,120	4,850	859	6,420	1,900
PCB111	43.5	21.8 U	34.9 U	34.9 U	35.2	35.2 U	35.9 U	34.6 U
PCB112	51.9 U	32.4 U	51.9 U	51.9 U	47 U	52.4 U	53.4 U	51.4 U
PCB114	1,680	422	293	58 U	396	62.6	294	82.5
PCB118	69,700	17,200	13,000	2,110	15,800	2,650	10,900	3,130
PCB120	158	73.5 U	118 U	118 U	114	119 U	121 U	117 U
PCB121	44	20.3 U	32.5 U	32.5 U	59.3	32.9 U	33.5 U	32.2 U
PCB122	42.9 U	26.8 U	57.5	42.9 U	38.9 U	43.3 U	46.4	42.5 U
PCB123	679	130	242	54.7 U	291	55.2 U	195	55.5
PCB126	63.7 U	39.7 U	63.7 U	63.7 U	57.7 U	64.3 U	65.5 U	63.1 U
PCB127	165	39.6	40.6 U	40.6 U	36.8 U	41 U	41.7 U	40.2 U
PCB128 & 166	12,500	3,030	1,990	299	2,250	359	1,740	476
PCB129 & 138 & 163	94,400	23,600	24,100	3,590	36,000	5,510	11,800	3,520
PCB130	3,310	818	1,040	157	1,030	158	519	156
PCB131	285	75.7	89.1	40.1 U	64.5	40.5 U	73.2	39.7 U
PCB132	6,590	1,910	2,490	380	1,830	295	1,450	431
PCB133	1,480	400	606	87.3	922	137	213	60.2
PCB134 & 143	1,340	385	458	236 U	384	238 U	266	234 U
PCB135 & 151	13,500	3,630	5,620	830	6,870	1,080	1,970	604
PCB136	3,510	1,010	1,160	174	1,230	202	556	163
PCB137	5,180	1,440	1,100	146	1,500	233	736	217
PCB139 & 140	1,670	469	305	56.6 U	387	59.8	229	65.7
PCB141	12,800	2,960	2,570	405	4,390	656	1,170	359
PCB142	40.1 U	25 U	40.1 U	40.1 U	36.3 U	40.5 U	41.3 U	39.7 U
PCB144	1,590	420	611	89.7	669	101	225	70.1 U
PCB145	44.3 U	27.6 U	44.3 U	44.3 U	40.2 U	44.8 U	45.6 U	43.9 U
PCB146	14,300	3,630	5,910	869	8,690	1,320	1,980	542
PCB147 & 149	11,200	3,260	10,100	1,500	7,100	1,130	3,670	1,100
PCB148	105	44.1 U	87	70.8 U	91.5	71.4 U	72.8 U	70.1 U
PCB150	50.9 U	31.8 U	50.9 U	50.9 U	46.2 U	51.4 U	52.4 U	50.5 U
PCB152	77.2	34.4 U	55.2 U	55.2 U	50 U	55.7 U	56.8 U	54.7 U
PCB153 & 168	95,500	24,800	29,800	4,350	52,800	8,030	11,600	3,260
PCB154	1,190	306	554	76.2	902	132	191	55.2
PCB155	58 U	36.2 U	58 U	58 U	75.1	58.6 U	59.7 U	57.5 U
PCB156 & 157	13,900	3,350	2,240	370	3,880	629	1,670	465
PCB158	9,830	2,330	1,700	261	2,910	444	1,090	303

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-02	EPA1-SB06E-02	EPA1-SB06E-08	EPA1-SB06E-08	EPA1-SB06E-09	EPA1-SB06E-09	EPA1-SB06E-10	EPA1-SB06E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7625302.748	7625302.748	7627751.005	7627751.005	7627261.88	7627261.88	7627239.777	7627239.777
Y-coordinate	706147.4378	706147.4378	704513.7004	704513.7004	704853.8424	704853.8424	704870.1191	704870.1191
RiverMile	6.4	6.4	6.9	6.9	6.8	6.8	6.8	6.8
SampleDate	3-Oct-11	3-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11
SampleTime	17:30	17:30	14:40	14:40	15:49	15:49	16:10	16:10
PCB159	118 U	73.5 U	118 U	118 U	107 U	119 U	121 U	117 U
PCB160	4.25 U	2.65 U	4.25 U	4.25 U	3.85 U	4.29 U	4.37 U	4.21 U
PCB161	56.1 U	35 U	56.1 U	56.1 U	50.9 U	56.7 U	57.8 U	55.6 U
PCB162	310	75.7	77.3	39.9 U	90.5	40.2 U	45.4	39.5 U
PCB164	3,360	744	831	128	1,040	161	448	125
PCB165	69.2	34.7 U	55.7 U	55.7 U	64.8	56.2 U	57.3 U	55.1 U
PCB167	3,230	736	987	154	1,380	226	528	143
PCB169	182 U	41.7 J	37.4 U	37.4 U	56.4 U	37.7 U	38.4 U	37 U
PCB170	20,200	4,690	3,800	670	11,400	1,910	1,460	368
PCB171 & 173	6,000	1,510	1,290	205	3,560	539	481	127
PCB172	3,430	781	800	126	2,150	319	280	71
PCB174	2,560	570	2,370	382	2,330	390	561	149
PCB175	503	113	200	69.3 U	370	70 U	71.4 U	68.7 U
PCB176	246	64.9	278	86.3 U	226	87.1 U	88.8 U	85.5 U
PCB177	3,200	779	2,400	388	3,000	480	622	168
PCB178	3,990	956	1,420	222	2,870	448	461	126
PCB179	1,970	513	1,120	176	1,500	235	410	117
PCB180 & 193	59,700	14,000	13,300	2,330	36,900	6,210	4,390	1,120
PCB181	254	61.3	63.2 U	63.2 U	117	63.8 U	65 U	62.6 U
PCB182	102	26.8 U	42.9 U	42.9 U	50.6	43.3 U	44.2 U	42.5 U
PCB183 & 185	14,200	3,500	3,950	604	9,810	1,470	1,180	315
PCB184	51.4 U	32.1 U	51.4 U	51.4 U	46.6 U	51.9 U	52.9 U	50.9 U
PCB186	74.5 U	46.5 U	74.5 U	74.5 U	67.5 U	75.2 U	76.7 U	73.8 U
PCB187	21,300	4,900	10,600	1,680	17,000	2,750	3,010	806
PCB188	59.9 U	37.4 U	59.9 U	59.9 U	54.3 U	60.5 U	61.7 U	59.3 U
PCB189	1,100	246	213	34.1 U	640	100	82.5	33.8 U
PCB190	2,670	612	482	123	1,390	307	146	57.6
PCB191	1,040	226	220	59.9 U	673	100	65.9	59.3 U
PCB192	41.5 U	25.9 U	41.5 U	41.5 U	37.6 U	41.9 U	42.7 U	41.1 U
PCB194	9,710	2,510	1,690	270	6,360	1,050	582	175 U
PCB195	4,050	1,090	819	127	3,090	455	257	69.9 U
PCB196	5,190	1,330	920	164	3,000	539	278	74
PCB197 & 200	583	144	208	97.9 U	411	98.9 U	101 U	97 U
PCB198 & 199	6,290	1,510	1,790	344	3,710	707	631	174
PCB201	776	189	338	48.1	678	98.3	83.7	39 U
PCB202	1,880	477	563	84.9	1,230	182	251	74.4 U
PCB203	6,680	1,660	1,260	215	3,890	618	470	134
PCB204	57.5 U	35.9 U	57.5 U	57.5 U	52.1 U	58 U	59.2 U	57 U
PCB205	579	140	98.7	57.2 U	362	57.8 U	58.9 U	56.7 U
PCB206	2,480	627	532	91	1,360	217	260	71.9

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-02	EPA1-SB06E-02	EPA1-SB06E-08	EPA1-SB06E-08	EPA1-SB06E-09	EPA1-SB06E-09	EPA1-SB06E-10	EPA1-SB06E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7625302.748	7625302.748	7627751.005	7627751.005	7627261.88	7627261.88	7627239.777	7627239.777
Y-coordinate	706147.4378	706147.4378	704513.7004	704513.7004	704853.8424	704853.8424	704870.1191	704870.1191
RiverMile	6.4	6.4	6.9	6.9	6.8	6.8	6.8	6.8
SampleDate	3-Oct-11	3-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11	8-Oct-11
SampleTime	17:30	17:30	14:40	14:40	15:49	15:49	16:10	16:10
PCB207	369	95.9	113 U	113 U	235	114 U	117 U	112 U
PCB208	497	115	193	115 U	296	116 U	119 U	114 U
PCB209	605	163	286	53	397	81.2	164	51.6 U
Monochlorobiphenyl homologs	43.9 UT	27.4 UT	43.9 UT	43.9 UT	39.7 UT	44.3 UT	45.1 UT	43.5 UT
Dichlorobiphenyl homologs	1,750 T	665 T	835 T	331 T	490 T	292 T	944 T	340 T
Trichlorobiphenyl homologs	6,820 T	2,100 T	4,660 T	1,220 T	3,320 T	973 T	5,390 T	1,760 T
Tetrachlorobiphenyl homologs	50,400 T	14,800 T	23,600 T	4,440 T	20,300 T	3,990 T	24,700 T	7,500 T
Pentachlorobiphenyl homologs	275,000 T	72,500 T	56,100 T	9,230 T	56,700 T	9,500 T	47,500 T	14,100 T
Hexachlorobiphenyl homologs	311,000 T	79,500 JT	94,600 T	14,300 T	137,000 T	21,200 T	42,400 T	12,500 T
Heptachlorobiphenyl homologs	143,000 T	33,600 T	42,600 T	7,140 T	94,000 T	15,400 T	13,300 T	3,660 T
Octachlorobiphenyl homologs	35,700 T	9,050 T	7,690 T	1,330 T	22,700 T	3,730 T	2,630 T	638 T
Nonachlorobiphenyl homologs	3,350 T	838 T	782 T	205 T	1,890 T	332 T	378 T	185 T
Total PCB Congeners	827,000 JT	212,000 JT	230,000 JT	35,400 JT	335,000 JT	52,600 JT	136,000 JT	38,200 JT
Total PCB Congeners (calc'd)	828,000 JT	213,000 JT	231,000 JT	38,300 JT	337,000 JT	55,600 JT	137,000 JT	40,700 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	3.48 JT	2.1 JT	0.632 JT	0.0962 JT	0.802 JT	0.133 JT	0.543 JT	0.154 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	9.39 JT	4.09 JT	4.38 JT	3.85 JT	4.54 JT	3.92 JT	4.4 JT	3.87 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	25.5 JT	7.28 JT	16 JT	6.53 JT	20.2 JT	8.05 JT	13.6 JT	7.68 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.79 JT	0.255 JT	0.293 JT	0.189 JT	0.313 JT	0.199 JT	0.279 JT	0.199 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-11	EPA1-SB06E-11	EPA1-SB06W-01	EPA1-SB06W-01	EPA1-SB06W-04	EPA1-SB06W-04	EPA1-SB07E-04	EPA1-SB07E-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7627178.523	7627178.523	7623259.739	7623259.739	7625793.951	7625793.951	7630501.76	7630501.76
Y-coordinate	704970.9609	704970.9609	706089.1385	706089.1385	704637.7654	704637.7654	702199.7767	702199.7767
RiverMile	6.8	6.8	6.1	6.1	6.6	6.6	7.6	7.6
SampleDate	8-Oct-11	8-Oct-11	7-Oct-11	7-Oct-11	6-Oct-11	6-Oct-11	3-Oct-11	3-Oct-11
SampleTime	16:15	16:15	8:20	8:20	16:45	16:45	16:15	16:15
PCB001	34.1 U	36.4 U	35.7 U	34.1 U	36.8 U	37.1 U	36.4 U	36.4 U
PCB002	42.3 U	45.1 U	44.3 U	42.3 U	45.6 U	46 U	45.1 U	45.1 U
PCB003	22.3 U	23.8 U	23.3 U	22.3 U	24 U	24.3 U	23.8 U	23.8 U
PCB004	863	151	233 J	69.1 U	598	105	340	73.8 U
PCB005	42.3 U	45.1 U	44.3 U	42.3 U	45.6 U	46 U	45.1 U	45.1 U
PCB006	39.5 U	42.2 U	46.9	39.5 U	184	43.1 U	44	42.2 U
PCB007	53.6 U	57.3 U	56.2 U	53.6 U	57.8 U	58.4 U	57.3 U	57.3 U
PCB008	151	70.4	180	59.4	502	95	171	47.6 U
PCB009	25.9 U	27.7 U	27.1 U	25.9 U	37.1	28.2 U	27.7 U	27.7 U
PCB010	89.5	30.1 U	29.5 U	28.2 U	30.4 U	30.7 U	30.1 U	30.1 U
PCB011	222 U	237 U	232 U	222 U	333	242 U	408	237 U
PCB012 & 013	37.7 U	40.3 U	39.5 U	37.7 U	40.7 U	41.1 U	40.3 U	40.3 U
PCB014	41.4 U	44.2 U	43.3 U	41.4 U	44.6 U	45 U	44.2 U	44.2 U
PCB015	62.3 U	66.5 U	65.2 U	62.3 U	178	67.8 U	84.8	66.5 U
PCB016	163	56.7	52.4	50 U	420	83.7	145	53.4 U
PCB017	588	131	58.6	121	1,400	233	412	86.9
PCB018 & 030	495	139	2.86	153 U	1,950	316 U	442	99.2 U
PCB019	2,100	365	45.7	93.3	679	110	598	110
PCB020 & 028	1,600	353	2,210	597	14,200	2,480	1,660	357
PCB021 & 033	269	219 U	429	205 U	809	223 U	261	219 U
PCB022	338	84.3	456	127	1,490	261	329	71.1
PCB023	50 U	53.4 U	52.4 U	50 U	53.9 U	54.5 U	53.4 U	53.4 U
PCB024	30.5 U	32.5 U	31.9 U	30.5 U	32.8 U	33.2 U	32.5 U	32.5 U
PCB025	131	47.6 U	151	44.5 U	340	59.9	111	47.6 U
PCB026 & 029	262	102 U	325	95.5 U	943	163	258	102 U
PCB027	166	46.1 U	45.2	43.2 U	374	58.4	77.3	46.1 U
PCB031	941	223	1,130	309	3,400	587	936	204
PCB032	248	64.1	20.5	75.2	1,740	290	192	45.1
PCB034	35.9 U	38.3 U	37.6 U	35.9 U	38.7 U	39.1 U	38.3 U	38.3 U
PCB035	37.3 U	39.8 U	39 U	37.3 U	40.2 U	40.6 U	39.8 U	39.8 U
PCB036	39.5 U	42.2 U	41.4 U	39.5 U	42.6 U	43.1 U	42.2 U	42.2 U
PCB037	182	41.6	147	53	660	107	271	61.8
PCB038	28.6 U	30.6 U	30 U	28.6 U	44	31.2 U	30.6 U	30.6 U
PCB039	35.9 U	38.3 U	37.6 U	35.9 U	55.2	39.1 U	38.3 U	38.3 U
PCB040 & 041 & 071	807	155	1,580	418	21,000	3,780	783	165
PCB042	616	116	1,150	306	16,000	2,800	704	132
PCB043 & 073	99.7	53.4 U	125	50 U	1,610	270	89.7	53.4 U
PCB044 & 047 & 065	5,520	983	6,840	1,690	79,700	13,200	4,640	882
PCB045 & 051	842	150	712	181	4,380	741	672	130
PCB046	114 U	121 U	119 U	114 U	978	171	121 U	121 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-11	EPA1-SB06E-11	EPA1-SB06W-01	EPA1-SB06W-01	EPA1-SB06W-04	EPA1-SB06W-04	EPA1-SB07E-04	EPA1-SB07E-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7627178.523	7627178.523	7623259.739	7623259.739	7625793.951	7625793.951	7630501.76	7630501.76
Y-coordinate	704970.9609	704970.9609	706089.1385	706089.1385	704637.7654	704637.7654	702199.7767	702199.7767
RiverMile	6.8	6.8	6.1	6.1	6.6	6.6	7.6	7.6
SampleDate	8-Oct-11	8-Oct-11	7-Oct-11	7-Oct-11	6-Oct-11	6-Oct-11	3-Oct-11	3-Oct-11
SampleTime	16:15	16:15	8:20	8:20	16:45	16:45	16:15	16:15
PCB048	317	61.9	591	156	7,420	1,280	314	64.7
PCB049 & 069	2,970	524	4,580	1,110	58,600	9,550	2,920	554
PCB050 & 053	561	97.4	638	164	3,730	623	414	81.1
PCB052	4,380	789	7,110	1,750	95,300	15,500	4,760	930
PCB054	274	45.2	75.7	32.3 U	97.6	35.1 U	95.1	34.5 U
PCB055	34.1 U	36.4 U	35.7 U	34.1 U	36.8 U	37.1 U	36.4 U	36.4 U
PCB056	704	132	1,150	277	8,500	1,370	668	134
PCB057	28.6 U	30.6 U	30 U	28.6 U	154	31.2 U	30.6 U	30.6 U
PCB058	30.5 U	32.5 U	31.9 U	30.5 U	130	33.2 U	32.5 U	32.5 U
PCB059 & 062 & 075	341 U	364 U	411	341 U	5,540	919	364 U	364 U
PCB060	589	104	1,260	303	26,300	4,260	669	130
PCB061 & 070 & 074 & 076	4,710	847	7,320	1,780	76,600	12,300	5,370	1,050
PCB063	164	28.6 U	351	81	4,040	642	210	40.6
PCB064	1,250	225	2,260	561	37,900	6,380	1,310	262
PCB066	3,260	565	6,640	1,630	93,500	15,300	3,920	777
PCB067	83.4	29.1 U	119	28.9	490	77.5	78	29.1 U
PCB068	90.9 U	97.1 U	104	90.9 U	163	99 U	97.1 U	97.1 U
PCB072	67.8	21.8 U	127	29.7	504	81.7	71	21.8 U
PCB073	99.7 U	53.4 U	52.4 U	50 U	1,610	270	89.7	53.4 U
PCB077	215	44.7 U	263	62.4	1,810	278	294	59.3
PCB078	20.9 U	22.3 U	21.9 U	20.9 U	22.5 U	22.8 U	22.3 U	22.3 U
PCB079	35.6	37.9 U	67.6	35.5 U	491	78.5	60.6	37.9 U
PCB080	34.1 U	35.9 U	35.2 U	33.6 U	36.3 U	36.6 U	35.9 U	35.9 U
PCB081	40.9 U	43.7 U	43.1	40.9 U	210	44.6 U	43.7 U	43.7 U
PCB082	395	70.5	898	212	6,630	1,100	428	86
PCB083	273	64.6 U	595	118	3,730	743	313	64.6 U
PCB084	1,090	192	1,640	395	10,700	1,780	1,200	241
PCB085 & 117 & 116	1,670	280	3,470	801	28,800	4,610	1,780	350
PCB086 & 087 & 097 & 108 & 119 & 12	4,150	728 U	7,870	1,850	60,300	9,710	4,340	866
PCB088 & 091	1,170	206	2,070	487	11,900	1,910	1,200	228
PCB089	26.8	28.2 U	57.8	26.4 U	828	141	29	28.2 U
PCB090 & 101 & 113	8,700	1,500	17,100	3,990	92,200	14,900	9,220	1,820
PCB092	1,840	318	3,490	812	18,300	2,930	1,870	358
PCB093 & 098 & 100 & 102	1,070	558 U	1,100	523 U	2,660	569 U	586	558 U
PCB094	114 U	121 U	119 U	114 U	245	124 U	121 U	121 U
PCB095	4,440	786	7,590	1,820	37,100	6,110	4,730	947
PCB096	56.7	54.4 U	79.8	50.9 U	532	87.2	54.4 U	54.4 U
PCB099	6,110	1,020	10,900	2,650	62,800	10,600	6,530	1,280
PCB103	254	44.7 U	324	75.8	680	107	204	44.7 U
PCB104	67.7 U	72.3 U	71 U	67.7 U	73 U	73.8 U	72.3 U	72.3 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-11	EPA1-SB06E-11	EPA1-SB06W-01	EPA1-SB06W-01	EPA1-SB06W-04	EPA1-SB06W-04	EPA1-SB07E-04	EPA1-SB07E-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7627178.523	7627178.523	7623259.739	7623259.739	7625793.951	7625793.951	7630501.76	7630501.76
Y-coordinate	704970.9609	704970.9609	706089.1385	706089.1385	704637.7654	704637.7654	702199.7767	702199.7767
RiverMile	6.8	6.8	6.1	6.1	6.6	6.6	7.6	7.6
SampleDate	8-Oct-11	8-Oct-11	7-Oct-11	7-Oct-11	6-Oct-11	6-Oct-11	3-Oct-11	3-Oct-11
SampleTime	16:15	16:15	8:20	8:20	16:45	16:45	16:15	16:15
PCB105	2,990	518	6,770	1,550	50,200	7,130	3,520	690
PCB106	67.3 U	71.8 U	70.5 U	67.3 U	72.5 U	73.3 U	71.8 U	71.8 U
PCB107 & 124	233	52.9 U	435	97.5	1,550	239	266	52.9 U
PCB109	703	120	1,400	340	6,710	1,060	859	150
PCB110 & 115	6,900	1,220	12,700	2,980	80,300	13,200	7,190	1,470
PCB111	33.6 U	35.9 U	38.7	33.6 U	38.1	36.6 U	35.9 U	35.9 U
PCB112	50 U	53.4 U	52.4 U	50 U	53.9 U	54.5 U	53.4 U	53.4 U
PCB114	225	59.7 U	525	118	3,740	552	274	59.7 U
PCB118	10,700	1,850	21,400	5,100	106,000	15,800	11,600	2,320
PCB120	114 U	121 U	143	114 U	190	124 U	121 U	121 U
PCB121	31.4 U	33.5 U	34.5	31.4 U	33.8 U	34.2 U	33.5 U	33.5 U
PCB122	53.2	44.2 U	102	41.4 U	273	68.9	56.7	44.2 U
PCB123	237	56.3 U	526	108	2,460	424	261	60
PCB126	61.4 U	65.5 U	64.3 U	61.4 U	142	66.8 U	65.5 U	65.5 U
PCB127	39.1 U	41.7 U	41 U	39.1 U	94.7	42.6 U	41.7 U	41.7 U
PCB128 & 166	1,910	293	3,820	807	8,590	1,140	2,050	410
PCB129 & 138 & 163	20,400	3,030	39,900	8,130	65,400	8,830	21,700	4,240
PCB130	781	113	1,660	337	3,440	504	815	159
PCB131	81.8	41.3 U	155	38.6 U	412	63.1	88.1	41.3 U
PCB132	2,330	359	4,270	942	9,070	1,420	2,290	475
PCB133	477	69.8	883	172	936	140	460	91.8
PCB134 & 143	404	243 U	771	227 U	1,950	289	381	243 U
PCB135 & 151	5,340	793	9,140	1,940	14,900	2,410	4,790	1,020
PCB136	1,160	180	1,820	413	3,830	622	1,010	221
PCB137	783	141 U	1,160	272	3,300	535	887	174
PCB139 & 140	297	58.3 U	547	111	1,270	193	286	58.3 U
PCB141	2,720	407	4,920	987	10,800	1,550	2,200	498
PCB142	38.6 U	41.3 U	40.5 U	38.6 U	41.7 U	42.1 U	41.3 U	41.3 U
PCB144	532	79.6	972	206	1,960	313	447	93
PCB145	42.7 U	45.6 U	44.8 U	42.7 U	46.1 U	46.5 U	45.6 U	45.6 U
PCB146	4,330	631	8,050	1,680	9,850	1,490	4,540	899
PCB147 & 149	9,040	1,370	17,400	3,650	24,200	3,750	8,140	1,680
PCB148	78.8	72.8 U	144	68.2 U	79.1	74.3 U	72.8 U	72.8 U
PCB150	49.1 U	52.4 U	74.9	49.1 U	52.9 U	53.5 U	52.4 U	52.4 U
PCB152	53.2 U	56.8 U	55.7 U	53.2 U	61.4	57.9 U	56.8 U	56.8 U
PCB153 & 168	25,000	3,630	45,200	9,020	53,000	7,870	25,300	5,050
PCB154	534	78.2	863	179	705	111	375	79.3
PCB155	55.9 U	59.7 U	58.6 U	55.9 U	60.3 U	60.9 U	59.7 U	59.7 U
PCB156 & 157	1,940	315	3,710	805	7,580	1,130	1,990	376
PCB158	1,640	242	3,180	645	5,930	785	1,500	306

