



October 27, 2008

Mike Gross
U.S. Army Corps of Engineers, Portland District
333 SW First Avenue
PO Box 2946
Portland, Oregon 97208-2946

Subject: Forebay and Reference Area Smallmouth Bass Collected June 2006 through May 2008 Summary Report, Bradford Island Remedial Investigation
Bonneville Dam Forebay, Cascade Locks, Oregon
Contract No W9128F-04-D-0001, Task Order No. DT06

Dear Mr. Gross:

This report presents a comprehensive summary of all analytical results for the 38 smallmouth bass collected from the forebay and reference areas. The USACE collected smallmouth bass in three independent sampling events. During the first two events, nineteen bass were collected from the forebay in June and August of 2006 and seven bass were collected from the reference area in October and November 2007. These bass were initially analyzed for PCB congeners, metals, and SVOCs in accordance with the *Quality Assurance Project Plan (QAPP), River Operable Unit Remedial Investigation*, prepared by URS, dated September 2007. The analytical results were previously reported in the *Forebay Fish Analyses and Summary Report* dated March 10, 2008 and the *Reference Area Smallmouth Bass Collected October/November 2007 Analysis and Summary Report* dated July 29, 2008. The third bass collection event took place in May 2008, during which 12 additional bass were collected, completing the reference area sampling. To facilitate data comparison, all analytical results are re-reported in this memorandum. The data tables presented in this report supersede the data tables provided in the above-mentioned reports.

USACE conducted the third sampling event in May 2008, collecting 12 bass from the reference area. URS understands that these bass were stored in a freezer at secure location until they were provided to URS on June 16, 2008. These 12 additional reference area bass were analyzed for PCB Aroclors, PCB congeners, metals and SVOCs in accordance with the QAPP.

Additionally, the nineteen forebay and seven reference area bass from the first two sampling events (which had been archived at the laboratory) were analyzed for PCB Aroclors. The quality control summary report in this deliverable includes all Aroclor results and all analytical results for the twelve smallmouth bass collected in May 2008. The quality control reports for the previously reported analytical data can be found in the above-mentioned reports.

This summary report consists of the following:

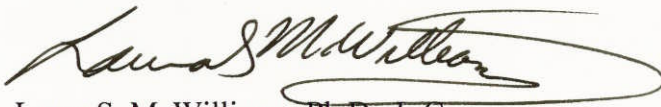
- Sample location map showing all 38 smallmouth bass and their respective total PCB concentrations.
- Tabulated data for all 38 smallmouth bass collected from forebay and reference area.
- Quality control summary report for the most recent analytical chemistry data.

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
Tel: 503.222.7200
Fax: 503.222.4292

Mike Gross
October 27, 2008
Page 2

The original laboratory data deliverables in both the .pdf and electronic versions are available upon request. This information will be utilized in the remedial investigation and risk assessment as provided in the *RI/FS Management Plan*.

Sincerely,
URS CORPORATION



Laura S. McWilliams, Ph.D., L.G.
Assistant Project Manager



Christina Wheeler, Ph.D.
Project Chemist

Attachments:

Figure 1. Smallmouth Bass Sample Locations

Table 1. PCB Aroclor Analytical Results – Forebay and Reference Area

Table 2. PCB Dioxin-like Congener Analytical Results – Forebay and Reference Area

Table 3. Metal Analytical Results – Forebay and Reference Area

Table 4. SVOC Analytical Results – Forebay and Reference Area

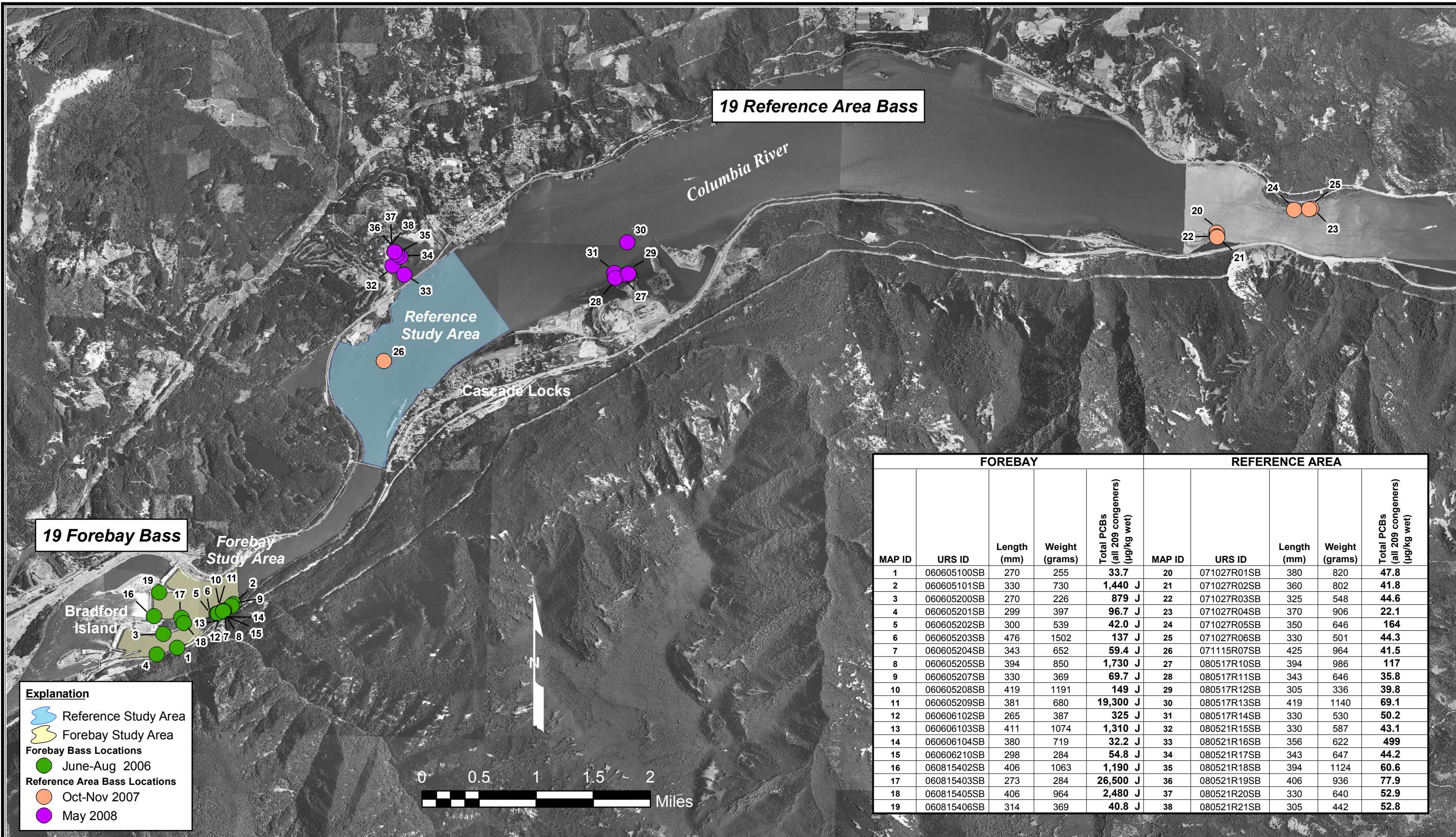
Table 5. Congener Analytical Results – Forebay Area

Table 6. Congener Analytical Results – Reference Area Collected October/November 2007

Table 7. Congener Analytical Results – Reference Area Collected May 2008

Quality Control Summary Report for Analytical Chemistry

O:\25892709 USACE\53-F0072\73.00 Bradford\1\omaha DT-06\Deliverables\Figures\Fig 1 Reference Area Smallmouth Bass Sample Locations.mxd