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-11	EPA1-SB06E-11	EPA1-SB06W-01	EPA1-SB06W-01	EPA1-SB06W-04	EPA1-SB06W-04	EPA1-SB07E-04	EPA1-SB07E-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7627178.523	7627178.523	7623259.739	7623259.739	7625793.951	7625793.951	7630501.76	7630501.76
Y-coordinate	704970.9609	704970.9609	706089.1385	706089.1385	704637.7654	704637.7654	702199.7767	702199.7767
RiverMile	6.8	6.8	6.1	6.1	6.6	6.6	7.6	7.6
SampleDate	8-Oct-11	8-Oct-11	7-Oct-11	7-Oct-11	6-Oct-11	6-Oct-11	3-Oct-11	3-Oct-11
SampleTime	16:15	16:15	8:20	8:20	16:45	16:45	16:15	16:15
PCB159	114 U	121 U	119 U	114 U	123 U	124 U	121 U	121 U
PCB160	4.09 U	4.37 U	4.29 U	4.09 U	4.41 U	4.46 U	4.37 U	4.37 U
PCB161	54.1 U	57.8 U	56.7 U	54.1 U	58.3 U	58.9 U	57.8 U	57.8 U
PCB162	62.9	41 U	298	58	207	41.8 U	57.7	41 U
PCB164	838	130	1,630	294	3,320	467	787	148
PCB165	53.6 U	57.3 U	56.2 U	53.6 U	57.8 U	58.4 U	57.3 U	57.3 U
PCB167	774	126	1,510	316	2,100	317	860	159
PCB169	36 U	38.4 U	95.8 U	36 U	66.1 U	39.2 U	98.8 J	38.4 U
PCB170	4,010	715	8,710	1,890	6,410	935	4,780	768
PCB171 & 173	1,340	206	2,760	597	2,380	330	1,430	248
PCB172	755	119	1,730	362	1,410	195	928	158
PCB174	2,150	354	4,850	1,010	4,740	628	2,180	402
PCB175	163	71.4 U	361	71.3	318	72.8 U	161	71.4 U
PCB176	234	88.8 U	600	114	528	90.6 U	215	88.8 U
PCB177	1,870	303	4,570	939	3,840	527	2,140	391
PCB178	1,230	185	2,590	500	2,060	297	1,340	253
PCB179	1,100	181	2,330	469	2,770	412	1,090	211
PCB180 & 193	12,700	2,270	25,500	5,550	17,000	2,470	16,200	2,670
PCB181	60.9 U	65 U	115	60.9 U	108 U	66.3 U	65 U	65 U
PCB182	41.4 U	44.2 U	65.4	41.4 U	44.6 U	45 U	44.2 U	44.2 U
PCB183 & 185	3,740	578	7,960	1,620	6,520	876	4,410	778
PCB184	49.5 U	52.9 U	51.9 U	49.5 U	53.4 U	54 U	52.9 U	52.9 U
PCB186	71.8 U	76.7 U	75.2 U	71.8 U	77.5 U	78.2 U	76.7 U	76.7 U
PCB187	7,920	1,250	15,700	3,130	12,700	1,740	11,300	2,140
PCB188	57.7 U	61.7 U	60.5 U	57.7 U	62.3 U	62.9 U	61.7 U	61.7 U
PCB189	193	35.1 U	412	78.9	291	43.4	207	36
PCB190	554	122	1,390	349	1,080	187	735	154
PCB191	223	61.7 U	440	88	309	62.9 U	241	61.7 U
PCB192	40 U	42.7 U	41.9 U	40 U	43.1 U	43.6 U	42.7 U	42.7 U
PCB194	1,640	287	3,980	920	1,900	325	2,410	395
PCB195	806	137	1,830	394	941	156	1,060	171
PCB196	951	173	2,130	469	1,140	186	1,250	213
PCB197 & 200	181	101 U	453	94.6	304	103 U	222	101 U
PCB198 & 199	1,610	327	4,230	973	2,730	451	2,540	483
PCB201	238	40.5 U	555	113	346	55	289	56.8
PCB202	526	88.2	1,270	259	811	127	781	143
PCB203	1,430	256	3,200	714	1,990	329	2,260	362
PCB204	55.4 U	59.2 U	58 U	55.4 U	59.8 U	60.3 U	59.2 U	59.2 U
PCB205	97.1	58.9 U	233	55.1 U	128	60 U	129	58.9 U
PCB206	547	104	1,430	341	687	128	1,060	194