FOREBAY					REFERENCE AREA				
MAP ID	URS ID	Length (mm)	Weight (grams)	Total PCBs (all 209 congeners) (µg/kg wet)	MAP ID	URS ID	Length (mm)	Weight (grams)	Total PCBs (all 209 congeners) (µg/kg wet)
1	060605100SB	270	255	33.7	20	071027R01SB	380	820	47.8
2	060605101SB	330	730	1,440 J	21	071027R02SB	360	802	41.8
3	060605200SB	270	226	879 J	22	071027R03SB	325	548	44.6
4	060605201SB	299	397	96.7 J	23	071027R04SB	370	906	22.1
5	060605202SB	300	539	42.0 J	24	071027R05SB	350	646	164
6	060605203SB	476	1502	137 J	25	071027R06SB	330	501	44.3
7	060605204SB	343	652	59.4 J	26	071115R07SB	425	964	41.5
8	060605205SB	394	850	1,730 J	27	080517R10SB	394	986	117
9	060605207SB	330	369	69.7 J	28	080517R11SB	343	646	35.8
10	060605208SB	419	1191	149 J	29	080517R12SB	305	336	39.8
11	060605209SB	381	680	19,300 J	30	080517R13SB	419	1140	69.1
12	060606102SB	265	387	325 J	31	080517R14SB	330	530	50.2
13	060606103SB	411	1074	1,310 J	32	080521R15SB	330	587	43.1
14	060606104SB	380	719	32.2 J	33	080521R16SB	356	622	499
15	060606210SB	298	284	54.8 J	34	080521R17SB	343	647	44.2
16	060815402SB	406	1063	1,190 J	35	080521R18SB	394	1124	60.6
17	060815403SB	273	284	26,500 J	36	080521R19SB	406	936	77.9
18	060815405SB	406	964	2,480 J	37	080521R20SB	330	640	52.9
19	060815406SB	314	369	40.8 J	38	080521R21SB	305	442	52.8

Explanation

- Reference Study Area
- Forebay Study Area
- Forebay Bass Locations**
- June-Aug 2006
- Reference Area Bass Locations**
- Oct-Nov 2007
- May 2008



	JOB No. 25695254.00009	DESIGNED: CW	PROJ. ENGINEER: -		BRADFORD ISLAND	CASCADE LOCKS, OREGON	SMALLMOUTH BASS SAMPLE LOCATIONS AND TOTAL PCB CONCENTRATIONS (ALL 209 CONGENERS)	DRAWING NUMBER: FIGURE 1	
	Imagery provided by USACE	DRAWN BY: SB	APPROVED BY: JTW					GIS FILE NUMBER: Fig 1.mxd	
		CHECKED BY: -	DATE: OCT 2008	111 S.W. Columbia, Suite 1500 Portland, Oregon 97201 (tel) 503-222-7200 (fax) 503-222-4292				SHEET:	REV.

Table 1
Smallmouth Bass PCB Aroclor Analytical Results and Screening Criteria
Bradford Island - Remedial Investigation
Smallmouth Bass Collected June 2006 through May 2008

URS ID	CAS ID	Axys ID	Collection Date	Moisture (%)	Total Lipids (%)	Length (mm)	Weight (grams)	Basis	Polychlorinated Biphenyls (units = µg/kg or ppb)											Total PCBs ⁴ (as Aroclors)	Total PCBs ⁵ (all 209 congeners)									
									Parameter								EPA 8082											EPA 1668A		
									Method								Aroclor-1016	Aroclor-1221	Aroclor-1232			Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268			
Forebay																														
060605100SB	K0805513-001	L10448-1	6/5/2006	74.6	2.0	270	255	W	10 UJ	20 UJ	10 UJ	10 UJ	10 UJ	28 UJ	24 UJ	10 UJ	10 UJ	28 UJ	33.7 J											
060605101SB	K0805513-002	L10448-2	6/5/2006	72.2	3.2	330	730	W	100 UJ	200 UJ	100 UJ	100 UJ	100 UJ	1,300 J	100 UJ	100 UJ	100 UJ	1,300 J	1,440 J											
060605200SB	K0805513-003	L10448-3	6/5/2006	75.2	1.7	270	226	W	10 UJ	20 UJ	10 UJ	10 UJ	68 UJ	240 UJ	150 UJ	98 UJ	10 UJ	240 UJ	879 J											
060605201SB	K0805513-004	L10448-4	6/5/2006	74.6	1.7	299	397	W	10 UJ	20 UJ	10 UJ	10 UJ	10 UJ	67 UJ	48 UJ	21 UJ	10 UJ	67 UJ	96.7 J											
060605202SB	K0805513-005	L10448-5	6/5/2006	74.5	1.4	300	539	W	10 UJ	20 UJ	10 UJ	10 UJ	10 UJ	51 J	25 UJ	10 UJ	10 UJ	51 J	42.0 J											
060605203SB	K0805513-006	L10448-6	6/5/2006	72.8	2.8	476	1502	W	11 UJ	21 UJ	11 UJ	11 UJ	12 UJ	95 UJ	73 UJ	21 UJ	11 UJ	95 UJ	137 J											
060605204SB	K0805513-007	L10448-7	6/5/2006	72.8	3.6	343	652	W	10 UJ	20 UJ	10 UJ	10 UJ	11 UJ	38 UJ	37 UJ	12 UJ	10 UJ	38 UJ	59.4 J											
060605205SB	K0805513-008	L10448-8	6/5/2006	73.2	2.8	394	850	W	100 UJ	200 UJ	100 UJ	100 UJ	100 UJ	1,300 J	100 UJ	100 UJ	100 UJ	1,300 J	1,730 J											
060605207SB	K0805513-009	L10448-9	6/5/2006	75.2	2.5	330	369	W	9.9 UJ	25 UJ	14 UJ	9.9 UJ	9.9 UJ	25 UJ	67 UJ	24 UJ	9.9 UJ	67 UJ	69.7 J											
060605208SB	K0805513-010	L10448-10	6/5/2006	72.6	2.4	419	1191	W	10 UJ	20 UJ	10 UJ	10 UJ	12 UJ	96 UJ	78 UJ	50 UJ	16 UJ	96 UJ	149 J											
060605209SB	K0805513-011	L10448-11	6/5/2006	72.3	4.1	381	680	W	1,000 UJ	2,000 UJ	1,000 UJ	1,000 UJ	1,000 UJ	14,000 J	1,000 UJ	1,000 UJ	1,000 UJ	14,000 J	19,300 J											
060606102SB	K0805513-012	L10448-12	6/6/2006	74.5	2.1	265	387	W	10 UJ	20 UJ	10 UJ	10 UJ	33 UJ	85 UJ	300 UJ	110 UJ	10 UJ	300 UJ	325 J											
060606103SB	K0805513-013	L10448-13	6/6/2006	69.6	2.4	411	1074	W	120 UJ	20 UJ	9.9 UJ	9.9 UJ	61 UJ	420 UJ	200 UJ	160 UJ	9.9 UJ	420 UJ	1,310 J											
060606104SB	K0805513-014	L10448-14	6/6/2006	73.2	2.4	380	719	W	10 UJ	32 UJ	12 UJ	10 UJ	10 UJ	11 UJ	26 UJ	16 UJ	10 UJ	32 UJ	32.2 J											
060606210SB	K0805513-015	L10448-15	6/6/2006	74.3	1.7	298	284	W	10 UJ	20 UJ	10 UJ	10 UJ	10 UJ	16 UJ	31 UJ	10 UJ	10 UJ	31 UJ	54.8 J											
060815402SB	K0805513-016	L10448-16	8/15/2006	69.5	5.3	406	1063	W	10 UJ	20 UJ	10 UJ	260 J	10 UJ	330 J	10 UJ	10 UJ	10 UJ	590 J	1,190 J											
060815403SB	K0805513-017	L10448-17	8/15/2006	70.3	5.5	273	284	W	500 UJ	990 UJ	500 UJ	500 UJ	500 UJ	18,000 J	500 UJ	500 UJ	500 UJ	18,000 J	26,500 J											
060815405SB	K0805513-018	L10448-18	8/15/2006	69.6	4.7	406	964	W	99 UJ	200 UJ	99 UJ	99 UJ	99 UJ	1,400 J	99 UJ	99 UJ	99 UJ	1,400 J	2,480 J											
060815406SB	K0805513-019	L10448-19	8/15/2006	70.1	6.6	314	369	W	9.9 UJ	20 UJ	9.9 UJ	9.9 UJ	9.9 UJ	13 UJ	37 UJ	12 UJ	9.9 UJ	37 UJ	40.8 J											
Reference Area																														
071027R01SB	K0805513-020	L10965-1	10/27/2007	71.8	6.2	380	820	W	10 U	20 U	10 U	10 UJ	10 U	59 J	10 U	10 U	10 U	59	47.7											
071027R02SB	K0805513-021	L10965-2	10/27/2007	73.7	7.0	360	802	W	10 U	20 U	10 U	10 UJ	10 U	32 J	10 U	10 U	10 U	32	41.8											
071027R03SB	K0805513-022	L10965-3	10/27/2007	70.3	7.2	325	548	W	9.9 U	20 U	9.9 U	9.9 UJ	9.9 U	51 J	9.9 U	9.9 U	9.9 U	51	44.6											
071027R04SB	K0805513-023	L10965-4	10/27/2007	68.4	8.5	370	906	W	10 U	20 U	10 U	10 UJ	10 U	10 UJ	14 U	10 U	10 U	20 U	22.1											
071027R05SB	K0805513-024	L10965-5	10/27/2007	69.4	7.9	350	646	W	9.9 U	20 U	9.9 U	14 J	9.9 U	110 J	9.9 U	9.9 U	9.9 U	124	164											
071027R06SB	K0805513-025	L10965-6	10/27/2007	69.7	5.9	330	501	W	10 U	20 U	10 U	9.5 J	10 U	58 J	10 U	10 U	10 U	67.5	44.3											
071115R07SB	K0805513-026	L10965-7	11/15/2007	69.0	5.4	425	964	W	10 U	20 U	10 U	10 UJ	10 U	27 J	10 U	10 U	10 U	27	41.5											
080517R10SB	K0805409-001	L11390-1	5/17/2008	71.3	6.1	394	986	W	10 U	20 U	10 U	5.6 J	10 U	34 J	10 U	10 U	10 U	39.6	117											
080517R11SB	K0805409-002	L11390-2	5/17/2008	72.4	4.7	343	646	W	10 U	20 U	10 U	10 UJ	10 U	37 J	10 U	10 U	10 U	37	35.8											
080517R12SB	K0805409-003	L11390-3	5/17/2008	75.8	2.5	305	336	W	10 U	20 U	10 U	10 UJ	10 U	29 J	10 U	10 U	10 U	29	39.8											
080517R13SB	K0805409-004	L11390-4	5/17/2008	72.3	5.1	419	1140	W	10 U	20 U	10 U	2.4 J	10 U	80 J	10 U	10 U	10 U	82.4	69.1											
080517R14SB	K0805409-005	L11390-5	5/17/2008	73.5	3.7	330	530	W	9.9 U	20 U	9.9 U	9.9 UJ	9.9 U	17 UJ	46 U	21 U	9.9 U	46 U	50.2											
080521R15SB	K0805409-006	L11390-6	5/21/2008	74.3	4.2	330	587	W	10 U	20 U	10 U	10 UJ	10 U	47 J	10 U	10 U	10 U	47	43.1											
080521R16SB	K0805409-007	L11390-7	5/21/2008	72.8	2.6	356	622	W	10 U	20 U	10 U	10 UJ	33 U	130 UJ	140 U	110 U	10 U	140 U	499											
080521R17SB	K0805409-008	L11390-8	5/21/2008	72.6	4.1	343	647	W	10 U	20 U	10 U	10 UJ	10 U	47 J	10 U	10 U	10 U	47	44.2											
080521R18SB	K0805409-009	L11390-9	5/21/2008	72.9	4.2	394	1124	W	10 U	20 U	10 U	10 UJ	10 U	46 J	10 U	10 U	10 U	46	60.6											
080521R19SB	K0805409-010	L11390-10	5/21/2008	72.6	5.3	406	936	W	10 U	20 U	10 U	10 UJ	10 U	85 J	10 U	10 U	10 U	85	77.9											
080521R20SB	K0805409-011	L11390-11	5/21/2008	73.6	4.1	330	640	W	10 U	20 U	10 U	10 UJ	10 U	37 J	10 U	10 U	10 U	37	52.9											
080521R21SB	K0805409-012	L11390-12	5/21/2008	74.6	2.8	305	442	W	9.9 U	20 U	11 U	9.9 UJ	9.9 U	58 J	9.9 U	9.9 U	9.9 U	58	52.8											
ODEQ ATLs for Fish/Shellfish (2007) ¹ (µg/kg wet)									Birds (Individual)									35	35 ⁵											
									Mammals (Individual)									NE	NE	NE	NE	NE	NE	NE	NE	NE	880	880 ⁶		
									Humans ³ (subsistence/tribal)									NE	NE	NE	NE	NE	NE	NE	NE	NE	0.57	0.57 ⁶		
ODEQ CTLs for Fish/Shellfish (2007) ² (µg/kg wet)									NE									430	430 ⁶											

Notes:

µg/kg = microgram per kilogram
ATL = Acceptable Tissue Levels
CTL = Critical Fish Level
Bold = detected above the MDL
W = Wet Weight
EPA = U.S. Environmental Protection Agency
mm = millimeter
MDL = method detection limit
MRL = method reporting limit
NE = Not Established
Axys = Axys Analytical Services, Ltd.
CAS = Columbia Analytical Services

ODEQ = Oregon Department of Environmental Quality
PCBs = Polychlorinated Biphenyls

J = reported concentration exceeded one or more screening criteria listed.

U = The analyte was not detected at or above the laboratory MDL. The non-detect values reported in this table are the MRLs. If an analyte was detected above the MDL, but below the MRL, that analyte was qualified and flagged 'J'.

UJ = The analyte was not detected. The reported sample quantification limit is an estimate.

J = The reported value is an estimate.

1 = Table A-3a in Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, Oregon Department of Environmental Quality (ODEQ), Updated April 3, 2007.

2 = Table A-4 in Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, Oregon Department of Environmental Quality (ODEQ), Updated April 3, 2007.

3 = Lowest values of either carcinogen or non-carcinogen criteria.

4 = PCB Aroclors summed using all non-detect values as zero.

5 = Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, UJ, or J-EMPC.

6 = ATLs and CTLs established for Total PCBs as Aroclors, no promulgated values are available from ODEQ for Total PCBs as congeners.