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB06E-11	EPA1-SB06E-11	EPA1-SB06W-01	EPA1-SB06W-01	EPA1-SB06W-04	EPA1-SB06W-04	EPA1-SB07E-04	EPA1-SB07E-04
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7627178.523	7627178.523	7623259.739	7623259.739	7625793.951	7625793.951	7630501.76	7630501.76
Y-coordinate	704970.9609	704970.9609	706089.1385	706089.1385	704637.7654	704637.7654	702199.7767	702199.7767
RiverMile	6.8	6.8	6.1	6.1	6.6	6.6	7.6	7.6
SampleDate	8-Oct-11	8-Oct-11	7-Oct-11	7-Oct-11	6-Oct-11	6-Oct-11	3-Oct-11	3-Oct-11
SampleTime	16:15	16:15	8:20	8:20	16:45	16:45	16:15	16:15
PCB207	109 U	117 U	202	109 U	118 U	119 U	171	117 U
PCB208	201	119 U	510	112	248	121 U	335	119 U
PCB209	271	62	661	169	230	54.7 U	533	120
Monochlorobiphenyl homologs	42.3 UT	45.1 UT	44.3 UT	42.3 UT	45.6 UT	46 UT	45.1 UT	45.1 UT
Dichlorobiphenyl homologs	1,280 T	423 T	637 JT	283 T	1,850 T	406 T	1,080 T	237 UT
Trichlorobiphenyl homologs	7,550 T	1,730 T	5,140 T	1,740 T	28,500 T	4,770 T	5,760 T	1,290 T
Tetrachlorobiphenyl homologs	27,800 T	5,270 T	43,600 T	10,900 T	547,000 T	90,000 T	28,500 T	5,850 T
Pentachlorobiphenyl homologs	53,500 T	9,170 T	101,000 T	24,100 T	589,000 T	93,700 T	56,700 T	11,600 T
Hexachlorobiphenyl homologs	81,600 T	12,300 T	152,000 T	31,300 T	233,000 T	34,200 T	81,300 JT	16,500 T
Heptachlorobiphenyl homologs	38,300 T	6,520 T	80,100 T	16,900 T	62,500 T	8,870 T	47,500 T	8,430 T
Octachlorobiphenyl homologs	7,480 T	1,370 T	17,900 T	3,960 T	10,300 T	1,710 T	10,900 T	1,900 T
Nonachlorobiphenyl homologs	803 T	222 T	2,140 T	508 T	994 T	248 T	1,570 T	312 T
Total PCB Congeners	217,000 JT	34,100 JT	403,000 JT	87,800 JT	1,470,000 JT	232,000 JT	233,000 JT	43,600 JT
Total PCB Congeners (calc'd)	219,000 JT	37,100 JT	404,000 JT	89,900 JT	1,470,000 JT	234,000 JT	234,000 JT	46,300 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	0.533 JT	0.0843 JT	1.08 JT	0.249 JT	19.6 JT	0.79 JT	3.55 JT	0.115 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	4.15 JT	3.95 JT	5.74 JT	3.86 JT	20.6 JT	4.72 JT	6.84 JT	3.97 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	16.5 JT	6.7 JT	22.1 JT	8.56 JT	133 JT	20.5 JT	21 JT	8.58 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.271 JT	0.192 JT	0.385 JT	0.211 JT	1.86 JT	0.334 JT	0.303 JT	0.2 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB07E-05	EPA1-SB07E-05	EPA1-SB07E-06	EPA1-SB07E-06	EPA1-SB08W-01	EPA1-SB08W-01	EPA1-SB08W-05	EPA1-SB08W-05
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7631760.293	7631760.293	7631349.5	7631349.5	7630437.208	7630437.208	7633514.593	7633514.593
Y-coordinate	701577.0326	701577.0326	701694.068	701694.068	699436.5357	699436.5357	696771.2835	696771.2835
RiverMile	7.9	7.9	7.9	7.9	8	8	8.8	8.8
SampleDate	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11	27-Sep-11	27-Sep-11	27-Sep-11	27-Sep-11
SampleTime	15:30	15:30	15:42	15:42	11:33	11:33	10:00	10:00
PCB001	35.4 U	21.4 U	37.1 U	35 U	63.9	22.5 U	20.8 U	22.5 U
PCB002	43.9 U	26.6 U	46 U	43.5 U	26.8 U	27.9 U	25.8 U	27.9 U
PCB003	23.1 U	14.4	24.3 U	22.9 U	19.7	15.6	18.4	14.7 U
PCB004	236	45.6	379	75.7	1,100	183	359	47.1
PCB005	43.9 U	26.6 U	46 U	43.5 U	26.8 U	27.9 U	25.8 U	27.9 U
PCB006	41 U	24.9 U	52.4	40.7 U	175	28.3	117	26.1 U
PCB007	55.7 U	33.7 U	58.4 U	55.1 U	34 U	35.4 U	32.8 U	35.4 U
PCB008	147	50.3	208	45.8 U	530	90.9	496	84.4
PCB009	26.9 U	16.3 U	28.2 U	26.6 U	60.3	17.1 U	28.9	17.1 U
PCB010	29.2 U	17.7 U	30.7 U	29 U	77.7	18.6 U	20.2	18.6 U
PCB011	230 U	139 U	242 U	228 U	447	159	234	149
PCB012 & 013	39.2 U	23.7 U	41.1 U	38.8 U	23.9 U	24.9 U	23.1 U	24.9 U
PCB014	42.9 U	26 U	45 U	42.5 U	26.3 U	27.3 U	25.3 U	27.3 U
PCB015	68.2	39.1 U	87.6	64 U	410	67.6	139	41.1 U
PCB016	158	49.6	185	51.4 U	1,000	158	653	96.1
PCB017	452	92.7	559	91.5	1,580	249	1,530	206
PCB018 & 030	472	106 U	679	90.8	4,160	656	2,010	261
PCB019	466	78.6	736	118	1,410	232	494	66.2
PCB020 & 028	1,850	323	2,210	277	13,600	2,210	6,590	893
PCB021 & 033	250	129 U	377	211 U	829	162	1,870	289
PCB022	396	75.8	413	53	2,650	452	1,570	221
PCB023	51.9 U	31.4 U	54.5 U	51.4 U	31.7 U	33 U	30.6 U	33 U
PCB024	31.6 U	19.1 U	33.2 U	31.3 U	155	24.4	34.4	20.1 U
PCB025	140	28 U	174	45.8 U	325	53.3	420	53.9
PCB026 & 029	309	60 U	444	98.1 U	1,560	255	1,000	135
PCB027	81.2	27.1 U	122	44.4 U	608	92.9	225	31.6
PCB031	1,080	203	1,320	143	5,050	840	4,260	579
PCB032	208	46.8 U	321	53.4	3,100	494	918	122 U
PCB034	37.3 U	22.6 U	39.1 U	36.9 U	34.1	23.7 U	40.4	23.7 U
PCB035	38.7 U	23.4 U	40.6 U	38.3 U	23.7 U	24.6 U	22.8 U	24.6 U
PCB036	41 U	24.9 U	43.1 U	40.7 U	25.1 U	26.1 U	24.2 U	26.1 U
PCB037	189	34.9	191	37.3	728	122	537	92.8
PCB038	29.7 U	18 U	31.2 U	29.4 U	18.2 U	18.9 U	17.5 U	18.9 U
PCB039	37.3 U	22.6 U	39.1 U	36.9 U	22.8 U	23.7 U	21.9 U	23.7 U
PCB040 & 041 & 071	913	138	1,260	191	2,790	468	3,670	496
PCB042	892	122	776	94.9	2,080	342	2,630	332
PCB043 & 073	3,610	31.4 U	3,610	771	223	38.4	244	33 U
PCB044 & 047 & 065	6,250	858	5,490	1,260	12,300	1,960	11,500	1,460
PCB045 & 051	957	148	682	208	1,760	268	1,660	208
PCB046	118 U	71.4 U	124 U	117 U	299	75 U	356	75 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB07E-05	EPA1-SB07E-05	EPA1-SB07E-06	EPA1-SB07E-06	EPA1-SB08W-01	EPA1-SB08W-01	EPA1-SB08W-05	EPA1-SB08W-05
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7631760.293	7631760.293	7631349.5	7631349.5	7630437.208	7630437.208	7633514.593	7633514.593
Y-coordinate	701577.0326	701577.0326	701694.068	701694.068	699436.5357	699436.5357	696771.2835	696771.2835
RiverMile	7.9	7.9	7.9	7.9	8	8	8.8	8.8
SampleDate	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11	27-Sep-11	27-Sep-11	27-Sep-11	27-Sep-11
SampleTime	15:30	15:30	15:42	15:42	11:33	11:33	10:00	10:00
PCB048	357	57.4	428	53.9	1,110	187	1,480	190
PCB049 & 069	3,940	560	3,930	629	8,970	1,370	8,190	1,010
PCB050 & 053	547	81.9	515	126	963	145	1,110	136
PCB052	5,840	892	5,790	866	17,900	2,710	12,900	1,640
PCB054	113	20.3 U	116	33.2 U	116	21.3 U	85.8	21.3 U
PCB055	35.4 U	21.4 U	37.1 U	35 U	21.6 U	22.5 U	20.8 U	22.5 U
PCB056	937	124	799	86.3	1,900	327	2,980	395
PCB057	29.7 U	18 U	31.2 U	29.4 U	34.4	18.9 U	48.5	18.9 U
PCB058	31.6 U	19.1 U	33.2 U	31.3 U	24.6	20.1 U	43.9	20.1 U
PCB059 & 062 & 075	355	214 U	371 U	350 U	800	225 U	795	225 U
PCB060	782	96.6	894	93.8	2,110	337	1,770	230
PCB061 & 070 & 074 & 076	6,160	759	6,290	803	15,500	2,460	16,200	2,020
PCB063	212	24.6	272	35.1	477	77.1	486	57.6
PCB064	1,700	238	1,760	188	4,660	729	4,560	579
PCB066	4,190	524	5,010	641	10,900	1,700	10,400	1,300
PCB067	99.7	17.1 U	85.2	28 U	194	32.9	257	32.3
PCB068	111	57.1 U	123	93.5 U	107	60 U	130	60 U
PCB072	94.3	12.9 U	112	21 U	138	22.8	159	19.8
PCB073	51.9 U	31.4 U	54.5 U	51.4 U	31.7 U	33 U	30.6 U	33 U
PCB077	275	38.3	246	43 U	507	77.8	539	67.6
PCB078	21.7 U	13.1 U	22.8 U	21.5 U	13.3 U	13.8 U	12.8 U	13.8 U
PCB079	46.7	22.3 U	127	36.4 U	112	26.8	136	23.4 U
PCB080	34.9 U	21.1 U	36.6 U	34.6 U	21.3 U	22.2 U	20.6 U	22.2 U
PCB081	42.5 U	25.7 U	44.6 U	42.1 U	54.9	27 U	49.1	27 U
PCB082	653	77.9	424	82.7	1,230	200	1,590	203
PCB083	581	71.3	317	62.1 U	948	225	1,220	159
PCB084	1,820	233	1,040	216	3,210	547	3,710	475
PCB085 & 117 & 116	2,280	297	2,300	399	6,710	976	4,260	487
PCB086 & 087 & 097 & 108 & 119 & 12	6,410	819	4,520	940	14,200	2,260	11,900	1,450
PCB088 & 091	1,970	255	1,180	245	3,170	517	3,420	408
PCB089	36.4	16.6 U	38.2	27.1 U	89.5	17.4 U	118	17.4 U
PCB090 & 101 & 113	13,900	1,880	9,790	2,480	30,000	4,630	23,100	2,830
PCB092	2,920	372	2,170	518	6,370	994	4,700	561
PCB093 & 098 & 100 & 102	892	329 U	721	537 U	1,190	345 U	1,030	345 U
PCB094	118 U	71.4 U	124 U	117 U	91.2	75 U	106	75 U
PCB095	7,560	995	4,820	1,110	14,300	2,340	13,100	1,660
PCB096	65.8	32 U	58.7	52.3 U	114	33.6 U	111	33.6 U
PCB099	7,670	978	7,880	1,690	19,300	3,150	12,700	1,490
PCB103	373	48.9	207	67.8	414	66.2	410	48.1
PCB104	70.3 U	42.6 U	73.8 U	69.6 U	43 U	44.7 U	41.4 U	44.7 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB07E-05	EPA1-SB07E-05	EPA1-SB07E-06	EPA1-SB07E-06	EPA1-SB08W-01	EPA1-SB08W-01	EPA1-SB08W-05	EPA1-SB08W-05
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7631760.293	7631760.293	7631349.5	7631349.5	7630437.208	7630437.208	7633514.593	7633514.593
Y-coordinate	701577.0326	701577.0326	701694.068	701694.068	699436.5357	699436.5357	696771.2835	696771.2835
RiverMile	7.9	7.9	7.9	7.9	8	8	8.8	8.8
SampleDate	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11	27-Sep-11	27-Sep-11	27-Sep-11	27-Sep-11
SampleTime	15:30	15:30	15:42	15:42	11:33	11:33	10:00	10:00
PCB105	4,150	508	4,050	723	12,800	1,830	7,200	863
PCB106	69.8 U	42.3 U	73.3 U	69.2 U	42.7 U	44.4 U	41.1 U	44.4 U
PCB107 & 124	380	43.2	275	50.9 U	815	120	623	71.5
PCB109	1,080	125	1,090	221	2,460	323	1,440	164
PCB110 & 115	11,100	1,430	8,060	1,610	23,700	3,760	18,800	2,410
PCB111	34.9 U	21.1 U	36.6 U	34.6 U	33	22.2 U	33.3	22.2 U
PCB112	51.9 U	31.4 U	54.5 U	51.4 U	31.7 U	33 U	30.6 U	33 U
PCB114	287	43.1	330	57.5 U	821	123	474	59.2
PCB118	14,000	1,720	14,000	3,050	39,200	5,910	21,900	2,730
PCB120	125	71.4 U	141	117 U	134	75 U	122	75 U
PCB121	32.5 U	19.7 U	34.2 U	32.2 U	31.6	20.7 U	23.9	20.7 U
PCB122	82.2	42.3 U	55.7	42.5 U	179	27.3 U	151	27.3 U
PCB123	326	33.3	322	54.2 U	533	96.7	432	56.2
PCB126	63.7 U	38.6 U	66.8 U	63.1 U	73.1	40.5 U	47.4	40.5 U
PCB127	40.6 U	24.6 U	42.6 U	40.2 U	66.9	25.8 U	23.9 U	25.8 U
PCB128 & 166	2,940	313	2,770	704	6,620	870	3,840	397
PCB129 & 138 & 163	33,300	3,640	30,300	9,040	55,400	7,810	38,000	4,030
PCB130	1,650	166	1,140	249	2,250	323	1,990	204
PCB131	175	24.3 U	101	39.7 U	215	36.5	265	27.3
PCB132	4,840	512	2,440	557	5,450	940	7,210	809
PCB133	750	72.6	1,100	185	930	144	804	82.7
PCB134 & 143	879	143 U	475	234 U	1,010	167	1,090	150 U
PCB135 & 151	9,790	1,080	6,590	1,860	11,200	1,800	10,900	1,240
PCB136	2,200	259	1,230	342	2,530	421	2,600	293
PCB137	1,220	119	1,240	236	2,830	398	1,590	174
PCB139 & 140	460	44.9	415	86.5	890	140	627	65.6
PCB141	4,440	438	3,320	1,250	6,470	844	5,460	560
PCB142	40.1 U	24.3 U	42.1 U	39.7 U	24.5 U	25.5 U	23.6 U	25.5 U
PCB144	1,060	102	595	151	1,140	187	1,350	148
PCB145	44.3 U	26.9 U	46.5 U	43.9 U	27.1 U	28.2 U	26.1 U	28.2 U
PCB146	7,830	783	9,090	1,840	9,350	1,460	7,880	810
PCB147 & 149	20,000	2,130	9,800	1,970	17,900	3,100	24,000	2,700
PCB148	123	42.9 U	112	70.1 U	109	45 U	129	45 U
PCB150	81.8	30.9 U	46.5 U	50.5 U	67.9	32.4 U	84.1	32.4 U
PCB152	55.2 U	33.4 U	57.9 U	54.7 U	38.6	35.1 U	32.5 U	35.1 U
PCB153 & 168	39,100	3,910	38,500	11,900	51,000	7,730	40,000	4,200
PCB154	726	75.7	674	175	866	134	772	80.9
PCB155	58 U	35.1 U	60.9 U	57.5 U	35.5 U	36.9 U	34.2 U	36.9 U
PCB156 & 157	2,490	292	2,570	857	5,510	816	3,060	355
PCB158	2,380	255	2,310	777	4,730	643	3,010	316

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB07E-05	EPA1-SB07E-05	EPA1-SB07E-06	EPA1-SB07E-06	EPA1-SB08W-01	EPA1-SB08W-01	EPA1-SB08W-05	EPA1-SB08W-05
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7631760.293	7631760.293	7631349.5	7631349.5	7630437.208	7630437.208	7633514.593	7633514.593
Y-coordinate	701577.0326	701577.0326	701694.068	701694.068	699436.5357	699436.5357	696771.2835	696771.2835
RiverMile	7.9	7.9	7.9	7.9	8	8	8.8	8.8
SampleDate	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11	27-Sep-11	27-Sep-11	27-Sep-11	27-Sep-11
SampleTime	15:30	15:30	15:42	15:42	11:33	11:33	10:00	10:00
PCB159	118 U	71.4 U	124 U	117 U	72.1 U	75 U	69.4 U	75 U
PCB160	4.25 U	2.57 U	4.46 U	4.21 U	2.6 U	2.7 U	2.5 U	2.7 U
PCB161	56.1 U	34 U	58.9 U	55.6 U	34.3 U	35.7 U	33.1 U	35.7 U
PCB162	70.7	24.1 U	83.5	39.5 U	130	26.3	93	25.4 U
PCB164	1,470	155	1,070	301	2,040	280	1,700	166
PCB165	55.7 U	33.7 U	69.8	55.1 U	35.3	35.4 U	32.8 U	35.4 U
PCB167	1,170	138	1,030	307	2,050	290	1,310	148
PCB169	80.9	24.4	98 J	37 U	97.1 J	23.8 U	86.4 J	23.8 U
PCB170	5,320	645	5,120	2,990	7,230	896	4,430	571
PCB171 & 173	1,940	212	1,780	919	2,360	334	1,990	214
PCB172	1,270	130	1,190	489	1,460	200	1,190	126
PCB174	4,630	530	2,370	608	3,590	508	4,350	479
PCB175	313	42 U	239	80.1	285	44.1 U	299	44.1 U
PCB176	617	66.4	285	85.5 U	432	70.4	610	68.2
PCB177	4,110	482	2,840	672	3,480	488	3,990	430
PCB178	2,200	229	2,700	607	2,130	311	1,930	208
PCB179	2,490	272	1,270	379	1,920	333	2,230	255
PCB180 & 193	18,100	2,130	25,400	8,890	21,700	2,860	14,800	1,830
PCB181	63.2 U	38.3 U	78.7	62.6 U	127	40.2 U	60.9	40.2 U
PCB182	66.2	26 U	81.2	62.6 U	63.7	27.3 U	50.2	27.3 U
PCB183 & 185	6,200	661	5,820	42.5	6,390	922	5,680	611
PCB184	51.4 U	31.1 U	54 U	50.9 U	31.4 U	32.7 U	30.3 U	32.7 U
PCB186	74.5 U	45.1 U	78.2 U	73.8 U	45.6 U	47.4 U	43.9 U	47.4 U
PCB187	17,900	1,880	22,200	3,920	15,600	2,230	13,000	1,400
PCB188	59.9 U	36.3 U	124	59.3 U	36.6 U	38.1 U	35.3 U	38.1 U
PCB189	260	36.4	287	133	322	47.4	238	26.2
PCB190	667	106	669	354	719	115	403	77.4
PCB191	306	36.3 U	324	145	365	43.2	266	38.1 U
PCB192	41.5 U	25.1 U	43.6 U	41.1 U	25.4 U	26.4 U	24.4 U	26.4 U
PCB194	2,210	245	6,080	1,410	2,860	388	2,090	251
PCB195	992	113	1,820	584	1,250	178	973	115
PCB196	1,290	154	3,460	740	1,560	229	1,120	152
PCB197 & 200	355	59.3 U	391	97 U	297	62.3 U	339	62.3 U
PCB198 & 199	2,790	369	7,460	1,000	2,990	480	2,210	342
PCB201	445	47.1	1,040	120	384	64.5	430	46.7
PCB202	836	103	1,630	246	1,030	151	891	98.4
PCB203	1,950	223	3,200	855	2,520	342	1,780	226
PCB204	57.5 U	34.8 U	60.3 U	57 U	35.2 U	36.6 U	33.9 U	36.6 U
PCB205	133	34.7 U	204	72.9	159	36.4 U	137	36.4 U
PCB206	747	92.7	6,770	344	996	183	891	124