Table 2
Smallmouth Bass PCB Dioxin-like Congener Analytical Results and Screening Criteria
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected June 2006 through May 2008

URS ID	Axs ID	Collection Date	Moisture (%)	Total Lipids (%)	Length (mm)	Weight (grams)	Parameter Method	12 Dioxin-like Polychlorinated Biphenyl Congeners (units = µg/kg or ppb)												Total PCBs ⁵ (all 209 congeners)		
								EPA 1668A														
								PCB 77	PCB 81	PCB 105	PCB 114	PCB 118	PCB 123	PCB 126	PCB 156	PCB 157	PCB 167	PCB 169	PCB 189			
Forebay																						
060605100SB	L10448-1	6/5/2006	74.6	2.0	270	255	W	0.0241 J	0.00143 J	0.97 J	0.093 J	3.31 J	0.0557 J	0.00505 J	0.654 J	0.226 J	0.00152 UJ	0.0216 J	33.7 J			
060605101SB	L10448-2	6/5/2006	72.2	3.2	330	730	W	0.165 J	0.0195 J	50.4 J	3.20 J	138 J	1.60 J	0.0553 J	26.6 J	6.50 J	0.00728 UJ	0.482 J	1,440 J			
060605200SB	L10448-3	6/5/2006	75.2	1.7	270	226	W	0.205 J	0.0238 J	45.5 J	4.04 J	132 J	2.45 J	0.0755 J	31.4 J	9.65 J	0.00449 UJ	0.531 J	879 J			
060605201SB	L10448-4	6/5/2006	74.6	1.7	299	397	W	0.0448 J	0.00384 J	2.98 J	0.281 J	8.31 J	0.118 J	0.00974 J	2.22 J	0.428 J	0.00275 UJ	0.0759 J	96.7 J			
060605202SB	L10448-5	6/5/2006	74.5	1.4	300	539	W	0.0315 J	0.00205 J	1.23 J	0.106 J	3.61 J	0.0633 J	0.00807 J	0.735 J	0.239 J	0.00129 UJ	0.0250 J	42.0 J			
060605203SB	L10448-6	6/5/2006	72.8	2.8	476	1502	W	0.0703 J	0.00422 J	3.54 J	0.337 J	10.80 J	0.217 J	0.0159 J	2.89 J	0.961 J	0.00503 UJ	0.113 J	137 J			
060605204SB	L10448-7	6/5/2006	72.8	3.6	343	652	W	0.0624 J	0.00324 J	1.54 J	0.120 J	3.75 J	0.0695 J	0.0111 J	0.846 J	0.250 J	0.00260 UJ	0.0390 J	59.4 J			
060605205SB	L10448-8	6/5/2006	73.2	2.8	394	850	W	0.214 J	0.0191 J-EMPC	66.3 J	4.87 J	199 J	1.94 J	0.0857 J	44.6 J	9.35 J	0.0112 UJ	0.841 J	1,730 J			
060605207SB	L10448-9	6/5/2006	75.2	2.5	330	369	W	0.0367 J	0.00233 J	2.09 J	0.173 J	6.43 J	0.0810 J	0.00890 J	1.36 J	0.311 J	0.00327 UJ	0.0491 J	69.7 J			
060605208SB	L10448-10	6/5/2006	72.6	2.4	419	1191	W	0.0772 J	0.00576 J	3.91 J	0.332 J	10.3 J	0.136 J	0.0143 J	2.39 J	0.574 J	0.00508 UJ	0.0910 J	149 J			
060605209SB	L10448-11	6/5/2006	72.3	4.1	381	680	W	3.53 J	0.0231 U	766 J	65.7 J	2,180 J	35.6 J	1.26 J	403 J	116 J	0.127 UJ	9.30 J	19,300 J			
060606102SB	L10448-12	6/6/2006	74.5	2.1	265	387	W	0.102 J	0.00807 J	11.2 J	1.68 J	52.4 J	0.948 J	0.0262 J	12.8 J	3.65 J	0.00824 UJ	0.324 J	325 J			
060606103SB	L10448-13	6/6/2006	69.6	2.4	411	1074	W	0.186 J	0.0117 J	57.7 J	4.47 J	164 J	2.07 J	0.0453 J	38.6 J	7.99 J	0.0145 UJ	0.661 J	1,310 J			
060606104SB	L10448-14	6/6/2006	73.2	2.4	380	719	W	0.0217 J	0.00121 J	0.717 J	0.0594 J	2.42 J	0.0323 J	0.00642 J	0.541 J	0.161 J	0.00347 UJ	0.0311 J	32.2 J			
060606210SB	L10448-15	6/6/2006	74.3	1.7	298	284	W	0.0236 J	0.00130 J	1.60 J	0.122 J	4.97 J	0.0574 J	0.00755 J	1.20 J	0.270 J	0.00318 UJ	0.0407 J	54.8 J			
060815402SB	L10448-16	8/15/2006	69.5	5.3	406	1063	W	0.334 J	0.0198 J	30.1 J	2.33 J	92.1 J	1.20 J	0.0480 U	16.9 J	4.71 J	0.0151 UJ	0.402 J	1,190 J			
060815403SB	L10448-17	8/15/2006	70.3	5.5	273	284	W	8.95 J	1.19 J	1,300 J	89.8 J	3,270 J	55.3 J	3.03 J	486 J	140 J	0.607 UJ	10.1 J	26,500 J			
060815405SB	L10448-18	8/15/2006	69.6	4.7	406	964	W	0.577 J	0.00615 U	109 J	11.2 J	312 J	6.10 J	0.125 J	83.0 J	21.0 J	0.0280 UJ	1.88 J	2,480 J			
060815406SB	L10448-19	8/15/2006	70.1	6.6	314	369	W	0.0568 J	0.00358 J	0.738 J	0.115 J	3.82 J	0.0750 J	0.0123 J	0.791 J	0.356 J	0.00439 UJ	0.0419 J	40.8 J			
Reference Area																						
071027R01SB	L10965-1	10/27/2007	71.8	6.2	820	380	W	0.0470	0.00681 U	1.15	0.0770	3.30	0.0554	0.0112 U	0.468	0.193	0.00551 U	0.0165 J-EMPC	47.7			
071027R02SB	L10965-2	10/27/2007	73.7	7.0	802	360	W	0.0358	0.00574 U	1.07	0.0723	3.05	0.0477	0.0116 J-EMPC	0.402	0.169	0.00890 U	0.0174	41.8			
071027R03SB	L10965-3	10/27/2007	70.3	7.2	548	325	W	0.0435	0.00504 U	1.11	0.0652	3.01	0.0435 J-EMPC	0.0122 U	0.378	0.157	0.00536 U	0.0168 J-EMPC	44.6			
071027R04SB	L10965-4	10/27/2007	68.4	8.5	906	370	W	0.0254	0.00547 U	0.498	0.0292	1.33	0.0248	0.00561	0.194	0.0843	0.00227 U	0.0133	22.1			
071027R05SB	L10965-5	10/27/2007	69.4	7.9	646	350	W	0.195	0.0205 U	4.06	0.300	10.20	0.184	0.0301 U	1.39	0.536	0.0109 U	0.0677	164			
071027R06SB	L10965-6	10/27/2007	69.7	5.9	501	330	W	0.0381	0.00944 U	1.16	0.0856 J-EMPC	3.14	0.0470 J-EMPC	0.0157 U	0.490	0.181	0.00489 U	0.0195 J-EMPC	44.3			
071115R07SB	L10965-7	11/15/2007	69.0	5.4	964	425	W	0.0301	0.00253 U	1.01	0.0684 J-EMPC	3.11	0.0531	0.0107 U	0.448	0.168	0.00857 U	0.0232 J-EMPC	41.5			
080517R10SB	L11390-1	5/17/2008	71.3	21.1	986	394	W	0.0754	0.00552	3.50	0.272	11.8	0.148	0.0259	1.89	0.571	0.00812 U	0.102	117			
080517R11SB	L11390-2	5/17/2008	72.4	17.0	646	343	W	0.0362	0.00256	0.940	0.0599	2.58	0.0430	0.00603	0.290	0.117	0.00130 U	0.0147	35.8			
080517R12SB	L11390-3	5/17/2008	75.8	10.3	336	305	W	0.0436	0.00263	1.00	0.0802	3.63	0.0553	0.00955	0.430	0.211	0.00186 U	0.0217	39.8			
080517R13SB	L11390-4	5/17/2008	72.3	18.6	1140	419	W	0.0701	0.00326	1.91	0.123	4.85	0.0811	0.0126	0.638	0.242	0.00279 U	0.0313	69.1			
080517R14SB	L11390-5	5/17/2008	73.5	14.1	530	330	W	0.0548	0.00263	1.37	0.145	6.21	0.104	0.0143	0.882	0.380	0.00307 U	0.0444	50.2			
080521R15SB	L11390-6	5/21/2008	74.3	16.5	587	330	W	0.0493	0.00235	1.31	0.0872	3.74	0.0606	0.00945	0.447	0.180	0.00154 U	0.0197	43.1			
080521R16SB	L11390-7	5/21/2008	72.8	9.5	622	356	W	0.172	0.0159	23.4	2.91	98.6	1.83	0.0746	20.0	6.54	0.00662 U	0.532	499			
080521R17SB	L11390-8	5/21/2008	72.6	14.8	647	343	W	0.0537	0.00340	1.32	0.0826	3.65	0.0648	0.00901	0.420	0.175	0.00216 U	0.0209	44.2			
080521R18SB	L11390-9	5/21/2008	72.9	15.3	1124	394	W	0.0597	0.00406	2.00	0.132	5.97	0.0840	0.0134	0.786	0.286	0.00482 U	0.0386	60.6			
080521R19SB	L11390-10	5/21/2008	72.6	19.4	936	406	W	0.0701	0.00376	2.09	0.137	5.35	0.0802	0.0129	0.714	0.242	0.00596 U	0.0375	77.9			
080521R20SB	L11390-11	5/21/2008	73.6	15.4	640	330	W	0.0528	0.00202	1.44	0.0971	4.78	0.0761	0.0107	0.557	0.276	0.00356 U	0.0295	52.9			
080521R21SB	L11390-12	5/21/2008	74.6	11.1	442	305	W	0.0497	0.00311	1.68	0.106	4.46	0.0691	0.00865	0.544	0.198	0.00210 U	0.0205	52.8			
ODEQ ATLs for Fish/Shellfish (2007)¹ (µg/kg wet)								Birds (Individual)	0.16	0.080	80.0	800	800	800	0.08	80.0	80.0	80.0	800	35 ⁶		
								Mammals (Individual)	5.80	2.00	20.0	20.0	20.0	20.0	0.01	20.0	20.0	20.0	20.0	880 ⁶		
								Humans³ (subsistence/tribal)	0.076	0.025	0.25	0.25	0.25	0.25	0.000076	0.25	0.25	0.25	0.00025	0.25	0.57 ⁶	
ODEQ CTLs for Fish/Shellfish (2007)² (µg/kg wet)								Freshwater	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	430 ⁶

Notes:

µg/kg = microgram per kilogram
 ATL = Acceptable Tissue Levels
 CTL = Critical Fish Level
Bold = analyte detected above the MDL
 W = Wet Weight
 EPA = U.S. Environmental Protection Agency
 NE = Not Established
 Axs = Axs Analytical Services, Ltd.
 PCBs = Polychlorinated Biphenyls
 ODEQ = Oregon Department of Environmental Quality

U = The analyte was not detected. The reported values are sample specific detection limits calculated for each individual congener.
 J = The reported value is an estimate.
 J-EMPC (congener only) = The analyte was positively identified; the associated numerical value is the Estimated Maximum Potential Concentration of the analyte in the sample.
 UJ = The analyte was not detected. The reported sample quantification limit is an estimate
 = reported concentration exceeded one or more screening criteria listed.
 1 = Table A-3a in Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, Oregon Department of Environmental Quality (ODEQ), Updated April 3, 2007.
 2 = Table A-4 in Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, Oregon Department of Environmental Quality (ODEQ), Updated April 3, 2007.
 3 = Lowest values of either carcinogen or non-carcinogen criteria.
 4 = PCB 156 and 157 are coeluting congeners and are represented with one concentration.
 5 = Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, UJ, or J-EMPC.
 6 = ATLS and CTLs established for Total PCBs as Aroclors, no promulgated values are available from ODEQ for Total PCBs as congeners.

Table 3
Smallmouth Bass Metals Analytical Results and Screening Criteria
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected June 2006 through May 2008