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB07E-05	EPA1-SB07E-05	EPA1-SB07E-06	EPA1-SB07E-06	EPA1-SB08W-01	EPA1-SB08W-01	EPA1-SB08W-05	EPA1-SB08W-05
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7631760.293	7631760.293	7631349.5	7631349.5	7630437.208	7630437.208	7633514.593	7633514.593
Y-coordinate	701577.0326	701577.0326	701694.068	701694.068	699436.5357	699436.5357	696771.2835	696771.2835
RiverMile	7.9	7.9	7.9	7.9	8	8	8.8	8.8
SampleDate	3-Oct-11	3-Oct-11	3-Oct-11	3-Oct-11	27-Sep-11	27-Sep-11	27-Sep-11	27-Sep-11
SampleTime	15:30	15:30	15:42	15:42	11:33	11:33	10:00	10:00
PCB207	115	68.6 U	1,170	112 U	151	72 U	145	72 U
PCB208	283	69.8 U	2,740	114 U	329	73.3 U	379	73.3 U
PCB209	296	53.4	3,000	93.6	442	89.1	481	82
Monochlorobiphenyl homologs	43.9 UT	25.1 T	46 UT	43.5 UT	83.6 T	26.9 T	28.8 T	27.9 UT
Dichlorobiphenyl homologs	615 T	214 T	877 T	293 T	2,800 T	547 T	1,390 T	332 T
Trichlorobiphenyl homologs	6,120 T	1,100 T	7,800 T	1,160 T	36,800 T	6,030 T	22,200 T	3,030 T
Tetrachlorobiphenyl homologs	38,500 T	4,930 T	38,600 T	6,490 T	86,000 T	13,500 T	82,400 T	10,400 T
Pentachlorobiphenyl homologs	78,800 T	10,300 T	64,000 T	14,000 T	182,000 T	28,400 T	133,000 T	16,500 T
Hexachlorobiphenyl homologs	139,000 T	14,700 T	117,000 JT	33,200 T	191,000 JT	28,700 T	158,000 JT	17,000 T
Heptachlorobiphenyl homologs	66,500 T	7,480 T	72,800 T	20,400 T	68,200 T	9,450 T	55,500 T	6,410 T
Octachlorobiphenyl homologs	11,000 T	1,300 T	25,300 T	5,080 T	13,100 T	1,880 T	9,970 T	1,280 T
Nonachlorobiphenyl homologs	1,150 T	162 T	10,700 T	457 T	1,480 T	256 T	1,420 T	197 T
Total PCB Congeners	342,000 JT	38,800 JT	339,000 JT	78,800 JT	582,000 JT	87,900 JT	464,000 JT	54,000 JT
Total PCB Congeners (calc'd)	342,000 JT	40,300 JT	340,000 JT	81,200 JT	582,000 JT	88,900 JT	464,000 JT	55,300 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	3.13 JT	0.819 JT	3.64 JT	0.152 JT	12.1 JT	0.281 JT	8.44 JT	0.134 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	6.33 JT	2.75 JT	6.99 JT	3.87 JT	12.1 JT	2.67 JT	8.44 JT	2.52 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	20 JT	5.26 JT	18.8 JT	6.55 JT	40.6 JT	7.62 JT	38 JT	6.92 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.315 JT	0.122 JT	0.321 JT	0.197 JT	0.755 JT	0.162 JT	0.493 JT	0.137 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB08W-06	EPA1-SB08W-06	EPA1-SB09E-05	EPA1-SB09E-05	EPA1-SB10E-04	EPA1-SB10E-04	EPA1-SB10E-06	EPA1-SB10E-06
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7630400.532	7630400.532	7639620.343	7639620.343	7641543.945	7641543.945	7640465.853	7640465.853
Y-coordinate	699535.9693	699535.9693	694926.9917	694926.9917	692043.6338	692043.6338	693421.9495	693421.9495
RiverMile	8	8	9.9	9.9	10.5	10.5	10.2	10.2
SampleDate	7-Oct-11	7-Oct-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	16:50	16:50	14:13	14:13	12:57	12:57	13:50	13:50
PCB001	80	33.5 U	20.6 U	21.4 U	21 U	22.5 U	37.5 U	36.1 U
PCB002	43.9 U	41.5 U	25.6 U	26.6 U	26.1 U	27.9 U	46.5 U	44.7 U
PCB003	23.1 U	21.9 U	13.5 U	14 U	15	14.7 U	24.5 U	23.6 U
PCB004	1,150	256	232	54.2	281	62	164	73.1 U
PCB005	43.9 U	41.5 U	25.6 U	26.6 U	26.1 U	27.9 U	46.5 U	44.7 U
PCB006	142	38.8 U	34.4	24.9 U	30.7	26.1 U	43.5 U	41.8 U
PCB007	55.7 U	52.7 U	32.5 U	33.7 U	33.1 U	35.4 U	59 U	56.7 U
PCB008	478	129	108	57.6	134	48.3	130	75.5
PCB009	50.3	25.4 U	15.7 U	16.3 U	16 U	17.1 U	28.5 U	27.4 U
PCB010	72.2	27.7 U	17.1 U	17.7 U	17.4 U	18.6 U	31 U	29.8 U
PCB011	230	218 U	199	139 U	286	154	244 U	235 U
PCB012 & 013	39.2 U	37.1 U	22.8 U	23.7 U	23.3 U	24.9 U	41.5 U	39.9 U
PCB014	42.9 U	40.6 U	25 U	26 U	25.5 U	27.3 U	45.5 U	43.8 U
PCB015	221	61.2 U	83.5	39.1 U	66.5	41.1 U	68.5 U	65.9 U
PCB016	557	143	124	53.1	113	41.6	117	56.3
PCB017	795	195	557	134	494	123	408	91.5
PCB018 & 030	1,550	377	407	119 U	431	118 U	365	117
PCB019	743	161	320	62.2	657	137	342	51.7
PCB020 & 028	2,900	636	1,230	290	1,220	309	1,450	323
PCB021 & 033	435	201 U	277	129 U	214	135 U	225 U	217 U
PCB022	740	162	257	70.6	195	67.9	293	85.6
PCB023	51.9 U	49.1 U	30.3 U	31.4 U	30.8 U	33 U	55 U	52.9 U
PCB024	32.1	29.9 U	18.4 U	19.1 U	18.8 U	20.1 U	33.5 U	32.2 U
PCB025	197	44	111	28 U	110	29.4 U	126	47.1 U
PCB026 & 029	497	109	254	60 U	214	63 U	281	101 U
PCB027	149	42.4 U	106	27.1 U	107	28.5 U	80.9	45.7 U
PCB031	1,790	401	742	191	621	182	882	213
PCB032	515	124	209	53.9	247	63.1 U	183	52.8
PCB034	37.3 U	35.3 U	21.7 U	22.6 U	22.1 U	23.7 U	39.5 U	38 U
PCB035	38.7 U	36.6 U	22.6 U	23.4 U	23 U	24.6 U	41 U	39.4 U
PCB036	41 U	38.8 U	23.9 U	24.9 U	24.4 U	26.1 U	43.5 U	41.8 U
PCB037	296	71	171	36	201	60.3	146	39.4
PCB038	29.7 U	28.1 U	17.3 U	18 U	17.7 U	18.9 U	31.5 U	30.3 U
PCB039	37.3 U	35.3 U	21.7 U	22.6 U	22.1 U	23.7 U	39.5 U	38 U
PCB040 & 041 & 071	1,160	250	1,150	261	990	230	696	119
PCB042	1,100	229	649	130	460	105	597	93.5
PCB043 & 073	137	49.1 U	60.5	31.4 U	87	33 U	85.4	52.9 U
PCB044 & 047 & 065	7,070	1,460	6,270	1,250	4,880	1,050	4,380	608
PCB045 & 051	977	212	543	110	848	180	584	88.6
PCB046	147	112 U	86	71.4 U	98.4	75 U	125 U	120 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB08W-06	EPA1-SB08W-06	EPA1-SB09E-05	EPA1-SB09E-05	EPA1-SB10E-04	EPA1-SB10E-04	EPA1-SB10E-06	EPA1-SB10E-06
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7630400.532	7630400.532	7639620.343	7639620.343	7641543.945	7641543.945	7640465.853	7640465.853
Y-coordinate	699535.9693	699535.9693	694926.9917	694926.9917	692043.6338	692043.6338	693421.9495	693421.9495
RiverMile	8	8	9.9	9.9	10.5	10.5	10.2	10.2
SampleDate	7-Oct-11	7-Oct-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	16:50	16:50	14:13	14:13	12:57	12:57	13:50	13:50
PCB048	466	99	411	94.3	305	74.5	264	47.2
PCB049 & 069	4,740	970	4,420	849	3,270	700	2,820	375
PCB050 & 053	451	100	468	92.5	1,380	285	397	63.5 U
PCB052	7,360	1,530	11,100	2,380	6,380	1,400	4,430	600
PCB054	86.1	31.7 U	65.4	20.3 U	189	39.4	76.4	34.1 U
PCB055	35.4 U	33.5 U	20.6 U	21.4 U	21 U	22.5 U	37.5 U	36.1 U
PCB056	1,210	248	691	149	352	91.7	707	99.4
PCB057	29.7 U	28.1 U	18.5	18 U	19.4	18.9 U	31.5 U	30.3 U
PCB058	31.6 U	29.9 U	18.4 U	19.1 U	18.8 U	20.1 U	33.5 U	32.2 U
PCB059 & 062 & 075	418	335 U	232	214 U	210 U	225 U	375 U	361 U
PCB060	931	187	1,010	188	476	108	554	77.2
PCB061 & 070 & 074 & 076	8,160	1,640	11,700	2,340	3,950	868	4,830	637
PCB063	271	54.4	332	59.2	189	39	168	28.4 U
PCB064	2,130	445	1,790	366	923	206	1,180	170
PCB066	5,170	1,030	7,010	1,280	3,490	755	3,280	424
PCB067	132	26.8 U	64.8	17.1 U	76.9	18 U	73.9	28.8 U
PCB068	100	89.3 U	75.3	57.1 U	118	60 U	100 U	96.2 U
PCB072	114	22.3	70.8	14.1	85.7	18.3	77.9	21.6 U
PCB073	51.9 U	0 U	30.3 U	31.4 U	30.8 U	33 U	55 U	52.9 U
PCB077	327	66.3	179	31.8	176	40.6	204	44.2 U
PCB078	21.7 U	20.5 U	12.7 U	13.1 U	12.9 U	13.8 U	23 U	22.1 U
PCB079	93.5	34.8 U	180	36.4	51.8	23.4 U	48.1	37.5 U
PCB080	34.9 U	33 U	20.4 U	21.1 U	20.7 U	22.2 U	37 U	35.6 U
PCB081	42.5 U	40.2 U	52.6	25.7 U	25.2 U	27 U	45 U	43.3 U
PCB082	761	149	1,160	239	302	66.7	452	57.7
PCB083	561	113	1,200	235	555	93.7	388	63.9 U
PCB084	2,140	440	2,720	577	1,160	249	1,200	159
PCB085 & 117 & 116	2,970	528	8,580	1,500	1,890	367	1,700	201
PCB086 & 087 & 097 & 108 & 119 & 12	7,940	1,530	15,800	3,140	5,150	1,090	4,690	721 U
PCB088 & 091	2,130	422	2,510	507	1,460	300	1,280	158
PCB089	42.2	25.9 U	81.9	20.4	44.2	17.4 U	29 U	27.9 U
PCB090 & 101 & 113	16,100	3,080	29,600	5,770	20,400	4,150	10,700	1,280
PCB092	3,330	640	6,030	1,140	3,300	661	2,220	263
PCB093 & 098 & 100 & 102	914	513 U	834	329 U	1,120	345 U	619	553 U
PCB094	118 U	112 U	68.8 U	71.4 U	138	75 U	125 U	120 U
PCB095	7,900	1,600	12,400	2,400	8,560	1,780	5,340	662
PCB096	71.9	50 U	104	32 U	174	36.3	56 U	53.8 U
PCB099	9,890	1,860	25,400	4,470	7,960	1,640	6,480	730
PCB103	372	72.1	314	53.9	430	83.9	318	44.2 U
PCB104	70.3 U	66.5 U	41 U	42.6 U	41.8 U	44.7 U	74.5 U	71.6 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB08W-06	EPA1-SB08W-06	EPA1-SB09E-05	EPA1-SB09E-05	EPA1-SB10E-04	EPA1-SB10E-04	EPA1-SB10E-06	EPA1-SB10E-06
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7630400.532	7630400.532	7639620.343	7639620.343	7641543.945	7641543.945	7640465.853	7640465.853
Y-coordinate	699535.9693	699535.9693	694926.9917	694926.9917	692043.6338	692043.6338	693421.9495	693421.9495
RiverMile	8	8	9.9	9.9	10.5	10.5	10.2	10.2
SampleDate	7-Oct-11	7-Oct-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	16:50	16:50	14:13	14:13	12:57	12:57	13:50	13:50
PCB105	5,640	1,060	22,100	4,060	3,850	770	3,180	387
PCB106	69.8 U	66.1 U	40.7 U	42.3 U	41.5 U	44.4 U	74 U	71.2 U
PCB107 & 124	464	89.7	1,040	193	255	53.8	294	52.4 U
PCB109	1,380	251	4,190	685	1,210	235	912	104
PCB110 & 115	13,100	2,620	23,000	4,850	9,640	2,060	7,830	968
PCB111	34.9 U	33 U	29.9	21.1 U	99.7	22.2 U	37 U	35.6 U
PCB112	51.9 U	49.1 U	30.3 U	31.4 U	30.8 U	33 U	55 U	52.9 U
PCB114	477	84.9	1,970	336	338	67.6	223	59.1 U
PCB118	20,000	3,860	74,900	12,700	18,000	3,650	12,200	1,370
PCB120	118 U	112 U	109	71.4 U	186	75 U	125 U	120 U
PCB121	32.5 U	30.8 U	28.2	19.7 U	57.7	20.7 U	34.5 U	33.2 U
PCB122	119	40.6 U	213	36.7	35.2	27.3 U	68.5	43.8 U
PCB123	410	81.2	1,060	190	248	63.3	261	55.8 U
PCB126	63.7 U	60.3 U	55.9	38.6 U	39.3	40.5 U	67.5 U	64.9 U
PCB127	40.6 U	38.4 U	180	31.7	49.6	25.8 U	43 U	41.3 U
PCB128 & 166	2,940	522	10,000	1,510	4,070	713	2,160	224
PCB129 & 138 & 163	31,800	5,340	81,500	11,700	93,900	15,800	29,600	3,130
PCB130	1,560	266	3,510	495	2,900	477	1,460	156
PCB131	171	37.9 U	298	51.2	229	41.7	118	40.9 U
PCB132	4,520	808	5,310	913	9,220	1,670	3,510	386
PCB133	713	116	1,250	169	2,820	454	1,290	124
PCB134 & 143	815	223 U	1,290	218	1,760	304	603	240 U
PCB135 & 151	8,720	1,510	10,900	1,640	23,600	4,210	8,690	934
PCB136	2,090	372	2,710	464	6,690	1,220	1,610	177
PCB137	1,550	268	6,880	906	1,490	273	1,050	139 U
PCB139 & 140	482	79	1,330	195	398	70.3	344	57.7 U
PCB141	4,120	717	7,980	1,220	15,500	2,610	4,140	438
PCB142	40.1 U	37.9 U	23.4 U	24.3 U	23.8 U	25.5 U	42.5 U	40.9 U
PCB144	942	154	1,400	209	3,340	594	840	88.7
PCB145	44.3 U	42 U	32 U	26.9 U	26.4 U	28.2 U	47 U	45.2 U
PCB146	7,210	1,200	13,400	1,830	26,400	4,280	11,400	1,110
PCB147 & 149	15,900	2,850	16,300	2,480	31,000	5,520	16,400	1,730
PCB148	116	67 U	90.8	42.9 U	214	45 U	197	72.1 U
PCB150	72	48.2 U	58.4	30.9 U	80.1	32.4 U	84.5	51.9 U
PCB152	55.2 U	52.2 U	42.7	33.4 U	49.2	35.1 U	58.5 U	56.3 U
PCB153 & 168	36,300	5,930	78,800	10,600	123,000	20,700	36,700	3,690
PCB154	716	114	823	111	1,210	198	994	98.5
PCB155	58 U	54.9 U	33.9 U	35.1 U	34.5 U	36.9 U	61.5 U	59.1 U
PCB156 & 157	3,560	612	13,400	2,030	7,090	1,440	2,270	257
PCB158	2,350	410	7,880	1,140	6,320	1,070	2,030	208