URS ID	CAS ID	Collection Date	Moisture (%)	Total Lipids (%)	Length (mm)	Weight (grams)	Parameter Method	Metals (EPA SW-846) (units = µg/kg or ppb)																					
								6020	6020	6020	6010B	6020	6020	6010B	6020	6020	6020	7471A	6020	6020	6020	6020							
								Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Thallium	Vanadium	Zinc							
Forebay																													
060605100SB	K0708602-001	6/5/2006	74.6	2.0	270	255	W	9,890	12 U	170	2,320	0.6	11	190 J	55.3	1,060	20.0	71 J	309	14.8	70	13,900							
060605101SB	K0708602-002	6/5/2006	72.2	3.2	330	730	W	6,660	13 U	700	1,300	0.5	7.0	260 U	51.6	583	18.0	342 J	271	19.8	40	12,900							
060605200SB	K0708602-003	6/5/2006	75.2	1.7	270	226	W	11,300	12 U	170	1,950	4.9 U	23	270	58.2	1,420	8.0	131 J	399	11.2	60	15,100							
060605201SB	K0708602-004	6/5/2006	74.6	1.7	299	397	W	4,000	12 U	390	2,430	4.9 U	6.0	250 U	45.2	721	17.0	187 J	225	14.6	40	15,100							
060605202SB	K0708602-005	6/5/2006	74.5	1.4	300	539	W	4,750	12 U	330	1,730	4.8 U	6.0	290	53.7	767	9.0	76 J	357	15.4	40	14,800							
060605203SB	K0708602-006	6/5/2006	72.8	2.8	476	1502	W	1,260 J	14 U	350	870	0.7	11	270 U	59.4	482	5.0 J	283 J	304 J	9.3	30	18,000							
060605204SB	K0708602-007	6/5/2006	72.8	3.6	343	652	W	1,370	13 U	560	960	0.6	7.0	260 U	44.7	439	5.0	315 J	213	17.7	30	12,200							
060605205SB	K0708602-008	6/5/2006	73.2	2.8	394	850	W	4,720	13 U	520	1,130	5.3 U	13	270 U	58.8	769	5.0	367 J	324	15.7	50	14,800							
060605207SB	K0708602-009	6/5/2006	75.2	2.5	330	369	W	2,250	12 U	450	860	4.8 U	9.0	240 U	44.1	586	10.0	305 J	213	16.2	40	13,300							
060605208SB	K0708602-010	6/5/2006	72.6	2.4	419	1191	W	1,330	14 U	490	1,570	5.4 U	4.0	270 U	57.5	434	4.0	372 J	292	13.3	50	13,300							
060605209SB	K0708602-011	6/5/2006	72.3	4.1	381	680	W	3,900	14 U	600	1,960	5.5 U	6.0	280 U	65	588	5.0	251 J	338	15.3	50	14,400							
060606102SB	K0708602-012	6/6/2006	74.5	2.1	265	387	W	15,500	13 U	310	1,340	5.0 U	7.0	200	56.7	688	9.0	131 J	282	18.8	130	12,300							
060606103SB	K0708602-013	6/6/2006	69.6	2.4	411	1074	W	2,490	15 U	350	1,280	5.9 U	4.0	300 U	75.8	540	5.0	512 J	392	12.8	70	15,500							
060606104SB	K0708602-014	6/6/2006	73.2	2.4	380	719	W	1,060	12 U	560	720	5.0 U	19	250 U	46.9	560	10.0	383 J	273	15.3	60	16,100							
060606210SB	K0708602-015	6/6/2006	74.3	1.7	298	284	W	10,300	12 U	540	980	4.9 U	28	860	51.9	619	36.0	203 J	333	21.5	50	13,400							
060815402SB	K0708602-016	8/15/2006	69.5	5.3	406	1063	W	4,240	15 U	190	2,640	5.8 U	5.0	290 U	62.5	905	12.0	301 J	327	7.9	80	15,800							
060815403SB	K0708602-017	8/15/2006	70.3	5.5	273	284	W	1,330	15 U	290	1,740	5.8 U	7.0	290 U	56.6	591	8.0	165 J	295	13.6	70	14,900							
060815405SB	K0708602-018	8/15/2006	69.6	4.7	406	964	W	1,970	15 U	450	1,240	5.9 U	5.0	290 U	50.8	364	16.0	498 J	281	14.5	80	13,200							
060815406SB	K0708602-019	8/15/2006	70.1	6.6	314	369	W	7,540	13 U	410	1,660	5.3 U	7.0	270 U	45.7	505	5.0	147 J	228	14.2	90	11,400							
Reference Area																													
071027R01SB	K0801240-001	10/27/2007	69.3	6.2	380	820	W	802	16 U	311	1,060	5.3 U	8.0 J	500 U	25.5 U	571	13 U	106 J	324	15.9	40 J	13,400							
071027R02SB	K0801240-002	10/27/2007	69.0	7.0	360	802	W	1,550	16 U	406	837	5.4 U	5.0 J	500 U	30.9 U	344	14 U	217 J	399	20.1	40 J	13,900							
071027R03SB	K0801240-003	10/27/2007	69.9	7.2	325	548	W	1,130	17 U	434	1,200	5.5 U	6.0 J	500 U	27.8 U	457	14 U	90 J	328	20.5	40 J	12,900							
071027R04SB	K0801240-004	10/27/2007	67.8	8.5	370	906	W	330 J	18 U	159	430	5.8 U	5.0 J	500 U	24.8 U	336	15 U	130 J	298 U	12	50 J	13,400							
071027R05SB	K0801240-005	10/27/2007	68.3	7.9	350	646	W	663	16 U	761	456	5.5 U	4.0 J	500 U	25.5 U	327	14 U	144 J	306 U	18.9	30 J	11,200							
071027R06SB	K0801240-006	10/27/2007	71.0	5.9	330	501	W	2,110	16 U	277 J	748	5.3 U	6.0 J	500 U	26.7 U	419	13 U	55 J	277 U	16.5	30 J	14,600 J							
071115R07SB	K0801240-007	11/15/2007	70.0	5.4	425	964	W	1,550	17 U	270	1,500	5.8 U	4.0 J	500 U	36.1 U	575	14 U	93 J	408	14.9	60	12,900							
080517R10SB	K0805409-001	5/17/2008	71.3	6.1	394	986	W	1,520	25	640	915	6.0 U	143	7,150	83.8	680	1,810	333 J	1,480	26.1	56 U	15,100							
080517R11SB	K0805409-002	5/17/2008	72.4	4.7	343	646	W	3,860	3.0 J	240	875	5.0 U	130	210 J	57.6	490	1,700	63 J	1,380	15.2	51 J	14,800							
080517R12SB	K0805409-003	5/17/2008	75.8	2.5	305	336	W	10,100	3.0 J	420	1,720	5.0 U	111	160 J	60.2	500	1,430	102 J	1,340	14.9	102	13,100							
080517R13SB	K0805409-004	5/17/2008	72.3	5.1	419	1140	W	2,440	14 U	290	871	5.0 U	140	90 J	48.7	700	1,690	141 J	1,180	12.3	48 J	12,800							
080517R14SB	K0805409-005	5/17/2008	73.5	3.7	330	530	W	970	3.0 J	430	1,650	5.0 U	125	90 J	55.1	440	1,470	233 J	1,310	15.2	71	13,000							
080521R15SB	K0805409-006	5/21/2008	74.3	4.2	330	587	W	5,410	12 U	230	1,110	5.0 U	111	70 J	74.8	690	1,470	60 J	1,290	11.8	73	11,500							
080521R16SB	K0805409-007	5/21/2008	72.8	2.6	356	622	W	1,130	13 U	180	1,420	5.0 U	138	130 J	70.4	630	1,660	123 J	1,790	11.3	104	12,800							
080521R17SB	K0805409-008	5/21/2008	72.6	4.1	343	647	W	3,020	13 U	240	1,220	5.0 U	126	60 J	60.1	590	1,650	65 J	1,380	13.9	51 J	12,700							
080521R18SB	K0805409-009	5/21/2008	72.9	4.2	394	1124	W	680	12 U	290	843	5.0 U	117	60 J	55.2	410	1,530	178 J	1,290	10.9	60	12,300							
080521R19SB	K0805409-010	5/21/2008	72.6	5.3	406	936	W	4,010	13 U	320	957	5.0 U	124	40 J	52.3	370	1,620	105 J	1,230	13.3	80	14,300							
080521R20SB	K0805409-011	5/21/2008	73.6	4.1	330	640	W	3,950	13 U	440	1,360	5.0 U	129	70 J	53.6	730	1,590	176 J	1,180	21.8	66	14,800							
080521R21SB	K0805409-012	5/21/2008	74.6	2.8	305	442	W	2,280	11 U	390	1,700	4.0 U	112	80 J	57.4	430	1,420	73 J	1,330	18	57	15,500							
ODEQ ATLs for Fish/Shellfish (2007)¹ (µg/kg wet)								Birds (Individual)	NE	NE	13,000	NE	NE	8,400	NE	NE	NE	9,300	74	NE	NE	NE	NE	NE	NE	NE			
								Mammals (Individual)	NE	NE	7,600	NE	NE	5,600	NE	NE	NE	34,000	120	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
								Humans³ (subsistence/tribal)	NE	NE	0.76	NE	NE	490	NE	NE	NE	500	49	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
ODEQ CTLs for Fish/Shellfish (2007)² (µg/kg wet)								Freshwater	NE	NE	6,600	NE	NE	150	NE	NE	NE	120	88 (inorganic)	NE	NE	NE	NE	NE					

Notes:

µg/kg = microgram per kilogram
 ATL = Acceptable Tissue Levels
 CTL = Critical Fish Level
Bold = analyte detected above the MDL
 W = Wet Weight
 EPA = U.S. Environmental Protection Agency
 mm = millimeter
 MDL = method detection limit
 MRL = method reporting limit
 NE = Not Established

CAS = Columbia Analytical Services
 ODEQ = Oregon Department of Environmental Quality
 PCBs = Polychlorinated Biphenyls
 U = The analyte was not detected at or above the laboratory MDL. The non-detect values reported in this table are the laboratory reported MRLs. If an analyte was detected above the MDL, but below the MRL, that analyte was qualified and flagged 'J'.
 UJ = The analyte was not detected. The reported sample quantification limit is an estimate.
 J = The reported value is an estimate
 [Yellow Box] = reported concentration exceeded one or more screening criteria listed.

1 = Table A-3a in Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, Oregon Department of Environmental Quality (ODEQ), Updated April 3, 2007.

2 = Table A-4 in Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, Oregon Department of Environmental Quality (ODEQ), Updated April 3, 2007.

3 = Lowest values of either carcinogen or non-carcinogen criteria.

Table 4
Smallmouth Bass SVOC Analytical Results and Screening Criteria
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected June 2006 through May 2008

URS ID	CAS ID	Collection Date	Moisture (%)	Total Lipids (%)	Length (mm)	Weight (grams)	Basis	Polynuclear Aromatic Hydrocarbons (PAHs) (units = µg/kg or ppb)														Semivolatile Organic Compounds (SVOCs) (units = µg/kg or ppb)												
								EPA 8270C SIM														EPA 8270C SIM												
								Acenaphthene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Carbazole	Di-n-butyl phthalate	Di-n-octyl phthalate	p-Cresol (4-methylphenol)							
Forebay																																		
060605100SB	K0708602-001	6/5/2006	74.6	2.0	270	255	W	0.20 J	0.11 J	0.47 UJ	0.47 UJ	0.11 J	0.47 UJ	0.11 J	0.47 UJ	0.47 UJ	0.47 UJ	0.41 J	0.47 UJ	0.61 J	0.14 J	190 UJ	37 UJ	37 UJ	37 UJ	37 UJ	37 UJ							
060605101SB	K0708602-002	6/5/2006	72.2	3.2	330	730	W	0.49 UJ	0.23 J	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	1.3 J	0.49 UJ	140 J	37 UJ	37 UJ	48 J	37 UJ	37 UJ							
060605200SB	K0708602-003	6/5/2006	75.2	1.7	270	226	W	0.30 J	0.32 J	1.2 J	0.77 J	1.0 UJ	0.42 J	1.4 J	0.53 J	0.41 J	0.84 J	0.67 J	0.70 J	0.87 J	0.59 J	100 J	34 UJ	34 UJ	34 UJ	34 UJ	34 UJ							
060605201SB	K0708602-004	6/5/2006	74.6	1.7	299	397	W	0.16 J	0.078 J	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.54 J	0.48 UJ	200 UJ	39 UJ	39 UJ	39 UJ	39 UJ	39 UJ							
060605202SB	K0708602-005	6/5/2006	74.5	1.4	300	539	W	0.20 J	0.18 J	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.37 J	0.49 UJ	0.79 J	0.11 J	180 UJ	36 UJ	36 UJ	16 J	36 UJ	36 UJ						
060605203SB	K0708602-006	6/5/2006	72.8	2.8	476	1502	W	0.79 J	2.2 J	5.0 J	3.5 J	2.2 J	1.5 J	3.8 J	2.3 J	1.9 J	3.3 J	1.3 J	2.8 J	2.2 J	2.5 UJ	130 J	39 UJ	39 UJ	39 UJ	39 UJ	39 UJ							
060605204SB	K0708602-007	6/5/2006	72.8	3.6	343	652	W	0.48 UJ	0.32 J	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.48 UJ	0.97 J	0.48 UJ	1.6 J	0.48 UJ	89 J	40 UJ	40 UJ	40 UJ	40 UJ							
060605205SB	K0708602-008	6/5/2006	73.2	2.8	394	850	W	0.26 J	0.16 J	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.65 J	0.47 UJ	1.1 J	0.47 UJ	190 J	36 UJ	36 UJ	36 UJ	36 UJ							
060605207SB	K0708602-009	6/5/2006	75.2	2.5	330	369	W	0.46 UJ	0.17 J	0.46 UJ	0.46 UJ	0.46 UJ	0.46 UJ	0.46 UJ	0.46 UJ	0.46 UJ	0.46 UJ	0.46 UJ	0.40 J	0.46 UJ	0.98 J	0.46 UJ	200 UJ	39 UJ	39 UJ	39 UJ	39 UJ							
060605208SB	K0708602-010	6/5/2006	72.6	2.4	419	1191	W	0.39 J	0.45 J	1.0 J	0.72 J	0.98 UJ	0.98 UJ	1.4 J	0.50 J	0.98 UJ	1.3 J	0.85 J	0.72 J	2.0 J	0.72 J	190 UJ	37 UJ	37 UJ	23 J	37 UJ	37 UJ							
060605209SB	K0708602-011	6/5/2006	72.3	4.1	381	680	W	0.35 J	0.45 J	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.49 J	0.47 UJ	2.1 J	0.47 UJ	170 UJ	34 UJ	34 UJ	34 UJ	34 UJ							
060606102SB	K0708602-012	6/6/2006	74.5	2.1	265	387	W	0.26 J	0.22 J	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.46 J	0.49 UJ	1.0 J	0.49 UJ	190 UJ	38 UJ	38 UJ	38 UJ	38 UJ							
060606103SB	K0708602-013	6/6/2006	69.6	2.4	411	1074	W	0.28 J	0.32 J	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.73 J	0.67 J	1.9 J	0.47 UJ	200 UJ	39 UJ	39 UJ	71 J	39 UJ	39 UJ							
060606104SB	K0708602-014	6/6/2006	73.2	2.4	380	719	W	0.23 J	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.55 J	0.49 UJ	0.76 J	0.49 UJ	120 J	33 J	38 UJ	150 J	38 UJ	38 UJ						
060606210SB	K0708602-015	6/6/2006	74.3	1.7	298	284	W	0.30 J	0.40 J	1.2 J	0.74 J	0.99 UJ	0.99 UJ	1.6 J	0.62 J	0.99 UJ	0.96 J	0.52 J	0.99 UJ	1.0 J	0.67 J	1,600 J	35 UJ	35 UJ	35 UJ	35 UJ	35 UJ							
060815402SB	K0708602-016	8/15/2006	69.5	5.3	406	1063	W	1.4 J	17 J	17 J	6.8 J	4.2 J	2.6 J	7.7 J	10 J	3.4 J	5.9 J	4.7 J	5.6 J	5.7 J	7.2 J	5,000 UJ	440 J	36 UJ	36 UJ	36 UJ	36 UJ							
060815403SB	K0708602-017	8/15/2006	70.3	5.5	273	284	W	1.5 J	5.7 J	4.8 UJ	7.1 J	3.9 J	2.8 J	7.2 J	4.5 J	3.4 J	5.9 J	2.4 J	5.3 J	4.6 J	4.9 J	190 UJ	38 UJ	38 UJ	38 UJ	38 UJ	38 UJ							
060815405SB	K0708602-018	8/15/2006	69.6	4.7	406	964	W	1.5 J	6.0 J	4.7 UJ	6.4 J	4.4 J	3.1 J	7.2 J	4.6 J	3.4 J	6.3 J	3.7 J	6.0 J	5.2 J	5.0 J	190 UJ	37 UJ	37 UJ	37 UJ	37 UJ	37 UJ							
060815406SB	K0708602-019	8/15/2006	70.1	6.6	314	369	W	1.6 J	6.6 J	5.0 UJ	7.4 J	4.4 J	3.3 J	7.6 J	4.9 J	4.1 J	6.5 J	3.3 J	6.1 J	5.4 J	5.3 J	190 UJ	37 UJ	37 UJ	37 UJ	37 UJ	37 UJ							
Reference Area																																		
071027R01SB	K0801240-001	10/27/2007	69.3	6.2	380	820	W	0.70 J	0.09 J	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	1.0 J	0.50 UJ	2.50 J	0.5 UJ	190 U	37 U	37 U	220 U	37 U	37 U							
071027R02SB	K0801240-002	10/27/2007	69.0	7.0	360	802	W	0.77	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	1.9 J	1.8 U	4.8 U	3.7 J	4.8 U	2,500 UJ	40 U	40 U	40 U	40 U							
071027R03SB	K0801240-003	10/27/2007	69.9	7.2	325	548	W	1.00 J	0.38 J	2 U	2 U	2.0 U	2 U	2 U	2 U	2 U	1.4 J	1.4 J	2.00 U	3.00	0.42 J	2,400 UJ	37 U	37 U	150 U	37 U	37 U							
071027R04SB	K0801240-004	10/27/2007	67.8	8.5	370	906	W	0.56 J	0.500 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	1.50 J	0.5 UJ	3.1 J	0.5 UJ	1800 U	36 U	36 U	280 U	36 U	36 U						
071027R05SB	K0801240-005	10/27/2007	68.3	7.9	350	646	W	0.82	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	2.5 J	2 U	4.7 U	4.60 J	4.7 U	1800 U	39 U	39 U	150 U	39 U	39 U						
071027R06SB	K0801240-006	10/27/2007	71.0	5.9	330	501	W	0.57 J	0.93 U	0.9 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	1.2 U	0.89 J	0.93 U	2.2	0.93 U	1,500 U	36 U	36 U	230 U	36 U	36 UJ							
071115R07SB	K0801240-007	11/15/2007	70.0	5.4	425	964	W	1.00 J	0.22 J	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.69 J	1.3 J	1.4 U	2.4	0.38 J	1,700 U	36 U	36 U	87 U	36 U	36 U							
080517R10SB	K0805409-001	5/17/2008	71.3	6.1	394	986	W	0.97	0.48 U	0.94	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	1.5	0.48 U	2.10	0.48 U	180 U	35 U	35 U	100 U	35 U	35 U							
080517R11SB	K0805409-002	5/17/2008	72.4	4.7	343	646	W	0.81	0.47 U	0.56	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.2	0.47 U	2.40	0.47 U	150 J	39 U	39 U	100 U	39 U	39 U							
080517R12SB	K0805409-003	5/17/2008	75.8	2.5	305	336	W	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.5 U	0.49 U	1.40	0.49 U	190 U	38 U	38 U	100 U	38 U	38 U							
080517R13SB	K0805409-004	5/17/2008	72.3	5.1	419	1140	W	0.98	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.6	0.50 U	2.40	0.5 U	200 U	39 U	39 U	100 U	39 U	39 U							
080517R14SB	K0805409-005	5/17/2008	73.5	3.7	330	530	W	0.51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.9	0.50 U	2.00	0.5 U	180 U	35 U	35 U	100 U	35 U	35 U							
080521R15SB	K0805409-006	5/21/2008	74.3	4.2	330	587	W	0.90	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.40	1.6	0.47 U	4.70	0.47 U	180 U	35 U	35 U	100 U	35 U	35 U							
080521R16SB	K0805409-007	5/21/2008	72.8	2.6	356	622	W	0.54	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.2	0.94	0.47 U	3.7	0.47 U	180 U	36 U	36 U	100 U	15 J	36 U							
080521R17SB	K0805409-008	5/21/2008	72.6	4.1	343	647	W	0.87	0.48 U	0.48 U	0.48 U	0.5 U	0.48 U	0.48 U	0.48 U	0.48 U	1.0	1.4	0.48 U	3.80	0.48 U	180 U	35 U	35 U	100 U	35 U	35 U							
080521R18SB	K0805409-009	5/21/2008	72.9	4.2	394	1124	W	0.99	0.500 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.1	1.70	0.5 U	4.1	0.5 U	180 U	36 U	36 U	100 U	36 U	36 U							
080521R19SB	K0805409-010	5/21/2008	72.6	5.3	406	936	W	1.30	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	1.6	2.1	0.48 U	5.10	0.48 U	180 U	36 U	36 U	100 U	36 U	36 U							
080521R20SB	K0805409-011	5/21/2008	73.6	4.1	330	640	W	0.80	0.47 U	0.61	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.75	1.5	0.47 U	2.3	0.47 U	81 J	35 U	35 U	100 U	35 U	35 U							
080521R21SB	K0805409-012	5/21/2008	74.6	2.8	305	442	W	0.54	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.78	0.99	0.48 U	3.6	0.48 U	200 U	40 U	40 U	100 U	40 U	40 U							
ODEQ ATLs for Fish/Shellfish (2007) ¹ (µg/kg wet)								Birds (Individual)		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE					
								Mammals (Individual)		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
								Humans ³ (subsistence/tribal)		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
ODEQ CTLs for Fish/Shellfish (2007) ² (µg/kg wet)								Freshwater		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE			