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB08W-06	EPA1-SB08W-06	EPA1-SB09E-05	EPA1-SB09E-05	EPA1-SB10E-04	EPA1-SB10E-04	EPA1-SB10E-06	EPA1-SB10E-06
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7630400.532	7630400.532	7639620.343	7639620.343	7641543.945	7641543.945	7640465.853	7640465.853
Y-coordinate	699535.9693	699535.9693	694926.9917	694926.9917	692043.6338	692043.6338	693421.9495	693421.9495
RiverMile	8	8	9.9	9.9	10.5	10.5	10.2	10.2
SampleDate	7-Oct-11	7-Oct-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	16:50	16:50	14:13	14:13	12:57	12:57	13:50	13:50
PCB159	118 U	112 U	68.8 U	71.4 U	70.1 U	137	125 U	120 U
PCB160	4.25 U	4.02 U	2.48 U	2.57 U	2.52 U	2.7 U	4.5 U	4.33 U
PCB161	56.1 U	53.1 U	32.8 U	34 U	33.4 U	35.7 U	59.5 U	57.2 U
PCB162	91.2	37.7 U	330	46.8	129 J	40	54.6	40.6 U
PCB164	1,490	244	2,130	354	3,870	649	1,370	145
PCB165	55.7 U	52.7 U	49.5	33.7 U	138	35.4 U	59 U	56.7 U
PCB167	1,470	245	4,070	609	3,030	571	996	111
PCB169	43.4 J	35.4 U	160	22.6 U	790 J	56.2 U	84.8 J	38.1 U
PCB170	5,240	951	10,600	1,790	27,800	6,190	5,540	651
PCB171 & 173	1,580	281	3,690	540	9,270	1,740	1,850	201
PCB172	1,140	184	2,130	300	6,530	1,210	1,700	174
PCB174	3,830	706	3,720	572	17,500	3,270	6,650	711
PCB175	278	65.6 U	393	60	1,630	280	405	70.7 U
PCB176	440	84.3	378	54.4	1,720	309	725	88 U
PCB177	3,320	590	4,090	617	20,700	3,810	5,380	577
PCB178	1,860	306	2,530	369	7,960	1,420	3,430	348
PCB179	1,860	341	1,610	247	7,740	1,520	2,240	250
PCB180 & 193	17,400	3,010	32,600	5,160	94,500	21,200	24,200	2,750
PCB181	71.1	59.8 U	199	38.3 U	185	40.2 U	67 U	64.4 U
PCB182	45.8	40.6 U	63.5	26 U	200	36.6	222	43.8 U
PCB183 & 185	5,060	881	9,130	1,310	29,000	5,230	7,670	790
PCB184	51.4 U	48.7 U	30 U	31.1 U	30.6 U	32.7 U	54.5 U	52.4 U
PCB186	74.5 U	70.5 U	43.5 U	45.1 U	44.3 U	47.4 U	79 U	76 U
PCB187	13,500	2,220	17,600	2,610	68,100	11,900	27,900	2,830
PCB188	59.9 U	56.7 U	39.8	36.3 U	113	38.1 U	69.1	61.1 U
PCB189	297	44.9	625	91.1	1,810	320	301	34.8 U
PCB190	693	161	1,140	244	3,680	834	669	106
PCB191	289	56.7 U	644	91.2	2,010	363	356	61.1 U
PCB192	41.5 U	39.3 U	24.2 U	25.1 U	24.7 U	26.4 U	44 U	42.3 U
PCB194	2,510	392	4,150	625	18,300	3,670	5,420	562
PCB195	1,080	171	1,830	282	8,140	1,570	1,820	186
PCB196	1,430	235	1,940	340	8,620	2,060	2,770	330
PCB197 & 200	318	92.7 U	338	59.3 U	1,650	304	934	99.8 U
PCB198 & 199	2,830	548	2,680	555	12,600	3,100	7,340	932
PCB201	429	70.3	489	75.4	3,020	522	1,400	143
PCB202	815	138	957	142	2,900	554	2,370	240
PCB203	1,950	328	2,580	420	8,880	1,880	4,530	490
PCB204	57.5 U	54.4 U	33.6 U	34.8 U	34.2 U	36.6 U	60.9 U	58.6 U
PCB205	130	54.2 U	255	39.9	1,010	188	258	58.3 U
PCB206	827	152	961	156	3,080	609	2,590	299

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB08W-06	EPA1-SB08W-06	EPA1-SB09E-05	EPA1-SB09E-05	EPA1-SB10E-04	EPA1-SB10E-04	EPA1-SB10E-06	EPA1-SB10E-06
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7630400.532	7630400.532	7639620.343	7639620.343	7641543.945	7641543.945	7640465.853	7640465.853
Y-coordinate	699535.9693	699535.9693	694926.9917	694926.9917	692043.6338	692043.6338	693421.9495	693421.9495
RiverMile	8	8	9.9	9.9	10.5	10.5	10.2	10.2
SampleDate	7-Oct-11	7-Oct-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	16:50	16:50	14:13	14:13	12:57	12:57	13:50	13:50
PCB207	134	107 U	178	68.6 U	622	121	482	115 U
PCB208	276	109 U	242	69.8 U	639	127	848	118 U
PCB209	374	77.8	251	53.1	302	71.8	259	53.1 U
Monochlorobiphenyl homologs	91.6 T	41.5 UT	25.6 UT	26.6 UT	25.5 T	27.9 UT	46.5 UT	44.7 UT
Dichlorobiphenyl homologs	2,340 T	571 T	673 T	230 T	815 T	316 T	502 T	312 T
Trichlorobiphenyl homologs	11,200 T	2,610 T	4,800 T	1,110 T	4,860 T	1,180 T	4,860 T	1,300 T
Tetrachlorobiphenyl homologs	42,800 T	8,930 T	48,700 T	9,880 T	28,900 T	6,460 T	25,800 T	3,860 T
Pentachlorobiphenyl homologs	97,000 T	19,000 T	236,000 T	43,400 T	86,700 T	17,800 T	60,700 T	7,420 T
Hexachlorobiphenyl homologs	130,000 JT	22,100 T	272,000 T	39,000 T	369,000 JT	63,200 T	128,000 JT	13,500 T
Heptachlorobiphenyl homologs	57,000 T	9,920 T	91,200 T	14,100 T	300,000 T	59,700 T	89,400 T	9,630 T
Octachlorobiphenyl homologs	11,500 T	1,960 T	15,200 T	2,510 T	65,100 T	13,800 T	26,800 T	2,960 T
Nonachlorobiphenyl homologs	1,240 T	260 T	1,380 T	225 T	4,340 T	857 T	3,920 T	416 T
Total PCB Congeners	353,000 JT	63,500 JT	670,000 JT	109,000 JT	861,000 JT	162,000 JT	339,000 JT	36,400 JT
Total PCB Congeners (calc'd)	353,000 JT	65,500 JT	670,000 JT	111,000 JT	861,000 JT	163,000 JT	340,000 JT	39,500 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	2.29 JT	0.186 JT	14 T	0.604 JT	28.7 JT	0.211 JT	3.15 JT	0.0638 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	5.48 JT	3.74 JT	14 T	2.88 JT	28.7 JT	3.08 JT	6.53 JT	3.89 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	22.9 JT	8.58 JT	24.5 T	5.59 JT	16.1 JT	5.71 JT	16.6 JT	6.62 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.364 JT	0.198 JT	0.922 T	0.207 JT	0.432 JT	0.148 JT	0.302 JT	0.187 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11E-07	EPA1-SB11E-07	EPA1-SB11E-08	EPA1-SB11E-08	EPA1-SB11E-09	EPA1-SB11E-09	EPA1-SB11E-10	EPA1-SB11E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7643279.643	7643279.643	7644062.93	7644062.93	7643687.406	7643687.406	7643305.445	7643305.445
Y-coordinate	690016.3478	690016.3478	689439.2818	689439.2818	689713.2152	689713.2152	689983.1343	689983.1343
RiverMile	11	11	11.2	11.2	11.1	11.1	11.1	11.1
SampleDate	19-Sep-11	19-Sep-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11
SampleTime	7:05	7:05	12:00	12:00	12:36	12:36	13:30	13:30
PCB001	35.7 U	36.4 U	143 U	75 U	35.7 U	36.4 U	32.9 U	36.8 U
PCB002	44.3 U	45.1 U	177 U	93 U	44.3 U	45.1 U	40.8 U	45.6 U
PCB003	23.3 U	23.8 U	93.3 U	49 U	23.3 U	23.8 U	21.5 U	24 U
PCB004	563	73.8	394	152 U	210	73.8 U	118	74.5 U
PCB005	44.3 U	45.1 U	177 U	93 U	44.3 U	45.1 U	40.8 U	45.6 U
PCB006	57	42.2 U	166 U	87 U	41.4 U	42.2 U	38.2 U	42.6 U
PCB007	56.2 U	57.3 U	225 U	118 U	56.2 U	57.3 U	51.8 U	57.8 U
PCB008	232	153	187 U	98 U	136	79.2	49.8	48 U
PCB009	27.1 U	27.7 U	109 U	57 U	27.1 U	27.7 U	25 U	27.9 U
PCB010	29.5 U	30.1 U	118 U	62 U	29.5 U	30.1 U	27.2 U	30.4 U
PCB011	610	324	930 U	488 U	264	237 U	214 U	239 U
PCB012 & 013	39.5 U	40.3 U	158 U	83 U	39.5 U	40.3 U	36.4 U	40.7 U
PCB014	43.3 U	44.2 U	173 U	91 U	43.3 U	44.2 U	39.9 U	44.6 U
PCB015	179	127	261 U	137 U	112	80.4	60.1 U	67.2 U
PCB016	243	121	210 U	110 U	111	65.9	48.2 U	53.9 U
PCB017	1,910	576	1,070	247	276	103	225	60.3 U
PCB018 & 030	925	343	413	109	312	135 U	160	43.8
PCB019	3,090	840	1,620	336	331	93.4	308	52.4
PCB020 & 028	2,650	1,010	1,520	372	1,060	439	589	138
PCB021 & 033	740	333	859 U	451 U	258	219 U	198 U	221 U
PCB022	522	232	190 U	100 U	211	116	87.8	49 U
PCB023	52.4 U	53.4 U	210 U	110 U	52.4 U	53.4 U	48.2 U	53.9 U
PCB024	31.9 U	32.5 U	128 U	67 U	31.9 U	32.5 U	29.4 U	32.8 U
PCB025	340	104	187 U	98 U	61.6	47.6 U	45.4	48 U
PCB026 & 029	489	166	400 U	210 U	154	102 U	101	103 U
PCB027	456	124	291	95 U	55.9	46.1 U	44.7	46.6 U
PCB031	1,460	587	465	194 U	548	257	249	95.1 U
PCB032	960	293	416	99.8 U	148	65.1	103	25
PCB034	37.6 U	38.3 U	150 U	79 U	37.6 U	38.3 U	34.6 U	38.7 U
PCB035	39 U	36.4 U	156 U	82 U	39 U	39.8 U	36 U	40.2 U
PCB036	41.4 U	42.2 U	166 U	87 U	41.4 U	42.2 U	38.2 U	42.6 U
PCB037	347	163	209	67 U	173	96.7	67.6	32.8 U
PCB038	30 U	23.8 U	120 U	63 U	30 U	30.6 U	27.6 U	30.9 U
PCB039	37.6 U	30.6 U	150 U	79 U	37.6 U	38.3 U	34.6 U	38.7 U
PCB040 & 041 & 071	2,570	796	1,950	420	422	149	444	89.8
PCB042	988	298	564	124	232	78.1	254	49.3
PCB043 & 073	324	110	623	136 U	52.4 U	53.4 U	49.8	53.9 U
PCB044 & 047 & 065	21,400	6,370	19,900	3,980	2,610	700	4,310	680
PCB045 & 051	4,500	1,330	3,070	650	274	84.6	525	88.2
PCB046	321	45.1 U	476 U	250 U	119 U	121 U	110 U	123 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11E-07	EPA1-SB11E-07	EPA1-SB11E-08	EPA1-SB11E-08	EPA1-SB11E-09	EPA1-SB11E-09	EPA1-SB11E-10	EPA1-SB11E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7643279.643	7643279.643	7644062.93	7644062.93	7643687.406	7643687.406	7643305.445	7643305.445
Y-coordinate	690016.3478	690016.3478	689439.2818	689439.2818	689713.2152	689713.2152	689983.1343	689983.1343
RiverMile	11	11	11.2	11.2	11.1	11.1	11.1	11.1
SampleDate	19-Sep-11	19-Sep-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11
SampleTime	7:05	7:05	12:00	12:00	12:36	12:36	13:30	13:30
PCB048	553	183	432	97.3	156	55.5	147	29.6
PCB049 & 069	10,900	3,270	8,800	1,760	1,620	424	2,310	365
PCB050 & 053	5,060	1,460	4,400	927	257	73.2	499	80.2
PCB052	15,900	4,900	17,100	3,460	2,990	789	3,660	589
PCB054	1,050	293	665	136	58.9	34.5 U	92.9	34.8 U
PCB055	35.7 U	36.4 U	143 U	75 U	35.7 U	36.4 U	32.9 U	36.8 U
PCB056	703	233	321	93 U	216	74.5	167	45.6 U
PCB057	34.3	30.6 U	120 U	63 U	30 U	30.6 U	27.6 U	30.9 U
PCB058	42.4	32.5 U	128 U	67 U	31.9 U	32.5 U	29.4 U	32.8 U
PCB059 & 062 & 075	710	364 U	1,430 U	750 U	357 U	364 U	329 U	368 U
PCB060	777	249	472	103	436	121	377	65.8
PCB061 & 070 & 074 & 076	6,650	2,060	6,740	1,370	3,290	850	2,780	476
PCB063	276	81.1	401	78.9	138	34.5	177	28.9 U
PCB064	1,620	499	781	250 U	565	172	537	123 U
PCB066	4,600	1,440	5,800	1,180	2,590	657	2,910	459
PCB067	199	54.9	217	60 U	34	29.1 U	46.3	29.4 U
PCB068	186	97.1 U	634	200 U	95.2 U	97.1 U	96.5	98 U
PCB072	163	49.4	250	48.7	46.1	21.8 U	74.9	22.1 U
PCB073	52.4 U	53.4 U	210 U	110 U	52.4 U	53.4 U	48.2 U	53.9 U
PCB077	216	67.2	246	92 U	117	44.7 U	118	45.1 U
PCB078	21.9 U	22.3 U	87.6 U	46 U	21.9 U	22.3 U	20.2 U	22.5 U
PCB079	74.8	37.9 U	156	78 U	37.1 U	37.9 U	35.6	38.2 U
PCB080	35.2 U	35.9 U	141 U	74 U	35.2 U	35.9 U	32.5 U	36.3 U
PCB081	42.9 U	43.7 U	171 U	90 U	42.9 U	43.7 U	39.5 U	44.1 U
PCB082	566	165	813	127	153	41.3 U	246	41.7 U
PCB083	1,040	221	2,020	422	192	74.5	316	65.2 U
PCB084	2,200	654	3,770	776	402	141 U	673	142 U
PCB085 & 117 & 116	3,620	977	5,400	1,100	2,250	547	2,210	337
PCB086 & 087 & 097 & 108 & 119 & 12	12,300	3,420	23,700	4,710	2,960	728 U	4,790	770
PCB088 & 091	3,960	1,130	6,720	1,360	457	118	1,140	175
PCB089	65.8	28.2 U	124	58 U	27.6 U	28.2 U	25.4 U	28.4 U
PCB090 & 101 & 113	56,600	15,400	141,000	27,500	7,400	1,790	18,200	2,790
PCB092	9,470	2,600	18,100	3,650	1,750	412	3,140	455
PCB093 & 098 & 100 & 102	4,870	1,330	5,010	1,150 U	548 U	558 U	973	564 U
PCB094	437	125	779	250 U	119 U	121 U	110 U	123 U
PCB095	25,100	7,210	56,100	11,300	2,990	747	6,710	1,030
PCB096	714	187	762	154	53.3 U	54.4 U	120	54.9 U
PCB099	19,100	4,820	32,500	6,320	7,510	1,710	9,780	1,340
PCB103	1,600	434	2,430	466	106	44.7 U	379	54.9
PCB104	129	72.3 U	284 U	149 U	71 U	72.3 U	65.4 U	73 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11E-07	EPA1-SB11E-07	EPA1-SB11E-08	EPA1-SB11E-08	EPA1-SB11E-09	EPA1-SB11E-09	EPA1-SB11E-10	EPA1-SB11E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7643279.643	7643279.643	7644062.93	7644062.93	7643687.406	7643687.406	7643305.445	7643305.445
Y-coordinate	690016.3478	690016.3478	689439.2818	689439.2818	689713.2152	689713.2152	689983.1343	689983.1343
RiverMile	11	11	11.2	11.2	11.1	11.1	11.1	11.1
SampleDate	19-Sep-11	19-Sep-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11
SampleTime	7:05	7:05	12:00	12:00	12:36	12:36	13:30	13:30
PCB105	6,540	2,060	9,750	2,050	5,100	1,210	4,550	732
PCB106	70.5 U	71.8 U	282 U	148 U	70.5 U	71.8 U	64.9 U	72.5 U
PCB107 & 124	444	124	933	190	200	52.9 U	257	53.4 U
PCB109	1,730	473	3,980	764	971	227	1,250	213
PCB110 & 115	24,100	6,700	50,200	10,300	5,060	1,250	8,280	1,400
PCB111	89.8	35.9 U	297	74 U	35.2 U	35.9 U	44.4	36.3 U
PCB112	52.4 U	53.4 U	210 U	110 U	52.4 U	53.4 U	48.2 U	53.9 U
PCB114	569	158	1,000	189	450	93.7	425	67.5
PCB118	36,700	10,400	78,900	16,700	18,600	4,270	22,200	3,600
PCB120	298	121 U	697	250 U	119 U	121 U	144	123 U
PCB121	192	52	233	69 U	32.9 U	33.5 U	51.9	33.8 U
PCB122	94.2	44.2 U	173 U	91 U	43.3 U	71.8 U	48.4	44.6 U
PCB123	391	132	744	146	315	79.1	345	56.9 U
PCB126	86.7 J	65.5 U	257 U	135 U	64.3 U	65.5 U	59.2 U	66.2 U
PCB127	83.4	41.7 U	164 U	86 U	41 U	41.7 U	45	42.2 U
PCB128 & 166	14,600	4,050	25,300	5,250	3,490	824	4,520	690
PCB129 & 138 & 163	133,000 J	79,600	740,000	146,000	39,800	8,810	103,000	14,900
PCB130	5,720	1,540	18,600	3,760	812	181	2,800	402
PCB131	515	148	1,750	362	40.5 U	41.3 U	171	41.7 U
PCB132	20,400	5,830	76,100	15,800	1,170	274	5,860	893
PCB133	4,660	1,200	12,100	2,410	752	164	1,830	251
PCB134 & 143	4,480	1,180	14,500	3,070	266	243 U	1,490	245 U
PCB135 & 151	90,900	21,600	209,000	41,900	6,290	1,440	22,900	3,310
PCB136	20,200	4,900	52,300	10,900	854	200	5,010	709
PCB137	2,740	553	5,410	1,110	1,400	263	1,830	255
PCB139 & 140	1,190	298	1,620	326	463	106	524	74
PCB141	57,800	16,500	134,000	26,300	3,830	871	15,200	2,150
PCB142	40.5 U	41.3 U	162 U	85 U	40.5 U	41.3 U	37.3 U	41.7 U
PCB144	9,980	2,380	29,500	6,080	425	93.3	3,050	435
PCB145	44.8 U	45.6 U	179 U	94 U	44.8 U	45.6 U	41.2 U	46.1 U
PCB146	52,000	13,300	151,000	29,700	7,460	1,660	22,500	3,100
PCB147 & 149	69,500	18,400	287,000	56,700	4,910	1,130	24,700	3,570
PCB148	380	90.3	550	150 U	71.4 U	72.8 U	122	73.5 U
PCB150	268	60.7	479	108 U	51.4 U	52.4 U	65.9	52.9 U
PCB152	299	71.7	348	117 U	55.7 U	56.8 U	62.3	57.4 U
PCB153 & 168	184,000 J	105,000	948,000	188,000	48,500	11,100	143,000 J	20,600
PCB154	3,180	706	3,900	762	553	123	900	121
PCB155	93.9	59.7 U	234 U	123 U	58.6 U	59.7 U	53.9 U	60.3 U
PCB156 & 157	22,700	6,430	65,800	12,700	4,210	965	9,930	1,420
PCB158	25,700	6,920	52,200	10,300	3,310	735	7,240	1,060

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11E-07	EPA1-SB11E-07	EPA1-SB11E-08	EPA1-SB11E-08	EPA1-SB11E-09	EPA1-SB11E-09	EPA1-SB11E-10	EPA1-SB11E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7643279.643	7643279.643	7644062.93	7644062.93	7643687.406	7643687.406	7643305.445	7643305.445
Y-coordinate	690016.3478	690016.3478	689439.2818	689439.2818	689713.2152	689713.2152	689983.1343	689983.1343
RiverMile	11	11	11.2	11.2	11.1	11.1	11.1	11.1
SampleDate	19-Sep-11	19-Sep-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11
SampleTime	7:05	7:05	12:00	12:00	12:36	12:36	13:30	13:30
PCB159	521	121 U	476 U	250 U	119 U	121 U	649	123 U
PCB160	4.29 U	4.37 U	17.1 U	9 U	4.29 U	4.37 U	3.95 U	4.41 U
PCB161	56.7 U	57.8 U	227 U	119 U	56.7 U	57.8 U	52.2 U	58.3 U
PCB162	375	189	661	146	92.6	41 U	203	41.4 U
PCB164	11,400	3,280	34,100	6,980	1,090	266	4,000	625
PCB165	274	69.2	630	129	56.2 U	57.3 U	101	57.8 U
PCB167	7,520	1,990	24,800	4,700	1,430	308	3,830	518
PCB169	990 J	322 J	318 J	79.2 U	109 J	38.4 U	314	38.8 U
PCB170	125,000	35,600	372,000	64,500	11,300	2,510	39,200	5,500
PCB171 & 173	40,500	10,800	97,900	18,400	3,170	713	10,400	1,420
PCB172	24,000	6,380	70,500	12,600	2,140	465	7,460	971
PCB174	44,900	11,400	224,000	43,100	1,910	432	17,300	2,460
PCB175	4,950	1,190	17,200	3,230	270	71.4 U	1,720	227
PCB176	4,630	1,180	21,700	4,370	157	88.8 U	1,420	189
PCB177	40,100	10,900	203,000	38,600	2,600	573	17,600	2,340
PCB178	29,800	7,440	81,900	15,500	2,510	546	9,050	1,230
PCB179	29,700	7,550	93,200	18,300	1,120	257	6,990	990
PCB180 & 193	196,000 J	105,000	1,150,000	217,000	36,100	8,220	132,000	18,000
PCB181	505	133	1,480	264	91.1	65 U	212	65.7 U
PCB182	325	74.1	173 U	91 U	43.3 U	44.2 U	99.8	44.6 U
PCB183 & 185	108,000	29,500	312,000	57,600	8,960	1,950	33,900	4,460
PCB184	55.5	52.9 U	208 U	109 U	51.9 U	52.9 U	47.8 U	53.4 U
PCB186	75.2 U	76.7 U	301 U	158 U	75.2 U	76.7 U	69.3 U	77.5 U
PCB187	102,000 J	43,100	602,000	122,000	19,500	4,270	69,700	9,720
PCB188	179	61.7 U	639	127 U	60.5 U	61.7 U	75.8	62.3 U
PCB189	6,890	1,720	17,600	3,210	612	131	2,170	263
PCB190	19,100	7,360	60,200	12,700	2,010	568	5,500	903
PCB191	7,210	1,820	19,600	3,470	599	131	2,420	301
PCB192	41.9 U	42.7 U	168 U	88 U	41.9 U	42.7 U	38.6 U	43.1 U
PCB194	76,800	22,500	168,000	28,900	6,450	1,410	20,100	2,670
PCB195	32,000	9,180	76,700	13,400	2,800	611	9,700	1,200
PCB196	40,800	11,200	87,600	17,000	3,240	685	11,800	1,460
PCB197 & 200	5,430	1,450	20,300	3,700	394	101 U	1,830	225
PCB198 & 199	56,900	16,800	190,000	34,000	5,520	1,210	17,700	2,320
PCB201	7,510	1,940	26,700	4,970	537	111	2,730	345
PCB202	12,500	3,370	27,400	5,000	1,370	297	3,590	435
PCB203	49,600	13,300	87,000	15,700	4,860	1,050	12,300	1,560
PCB204	58 U	59.2 U	232 U	122 U	58 U	59.2 U	53.5 U	59.8 U
PCB205	4,980	1,300	9,290	1,610	399	82.2	1,160	137
PCB206	14,500	4,450	26,600	4,820	1,830	390	3,510	482

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11E-07	EPA1-SB11E-07	EPA1-SB11E-08	EPA1-SB11E-08	EPA1-SB11E-09	EPA1-SB11E-09	EPA1-SB11E-10	EPA1-SB11E-10
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7643279.643	7643279.643	7644062.93	7644062.93	7643687.406	7643687.406	7643305.445	7643305.445
Y-coordinate	690016.3478	690016.3478	689439.2818	689439.2818	689713.2152	689713.2152	689983.1343	689983.1343
RiverMile	11	11	11.2	11.2	11.1	11.1	11.1	11.1
SampleDate	19-Sep-11	19-Sep-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11	7-Oct-11
SampleTime	7:05	7:05	12:00	12:00	12:36	12:36	13:30	13:30
PCB207	2,170	629	4,830	918	283	117 U	637	118 U
PCB208	2,060	596	4,600	888	368	119 U	673	120 U
PCB209	512	174	519	116	422	102	429	69.3
Monochlorobiphenyl homologs	44.3 UT	45.1 UT	177 UT	93 UT	44.3 UT	45.1 UT	40.8 UT	45.6 UT
Dichlorobiphenyl homologs	1,670 T	728 T	1,280 T	488 UT	771 T	365 T	350 T	239 UT
Trichlorobiphenyl homologs	14,200 T	4,950 T	7,200 T	1,920 T	3,770 T	1,580 T	2,170 T	685 T
Tetrachlorobiphenyl homologs	79,900 T	24,100 T	74,800 T	15,500 T	16,500 T	4,740 T	19,900 T	3,560 T
Pentachlorobiphenyl homologs	213,000 JT	59,000 T	446,000 T	89,400 T	57,400 T	13,600 T	86,400 T	13,700 T
Hexachlorobiphenyl homologs	745,000 JT	297,000 JT	2,890,000 JT	574,000 T	131,000 JT	29,900 T	386,000 JT	55,500 T
Heptachlorobiphenyl homologs	784,000 JT	281,000 T	3,350,000 T	635,000 T	93,100 T	21,000 T	357,000 T	49,100 T
Octachlorobiphenyl homologs	287,000 T	81,000 T	693,000 T	124,000 T	25,600 T	5,510 T	80,900 T	10,400 T
Nonachlorobiphenyl homologs	18,700 T	5,680 T	36,000 T	6,630 T	2,480 T	508 T	4,820 T	601 T
Total PCB Congeners	2,140,000 JT	753,000 JT	7,490,000 JT	1,440,000 JT	330,000 JT	74,400 JT	937,000 JT	131,000 JT
Total PCB Congeners (calc'd)	2,140,000 JT	754,000 JT	7,490,000 JT	1,450,000 JT	332,000 JT	77,300 JT	938,000 JT	134,000 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	40.8 JT	10.4 JT	15.5 JT	1.19 JT	4.2 JT	0.212 JT	10.7 JT	0.198 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	40.8 JT	13.6 JT	28.4 JT	9.15 JT	7.42 JT	4.07 JT	13.7 JT	4.1 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	26.1 JT	10.1 JT	42.9 JT	15.3 JT	12.5 JT	6.87 JT	12.9 JT	6.93 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.922 JT	0.312 JT	1.72 JT	0.565 JT	0.342 JT	0.213 JT	0.403 JT	0.213 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11W-05	EPA1-SB11W-05	EPA1-SB11W-06	EPA1-SB11W-06	EPA1-SB11W-07	EPA1-SB11W-07	EPA1-SB11W-08	EPA1-SB11W-08
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7645552.14	7645552.14	7645637.354	7645637.354	7643703.153	7643703.153	7642440.545	7642440.545
Y-coordinate	686305.2547	686305.2547	686200.0404	686200.0404	688248.8439	688248.8439	689464.813	689464.813
RiverMile	11.9	11.9	11.9	11.9	11.4	11.4	11	11
SampleDate	28-Sep-11	28-Sep-11	16-Sep-11	16-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	8:22	8:22	7:14	7:14	9:20	9:20	10:12	10:12
PCB001	21.8 U	22.3 U	36.4 U	36.1 U	36.4 U	37.1 U	35 U	36.1 U
PCB002	27.1 U	27.6 U	45.1 U	44.7 U	45.1 U	46 U	43.5 U	44.7 U
PCB003	17.1	14.6 U	23.8 U	23.6 U	23.8 U	24.3 U	22.9 U	23.6 U
PCB004	641	114	125	73.1 U	127	75.2 U	71 U	73.1 U
PCB005	27.1 U	27.6 U	45.1 U	44.7 U	45.1 U	46 U	43.5 U	44.7 U
PCB006	225	40.9	42.2 U	41.8 U	42.2 U	43.1 U	40.7 U	41.8 U
PCB007	34.4 U	35 U	57.3 U	56.7 U	57.3 U	58.4 U	55.1 U	56.7 U
PCB008	668	143	142	79.7	123	48.5 U	45.8 U	47.1 U
PCB009	41.3	16.9 U	27.7 U	27.4 U	27.7 U	28.2 U	26.6 U	27.4 U
PCB010	23.5	18.4 U	30.1 U	29.8 U	30.1 U	30.7 U	29 U	29.8 U
PCB011	192	151	394	235 U	237 U	242 U	228 U	235 U
PCB012 & 013	24.2 U	24.7 U	40.3 U	39.9 U	40.3 U	41.1 U	38.8 U	39.9 U
PCB014	26.5 U	27 U	44.2 U	43.8 U	44.2 U	45 U	42.5 U	43.8 U
PCB015	136	42.2	91.3	85.9	66.5 U	67.8 U	64 U	65.9 U
PCB016	519	113	113	71.8	162	54.5 U	51.4 U	52.9 U
PCB017	1,560	276	274	102	696	84.9	811	195
PCB018 & 030	1,830	330	374	147 U	501	65.6	222	68.3 U
PCB019	1,180	189	100	46.2 U	309	47.5 U	470	104
PCB020 & 028	3,830	706	1,320	509	1,910	228	1,580	369
PCB021 & 033	1,000	209	274	217 U	274	223 U	250	217 U
PCB022	792	151	256	141	390	55.3	168	50.6
PCB023	32 U	32.7 U	53.4 U	52.9 U	53.4 U	54.5 U	51.4 U	52.9 U
PCB024	29	19.9 U	32.5 U	32.2 U	32.5 U	33.2 U	31.3 U	32.2 U
PCB025	415	71.6	79.4	47.1 U	188	48.5 U	228	48.5
PCB026 & 029	769	134	216	101 U	373	104 U	257	101 U
PCB027	343	61.1	52.4	45.7 U	109	47 U	212	49.9
PCB031	2,640	491	679	299	1,220	152	613	160
PCB032	932	168 U	153	68.4	274	36.1	692	160
PCB034	23 U	23.5 U	38.3 U	38 U	38.3 U	39.1 U	36.9 U	38 U
PCB035	23.9 U	24.4 U	39.8 U	39.4 U	39.8 U	40.6 U	38.3 U	39.4 U
PCB036	25.3 U	25.8 U	42.2 U	41.8 U	42.2 U	43.1 U	40.7 U	41.8 U
PCB037	351	71.7	177	113	188	35.1	38.4	32.2 U
PCB038	18.3 U	18.7 U	30.6 U	30.3 U	30.6 U	31.2 U	29.4 U	30.3 U
PCB039	23 U	23.5 U	38.3 U	38 U	38.3 U	39.1 U	36.9 U	38 U
PCB040 & 041 & 071	2,280	381	678	198	1,410	172	2,190	522
PCB042	1,060	182	588	146	827	94.3	1,300	282
PCB043 & 073	293	52.4	55.7	52.9 U	137	54.5 U	435	98.1
PCB044 & 047 & 065	15,300	2,430	7,610	1,670	6,580	706	19,200	3,990
PCB045 & 051	3,670	586	261	74.8	1,210	134	3,590	779
PCB046	263	74.3 U	121 U	120 U	139	124 U	139	120 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11W-05	EPA1-SB11W-05	EPA1-SB11W-06	EPA1-SB11W-06	EPA1-SB11W-07	EPA1-SB11W-07	EPA1-SB11W-08	EPA1-SB11W-08
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7645552.14	7645552.14	7645637.354	7645637.354	7643703.153	7643703.153	7642440.545	7642440.545
Y-coordinate	686305.2547	686305.2547	686200.0404	686200.0404	688248.8439	688248.8439	689464.813	689464.813
RiverMile	11.9	11.9	11.9	11.9	11.4	11.4	11	11
SampleDate	28-Sep-11	28-Sep-11	16-Sep-11	16-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	8:22	8:22	7:14	7:14	9:20	9:20	10:12	10:12
PCB048	581	100	305	78.8	517	57.8	564	125
PCB049 & 069	9,800	1,570	2,990	656	4,370	446	9,600	2,000
PCB050 & 053	3,220	501	227	63.5 U	1,330	145	4,050	874
PCB052	9,680	1,650	4,520	1,050	7,950	856	9,360	2,000
PCB054	392	63.9	34.5 U	34.1 U	84.1	35.1 U	833	173
PCB055	21.8 U	22.3 U	36.4 U	36.1 U	36.4 U	37.1 U	35 U	36.1 U
PCB056	952	170	554	149	845	102	958	214
PCB057	22.4	18.7 U	30.6 U	30.3 U	30.6 U	31.2 U	32.8	30.3 U
PCB058	24.2	19.9 U	32.5 U	32.2 U	32.5 U	33.2 U	39.4	32.2 U
PCB059 & 062 & 075	441	223 U	364 U	361 U	364 U	371 U	713	361 U
PCB060	573	100	728	171	666	75.6	2,380	506
PCB061 & 070 & 074 & 076	6,500	1,080	5,330	1,250	6,240	654	10,300	2,150
PCB063	208	33.6	248	51.9	180	29.2 U	657	130
PCB064	1,690	291	1,200	291	1,520	170	2,360	517
PCB066	4,130	676	3,900	884	3,730	399	10,800	2,280
PCB067	151	26.3	80.7	28.8 U	113	29.7 U	184	38.3
PCB068	249	59.4 U	97.1 U	96.2 U	97.1 U	99 U	226	96.2 U
PCB072	154	25.8	87.1	21.6 U	89.3	22.3 U	181	37.1
PCB073	32 U	21.1 U	53.4 U	52.9 U	0 U	54.5 U	51.4 U	52.9 U
PCB077	248	40.7	232	53.1	233	45.5 U	225	48.3
PCB078	13.4 U	13.7 U	22.3 U	22.1 U	22.3 U	22.8 U	21.5 U	22.1 U
PCB079	84.3	23.2 U	55.3	37.5 U	67.8	38.6 U	91	37.5 U
PCB080	21.6 U	22 U	35.9 U	35.6 U	35.9 U	36.6 U	34.6 U	35.6 U
PCB081	26.2 U	26.7 U	43.7 U	43.3 U	43.7 U	44.6 U	42.1 U	43.3 U
PCB082	690	111	430	97.3	710	78.5	966	210
PCB083	786	86.7	342	63.9 U	677	81.1	632	135
PCB084	1,890	288	940	210	2,220	243	1,500	335
PCB085 & 117 & 116	2,040	338	3,350	663	2,450	239	5,470	1,110
PCB086 & 087 & 097 & 108 & 119 & 12	7,130	1,130	5,480	1,170	8,860	911	8,890	1,900
PCB088 & 091	4,910	742	982	207	2,240	233	4,090	845
PCB089	55.6	17.2 U	28.2 U	27.9 U	115	28.7 U	53.1	27.9 U
PCB090 & 101 & 113	24,600	3,880	11,900	2,410	29,500	2,870	24,100	4,980
PCB092	5,020	768	2,530	512	4,320	440	4,100	844
PCB093 & 098 & 100 & 102	2,720	409	1,790	553 U	1,490	569 U	2,890	572
PCB094	250	74.3 U	121 U	120 U	268	124 U	389	120 U
PCB095	13,300	1,990	4,730	1,030	15,700	1,620	9,830	2,090
PCB096	326	49.7	54.4 U	53.8 U	171	55.4 U	384	78.3
PCB099	12,000	1,880	11,900	2,180	8,810	851	18,700	3,750
PCB103	1,390	199	125	44.2 U	387	45.5 U	858	167
PCB104	55.6	44.3 U	72.3 U	71.6 U	72.3 U	73.8 U	70.3	71.6 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11W-05	EPA1-SB11W-05	EPA1-SB11W-06	EPA1-SB11W-06	EPA1-SB11W-07	EPA1-SB11W-07	EPA1-SB11W-08	EPA1-SB11W-08
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7645552.14	7645552.14	7645637.354	7645637.354	7643703.153	7643703.153	7642440.545	7642440.545
Y-coordinate	686305.2547	686305.2547	686200.0404	686200.0404	688248.8439	688248.8439	689464.813	689464.813
RiverMile	11.9	11.9	11.9	11.9	11.4	11.4	11	11
SampleDate	28-Sep-11	28-Sep-11	16-Sep-11	16-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	8:22	8:22	7:14	7:14	9:20	9:20	10:12	10:12
PCB105	3,140	503	6,840	1,520	4,660	479	10,400	2,300
PCB106	43.1 U	44 U	71.8 U	71.2 U	71.8 U	73.3 U	69.2 U	71.2 U
PCB107 & 124	307	46.8	312	67.6	397	54 U	522	107
PCB109	1,330	203	1,310	303	1,080	103	2,290	504
PCB110 & 115	11,400	1,840	9,150	1,920	17,600	1,860	13,600	2,920
PCB111	108	22 U	35.9 U	35.6 U	35.9 U	36.6 U	72.8	35.6 U
PCB112	32 U	32.7 U	53.4 U	52.9 U	53.4 U	54.5 U	51.4 U	52.9 U
PCB114	199	36.6	696	138	287	60.9 U	1,070	222
PCB118	12,100	1,950	26,500	5,440	16,700	1,710	43,200	8,760
PCB120	345	74.3 U	121 U	120 U	121 U	124 U	233	120 U
PCB121	104	20.5 U	54.5	33.2 U	33.5 U	34.2 U	98.6	33.2 U
PCB122	71.1	27 U	71.8 U	43.8 U	89.2	45 U	118	43.8 U
PCB123	162	35.4	542	87.9	221	57.4 U	1,010	173
PCB126	39.3 U	40.1 U	65.5 U	64.9 U	65.5 U	66.8 U	85.9 J	64.9 U
PCB127	30.3	25.5 U	68.4	41.3 U	41.7 U	42.6 U	80	41.3 U
PCB128 & 166	3,550	478	4,540	909	5,470	499	6,290	1,290
PCB129 & 138 & 163	60,000	8,750	44,400	8,830	83,400	7,030	282,000 J	28,000
PCB130	2,560	376	1,120	211	2,820	240	3,850	810
PCB131	241	34.8	96.2	40.9 U	445	42.1 U	254	50.7
PCB132	9,390	1,360	2,190	437	18,700	1,650	4,430	951
PCB133	2,290	371	918	166	1,070	90.2	2,380	495
PCB134 & 143	1,550	225	427	240 U	2,810	250	1,560	348
PCB135 & 151	22,500	3,380	7,650	1,330	33,700	2,780	16,900	3,390
PCB136	5,010	708	1,310	227	10,400	871	3,020	610
PCB137	1,010	138	2,310	431	1,430	144 U	3,290	547
PCB139 & 140	637	92.7	636	112	466	59.4 U	772	164
PCB141	9,610	1,360	3,920	856	19,800	1,750	12,400	2,700
PCB142	24.8 U	25.2 U	41.3 U	40.9 U	41.3 U	42.1 U	39.7 U	40.9 U
PCB144	2,450	340	574	99.4	4,870	398	3,270	659
PCB145	27.4 U	27.9 U	45.6 U	45.2 U	45.6 U	46.5 U	43.9 U	45.2 U
PCB146	20,000	3,300	8,210	1,490	13,000	1,070	30,000	6,380
PCB147 & 149	43,700	6,400	7,640	1,460	62,300	5,420	33,500	7,210
PCB148	446	69.2	72.8 U	72.1 U	92.2	74.3 U	175	72.1 U
PCB150	318	46.7	52.4 U	51.9 U	82.7	53.5 U	170	51.9 U
PCB152	83.1	34.8 U	56.8 U	56.3 U	69.6	57.9 U	100	56.3 U
PCB153 & 168	74,400	11,300	58,300	11,000	92,300	7,800	383,000 J	37,900
PCB154	2,440	366	837	136	634	55.3	1,230	245
PCB155	35.8 U	36.5 U	59.7 U	59.1 U	59.7 U	60.9 U	61.6	59.1 U
PCB156 & 157	2,770	453	5,980	1,220	5,110	505	14,100	3,020
PCB158	4,060	576	4,140	810	7,390	640	8,540	1,820

Table 3. Analytical Results Including Summation Groups
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LocationID	EPA1-SB11W-05	EPA1-SB11W-05	EPA1-SB11W-06	EPA1-SB11W-06	EPA1-SB11W-07	EPA1-SB11W-07	EPA1-SB11W-08	EPA1-SB11W-08
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7645552.14	7645552.14	7645637.354	7645637.354	7643703.153	7643703.153	7642440.545	7642440.545
Y-coordinate	686305.2547	686305.2547	686200.0404	686200.0404	688248.8439	688248.8439	689464.813	689464.813
RiverMile	11.9	11.9	11.9	11.9	11.4	11.4	11	11
SampleDate	28-Sep-11	28-Sep-11	16-Sep-11	16-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	8:22	8:22	7:14	7:14	9:20	9:20	10:12	10:12
PCB159	72.8 U	74.3 U	121 U	120 U	1,000	124 U	62 U	120 U
PCB160	2.62 U	2.67 U	4.37 U	4.33 U	4.37 U	4.46 U	4.21 U	4.33 U
PCB161	34.7 U	35.3 U	57.8 U	57.2 U	57.8 U	58.9 U	55.6 U	57.2 U
PCB162	221	25.1 U	135	49.2	109	41.8 U	1,390	62.4
PCB164	2,440	371	1,090	223	4,730	418	4,940	1,210
PCB165	130	35 U	61.8	56.7 U	57.3 U	58.4 U	143	56.7 U
PCB167	1,640	246	1,790	345	1,970	182	5,730	1,230
PCB169	227 J	49.1 J	93.7 J	38.1 U	0 J	39.2 U	350 J	94.2 J
PCB170	14,100	2,700	9,550	2,220	22,800	2,440	40,400	9,810
PCB171 & 173	5,090	789	3,010	639	9,370	884	8,470	1,840
PCB172	3,530	607	1,920	394	4,800	444	8,400	1,990
PCB174	13,000	2,140	1,830	362	27,000	2,510	21,800	5,340
PCB175	796	131	294	70.7 U	1,300	118	2,050	480
PCB176	1,630	246	226	88 U	3,340	311	1,140	262
PCB177	14,300	2,560	2,150	447	16,200	1,530	23,100	5,200
PCB178	5,790	1,010	2,650	496	6,250	588	10,700	2,550
PCB179	5,340	848	1,410	271	12,000	1,130	2,940	651
PCB180 & 193	46,600	9,260	35,900	8,030	59,900	6,470	447,000 J	40,500
PCB181	80.6	39.8 U	117	64.4 U	103	66.3 U	289	65.5
PCB182	168	33	65.5	43.8 U	44.2 U	45 U	165	43.8 U
PCB183 & 185	14,600	2,420	8,430	1,810	22,900	2,160	34,900	8,280
PCB184	31.7 U	32.4 U	52.9 U	52.4 U	52.9 U	54 U	50.9 U	52.4 U
PCB186	46 U	46.9 U	76.7 U	76 U	76.7 U	78.2 U	73.8 U	76 U
PCB187	38,900	7,100	16,700	3,180	37,800	3,550	96,100	22,700
PCB188	121	37.7 U	61.7 U	61.1 U	61.7 U	62.9 U	107	61.1 U
PCB189	671	119	655	128	970	85.8	2,740	655
PCB190	1,620	393	1,430	462	2,580	321	5,590	1,830
PCB191	846	140	615	120	1,230	109	2,860	652
PCB192	25.6 U	26.1 U	42.7 U	42.3 U	42.7 U	43.6 U	41.1 U	42.3 U
PCB194	7,750	1,660	5,770	1,310	11,000	1,110	23,400	6,770
PCB195	3,470	715	2,300	512	5,080	489	9,240	2,560
PCB196	3,830	958	3,020	680	5,570	610	13,700	4,040
PCB197 & 200	1,000	209	412	99.8 U	1,750	176	1,650	467
PCB198 & 199	6,640	1,970	4,130	991	8,850	1,080	20,700	6,690
PCB201	1,190	256	573	109	1,710	161	3,240	904
PCB202	1,970	405	1,500	308	2,430	239	3,970	1,120
PCB203	5,090	1,110	4,360	927	7,600	760	9,750	2,810
PCB204	35.5 U	36.2 U	59.2 U	58.6 U	52.9 U	60.3 U	57 U	58.6 U
PCB205	447	89	322	66.4	702	63.5	988	269
PCB206	1,510	327	1,890	427	2,100	237	3,430	1,140

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	EPA1-SB11W-05	EPA1-SB11W-05	EPA1-SB11W-06	EPA1-SB11W-06	EPA1-SB11W-07	EPA1-SB11W-07	EPA1-SB11W-08	EPA1-SB11W-08
Tissue	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet	body without fillet	fillet
X-coordinate	7645552.14	7645552.14	7645637.354	7645637.354	7643703.153	7643703.153	7642440.545	7642440.545
Y-coordinate	686305.2547	686305.2547	686200.0404	686200.0404	688248.8439	688248.8439	689464.813	689464.813
RiverMile	11.9	11.9	11.9	11.9	11.4	11.4	11	11
SampleDate	28-Sep-11	28-Sep-11	16-Sep-11	16-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11	28-Sep-11
SampleTime	8:22	8:22	7:14	7:14	9:20	9:20	10:12	10:12
PCB207	232	71.3 U	323	115 U	312	119 U	751	249
PCB208	392	79.4	443	118 U	433	121 U	886	280
PCB209	191	46.8	584	150	192	54.7 U	757	272
Monochlorobiphenyl homologs	28 T	27.6 UT	45.1 UT	44.7 UT	45.1 UT	46 UT	43.5 UT	44.7 UT
Dichlorobiphenyl homologs	1,930 T	509 T	802 T	369 T	452 T	242 UT	228 UT	235 UT
Trichlorobiphenyl homologs	16,200 T	2,930 T	4,140 T	1,680 T	6,660 T	991 T	5,630 T	1,440 T
Tetrachlorobiphenyl homologs	62,000 T	10,200 T	30,000 T	7,210 T	38,500 T	4,520 T	80,500 T	17,200 T
Pentachlorobiphenyl homologs	106,000 T	16,700 T	90,300 T	18,600 T	119,000 T	12,400 T	156,000 JT	32,300 T
Hexachlorobiphenyl homologs	274,000 JT	40,900 JT	159,000 JT	30,700 T	374,000 JT	32,000 T	824,000 JT	99,400 JT
Heptachlorobiphenyl homologs	167,000 T	30,600 T	87,000 T	18,700 T	229,000 T	22,800 T	709,000 JT	103,000 T
Octachlorobiphenyl homologs	31,400 T	7,370 T	22,400 T	4,950 T	44,700 T	4,690 T	86,600 T	25,600 T
Nonachlorobiphenyl homologs	2,130 T	442 T	2,660 T	544 T	2,850 T	357 T	5,070 T	1,670 T
Total PCB Congeners	661,000 JT	109,000 JT	395,000 JT	80,500 JT	814,000 JT	75,600 JT	1,870,000 JT	279,000 JT
Total PCB Congeners (calc'd)	661,000 JT	110,000 JT	396,000 JT	83,000 JT	815,000 JT	78,100 JT	1,870,000 JT	281,000 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	7.46 JT	1.58 JT	4.12 JT	0.272 JT	0.921 JT	0.0889 JT	21.5 JT	3.32 JT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	9.42 JT	3.59 JT	7.41 JT	4.09 JT	4.2 JT	4.03 JT	21.5 JT	6.57 JT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	16.7 JT	5.55 JT	18.8 JT	8.43 JT	18.3 JT	6.85 JT	25.4 JT	8.58 JT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	0.244 JT	0.13 JT	0.418 JT	0.224 JT	0.348 JT	0.197 JT	0.871 JT	0.264 JT

Notes:

J	Concentration or total is estimated.
LWG	Lower Willamette Group
NA	Not applicable
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 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	NA	NA	NA	NA
Tissue				
X-coordinate				
Y-coordinate				
RiverMile				
SampleDate	23-Nov-11	30-Nov-11	8-Dec-11	8-Dec-11
SampleTime	10:10	15:45	14:30	14:45
PCB001	0.0597 U	0.0579 U	0.0559 U	0.0569 U
PCB002	0.12 U	0.117 U	0.113 U	0.115 U
PCB003	0.0638 U	0.062 U	0.0598 U	0.0609 U
PCB004	0.0797	0.0301 U	0.029 U	0.0339 J
PCB005	0.105 U	0.102 U	0.0982 U	0.0999 U
PCB006	0.114 U	0.11 U	0.107 U	0.108 U
PCB007	0.125 U	0.121 U	0.117 U	0.119 U
PCB008	0.128 U	0.125 U	0.12 U	0.122 U
PCB009	0.137 U	0.133 U	0.129 U	0.131 U
PCB010	0.204 U	0.198 U	0.191 U	0.194 U
PCB011	0.417 U	0.244 U	0.255 U	0.322 U
PCB012 & 013	0.172 U	0.167 U	0.161 U	0.164 U
PCB014	0.0482 U	0.0468 U	0.0452 U	0.046 U
PCB015	0.0566 U	0.0219 J	0.0198 J	0.0253 U
PCB016	0.22 U	0.214 U	0.207 U	0.21 U
PCB017	0.184 U	0.179 U	0.172 U	0.175 U
PCB018 & 030	0.416 U	0.404 U	0.39 U	0.397 U
PCB019	0.0499 U	0.0484 U	0.0468 U	0.0476 U
PCB020 & 028	0.147	0.0959 U	0.0926 U	0.0942 U
PCB021 & 033	0.145 U	0.141 U	0.136 U	0.139 U
PCB022	0.0613	0.0341 U	0.0329 U	0.0335 U
PCB023	0.103 U	0.0999 U	0.0965 U	0.0981 U
PCB024	0.176 U	0.171 U	0.165 U	0.168 U
PCB025	0.058 U	0.0563 U	0.0544 U	0.0553 U
PCB026 & 029	0.166 U	0.161 U	0.156 U	0.158 U
PCB027	0.169 U	0.164 U	0.159 U	0.162 U
PCB031	0.13	0.0531 U	0.0513 U	0.0548
PCB032	0.166 U	0.161 U	0.156 U	0.158 U
PCB034	0.0788 U	0.0765 U	0.0739 U	0.0751 U
PCB035	0.133 U	0.129 U	0.124 U	0.126 U
PCB036	0.0773 U	0.0751 U	0.0725 U	0.0738 U
PCB037	0.034	0.0268 U	0.0259 U	0.0264 U
PCB038	0.0917 U	0.089 U	0.0859 U	0.0874 U
PCB039	0.0811 U	0.0787 U	0.076 U	0.0773 U
PCB040 & 041 & 071	0.322 U	0.313 U	0.302 U	0.307 U
PCB042	0.187 U	0.182 U	0.176 U	0.179 U
PCB043 & 073	0.349 U	0.339 U	0.327 U	0.333 U
PCB044 & 047 & 065	0.399 U	0.388 U	0.374 U	0.381 U
PCB045 & 051	0.618 U	0.599 U	0.579 U	0.589 U
PCB046	0.329 U	0.319 U	0.308 U	0.313 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	NA	NA	NA	NA
Tissue				
X-coordinate				
Y-coordinate				
RiverMile				
SampleDate	23-Nov-11	30-Nov-11	8-Dec-11	8-Dec-11
SampleTime	10:10	15:45	14:30	14:45
PCB048	0.179 U	0.174 U	0.168 U	0.171 U
PCB049 & 069	0.337 U	0.327 U	0.316 U	0.321 U
PCB050 & 053	0.684 U	0.664 U	0.641 U	0.652 U
PCB052	0.243 U	0.236 U	0.228 U	0.232 U
PCB054	0.0503 U	0.0488 U	0.0472 U	0.048 U
PCB055	0.154 U	0.149 U	0.144 U	0.147 U
PCB056	0.129 U	0.125 U	0.121 U	0.123 U
PCB057	0.0495 U	0.048 U	0.0464 U	0.0472 U
PCB058	0.0618 U	0.0599 U	0.0579 U	0.0589 U
PCB059 & 062 & 075	0.322 U	0.313 U	0.302 U	0.307 U
PCB060	0.155 U	0.151 U	0.145 U	0.148 U
PCB061 & 070 & 074 & 076	0.297 U	0.289 U	0.279 U	0.284 U
PCB063	0.0773 U	0.0751 U	0.0725 U	0.0738 U
PCB064	0.119 U	0.116 U	0.112 U	0.114 U
PCB066	0.124 U	0.12 U	0.116 U	0.118 U
PCB067	0.0969 U	0.0941 U	0.0908 U	0.0924 U
PCB068	0.0688 U	0.0668 U	0.0645 U	0.0656 U
PCB072	0.0561 U	0.0545 U	0.0526 U	0.0535 U
PCB073	0.349 U	0 U	0 U	0 U
PCB077	0.0713 U	0.0692 U	0.0668 U	0.068 U
PCB078	0.174 U	0.169 U	0.164 U	0.166 U
PCB079	0.214 U	0.208 U	0.201 U	0.204 U
PCB080	0.154 U	0.15 U	0.144 U	0.147 U
PCB081	0.0684 U	0.0664 U	0.0641 U	0.0652 U
PCB082	0.0738 U	0.0717 U	0.0692 U	0.0704 U
PCB083	0.139 U	0.135 U	0.131 U	0.133 U
PCB084	0.0794 U	0.0771 U	0.0744 U	0.0757 U
PCB085 & 117 & 116	0.115 U	0.112 U	0.108 U	0.11 U
PCB086 & 087 & 097 & 108 & 119 & 12	0.14 U	0.136 U	0.131 U	0.133 U
PCB088 & 091	0.193 U	0.188 U	0.181 U	0.184 U
PCB089	0.095 U	0.0922 U	0.0891 U	0.0906 U
PCB090 & 101 & 113	1.07 U	1.04 U	1.01 U	1.02 U
PCB092	0.125 U	0.121 U	0.117 U	0.119 U
PCB093 & 098 & 100 & 102	0.532 U	0.517 U	0.499 U	0.508 U
PCB094	0.135 U	0.131 U	0.126 U	0.129 U
PCB095	0.642 U	0.624 U	0.602 U	0.613 U
PCB096	0.245 U	0.238 U	0.23 U	0.234 U
PCB099	0.229 U	0.222 U	0.214 U	0.218 U
PCB103	0.116 U	0.112 U	0.108 U	0.11 U
PCB104	0.115 U	0.111 U	0.107 U	0.109 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	NA	NA	NA	NA
Tissue				
X-coordinate				
Y-coordinate				
RiverMile				
SampleDate	23-Nov-11	30-Nov-11	8-Dec-11	8-Dec-11
SampleTime	10:10	15:45	14:30	14:45
PCB105	0.0736 U	0.0715 U	0.069 U	0.0702 U
PCB106	0.17 U	0.165 U	0.16 U	0.162 U
PCB107 & 124	1.13 U	1.1 U	1.06 U	1.08 U
PCB109	0.141 U	0.137 U	0.132 U	0.134 U
PCB110 & 115	0.401 U	0.39 U	0.376 U	0.383 U
PCB111	0.115 U	0.111 U	0.107 U	0.109 U
PCB112	0.111 U	0.108 U	0.104 U	0.106 U
PCB114	0.0563 U	0.0547 U	0.0528 U	0.0537 U
PCB118	0.32 U	0.311 U	0.3 U	0.305 U
PCB120	0.074 U	0.0719 U	0.0694 U	0.0706 U
PCB121	0.0424 U	0.0412 U	0.0398 U	0.0404 U
PCB122	0.047 U	0.0456 U	0.044 U	0.0448 U
PCB123	0.241 U	0.234 U	0.226 U	0.23 U
PCB126	0.0451 U	0.0438 U	0.0423 U	0.043 U
PCB127	0.0765 U	0.0743 U	0.0717 U	0.073 U
PCB128 & 166	0.216 U	0.21 U	0.203 U	0.206 U
PCB129 & 138 & 163	1.92 U	1.86 U	1.8 U	1.83 U
PCB130	1.32 U	1.28 U	1.24 U	1.26 U
PCB131	0.125 U	0.122 U	0.118 U	0.12 U
PCB132	0.432 U	0.42 U	0.405 U	0.412 U
PCB133	0.115 U	0.112 U	0.108 U	0.11 U
PCB134 & 143	0.134 U	0.13 U	0.126 U	0.128 U
PCB135 & 151	0.62 U	0.601 U	0.581 U	0.591 U
PCB136	0.177 U	0.172 U	0.166 U	0.169 U
PCB137	0.279 U	0.27 U	0.261 U	0.266 U
PCB139 & 140	0.125 U	0.121 U	0.117 U	0.119 U
PCB141	0.426 U	0.414 U	0.4 U	0.406 U
PCB142	0.062 U	0.0601 U	0.0581 U	0.0591 U
PCB144	0.171 U	0.166 U	0.16 U	0.163 U
PCB145	0.0509 U	0.0494 U	0.0477 U	0.0486 U
PCB146	0.351 U	0.341 U	0.329 U	0.335 U
PCB147 & 149	1.48 U	1.44 U	1.39 U	1.41 U
PCB148	0.103 U	0.1 U	0.0969 U	0.0985 U
PCB150	0.0524 U	0.0509 U	0.0491 U	0.05 U
PCB152	0.0692 U	0.0672 U	0.0649 U	0.066 U
PCB153 & 168	2.49 U	2.42 U	2.33 U	2.37 U
PCB154	0.118 U	0.115 U	0.111 U	0.113 U
PCB155	0.0518 U	0.0503 U	0.0485 U	0.0494 U
PCB156 & 157	0.233 U	0.226 U	0.218 U	0.222 U
PCB158	0.235 U	0.228 U	0.22 U	0.224 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	NA	NA	NA	NA
Tissue				
X-coordinate				
Y-coordinate				
RiverMile				
SampleDate	23-Nov-11	30-Nov-11	8-Dec-11	8-Dec-11
SampleTime	10:10	15:45	14:30	14:45
PCB159	0.102 U	0.0993 U	0.0959 U	0.0976 U
PCB160	2.02 U	1.96 U	1.89 U	1.93 U
PCB161	0.106 U	0.103 U	0.0994 U	0.101 U
PCB162	0.069 U	0.067 U	0.0647 U	0.0658 U
PCB164	0.264 U	0.256 U	0.248 U	0.252 U
PCB165	0.0919 U	0.0892 U	0.0861 U	0.0876 U
PCB167	0.104 U	0.101 U	0.0978 U	0.0995 U
PCB169	0.0414 U	0.0402 U	0.0388 U	0.0395 U
PCB170	0.539 U	0.523 U	0.505 U	0.514 U
PCB171 & 173	0.207 U	0.201 U	0.194 U	0.197 U
PCB172	0.0988 U	0.0959 U	0.0926 U	0.0942 U
PCB174	0.389 U	0.377 U	0.364 U	0.371 U
PCB175	0.0399 U	0.0388 U	0.0374 U	0.0381 U
PCB176	0.0821 U	0.0797 U	0.077 U	0.0783 U
PCB177	0.25 U	0.242 U	0.234 U	0.238 U
PCB178	0.0724 U	0.0702 U	0.0678 U	0.069 U
PCB179	0.148 U	0.144 U	0.139 U	0.141 U
PCB180 & 193	1.16 U	1.12 U	1.09 U	1.1 U
PCB181	0.0426 U	0.0414 U	0.04 U	0.0406 U
PCB182	0.0306 U	0.0297 U	0.0286 U	0.0291 U
PCB183 & 185	0.455 U	0.442 U	0.427 U	0.434 U
PCB184	0.0545 U	0.0529 U	0.0511 U	0.0519 U
PCB186	0.0522 U	0.0507 U	0.0489 U	0.0498 U
PCB187	0.491 U	0.476 U	0.46 U	0.468 U
PCB188	0.052 U	0.0505 U	0.0487 U	0.0496 U
PCB189	0.0665 U	0.0646 U	0.0624 U	0.0634 U
PCB190	0.134 U	0.13 U	0.125 U	0.127 U
PCB191	0.0489 U	0.0474 U	0.0458 U	0.0466 U
PCB192	0.0647 U	0.0628 U	0.0606 U	0.0617 U
PCB194	0.149 U	0.145 U	0.14 U	0.142 U
PCB195	0.113 U	0.109 U	0.106 U	0.107 U
PCB196	0.184 U	0.178 U	0.172 U	0.175 U
PCB197 & 200	0.191 U	0.185 U	0.179 U	0.182 U
PCB198 & 199	0.279 U	0.27 U	0.261 U	0.266 U
PCB201	0.158 U	0.154 U	0.149 U	0.151 U
PCB202	0.0973 U	0.0945 U	0.0912 U	0.0928 U
PCB203	0.144 U	0.14 U	0.135 U	0.137 U
PCB204	0.089 U	0.0864 U	0.0834 U	0.0849 U
PCB205	0.0688 U	0.0668 U	0.0645 U	0.0656 U
PCB206	0.0551 U	0.0535 U	0.0516 U	0.0525 U

Table 3. Analytical Results Including Summation Groups
Portland Harbor Sample Receipt, Analysis, and Results Report

LocationID	NA	NA	NA	NA
Tissue				
X-coordinate				
Y-coordinate				
RiverMile				
SampleDate	23-Nov-11	30-Nov-11	8-Dec-11	8-Dec-11
SampleTime	10:10	15:45	14:30	14:45
PCB207	0.0509 U	0.0494 U	0.0477 U	0.0486 U
PCB208	0.0913 U	0.0886 U	0.0856 U	0.087 U
PCB209	0.151 U	0.146 U	0.141 U	0.144 U
Monochlorobiphenyl homologs	0.12 UT	0.117 UT	0.113 UT	0.115 UT
Dichlorobiphenyl homologs	0.608 T	0.442 JT	0.435 JT	0.485 JT
Trichlorobiphenyl homologs	1.37 T	0.404 UT	0.39 UT	1.09 T
Tetrachlorobiphenyl homologs	0.684 UT	0.664 UT	0.641 UT	0.652 UT
Pentachlorobiphenyl homologs	1.13 UT	1.1 UT	1.06 UT	1.08 UT
Hexachlorobiphenyl homologs	2.49 UT	2.42 UT	2.33 UT	2.37 UT
Heptachlorobiphenyl homologs	1.16 UT	1.12 UT	1.09 UT	1.1 UT
Octachlorobiphenyl homologs	0.279 UT	0.27 UT	0.261 UT	0.266 UT
Nonachlorobiphenyl homologs	0.0913 UT	0.0886 UT	0.0856 UT	0.087 UT
Total PCB Congeners	0.452 JT	0.0219 JT	0.0198 JT	0.0887 JT
Total PCB Congeners (calc'd)	17.4 JT	16.3 JT	15.8 JT	16.1 JT
Dioxin-like PCB Congener TCDD toxicity equivalent (ND = 0)	0.32 UT	0.311 UT	0.3 UT	0.305 UT
LWG RA Total PCB Congener TEQ 2005 (Mammalian) (Calculated U = 1)	0.32 UT	0.311 UT	0.3 UT	0.305 UT
LWG RA Total PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)	0.32 UT	0.311 UT	0.3 UT	0.305 UT
LWG RA Total PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)	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
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

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:

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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

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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.

- 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.