Notes:
 µg/kg = microgram per kilogram
 ATL = Acceptable Tissue Levels
 CTL = Critical Fish Level
 CAS = Columbia Analytical Services
Bold = analyte detected above the MDL
 W = Wet Weight
 EPA = U.S. Environmental Protection Agency
 mm = millimeter
 MDL = method detection limit
 MRL = method reporting limit
 NE = Not Established

SVOCs and PAHs are analyzed separately for tissue matrices.
 ODEQ = Oregon Department of Environmental Quality
 PCBs = Polychlorinated Biphenyls
 U = The analyte was not detected at or above the laboratory MDL. The non-detect values reported in

Table 5a
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10448-1 through L10448-7
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected June/ August 2006

IUPAC #	COELUTING CONGENERS ¹	060605100SB L10448-1	060605101SB L10448-2	060605200SB L10448-3	060605201SB L10448-4	060605202SB L10448-5	060605203SB L10448-6	060605204SB L10448-7
1		0.186 UJ	0.65 J	0.747 J	0.234 UJ	0.189 UJ	0.346 J	0.309 UJ
2		0.088 J-EMPC	0.698 J	0.482 J	0.129 J	0.276 J	0.407 J	0.614 J
3		0.144 UJ	0.437 UJ	0.438 UJ	0.125 UJ	0.154 UJ	0.378 UJ	0.271 UJ
4		1.62 J	4.27 J	2.03 J	1.93 J	1.53 J	3.58 J	5.78 J
5		0.124 UJ	0.285 J	0.193 J	0.138 J	0.072 J	0.222 J	0.247 J
6		0.756 J	2.01 J	1.95 J	1.07 J	1.01 J	1.98 J	2.86 J
7		0.154 J	0.61 J	0.366 J	0.25 J	0.234 J	0.428 J	0.517 J
8		3.33 J	8.87 J	4.46 J	5.1 J	4.44 J	8.56 J	11.3 J
9		0.217 J	0.664 J	0.361 J	0.297 J	0.283 J	0.6 J	0.701 J
10		0.114 UJ	0.267 J	0.125 UJ	0.112 UJ	0.098 J	0.186 J	0.337 J
11		9.35 J	92.7 J	11.5 J	8.08 J	25.4 J	41.4 J	130 J
12	12 + 13	0.111 C UJ	1.12 C J	1.48 C J	0.317 C J	0.0585 C UJ	0.736 C J	0.058 C UJ
13	12 + 13	C12 J	C12 J	C12 J	C12 J	C12 J	C12 J	C12 J
14		0.112 UJ	0.149 J	0.123 UJ	0.107 UJ	0.0587 UJ	0.092 J	0.157 J
15		1.25 J	2.68 J	1.31 J	1.02 J	0.809 J	1.91 J	3.49 J
16		4.05 J	11.1 J	5.6 J	8.25 J	6.42 J	11.8 J	19.1 J
17		6.52 J	24.2 J	10.1 J	16.7 J	10.2 J	20.9 J	39.4 J
18	18 + 30	13.9 C J	40.3 C J	19.4 C J	34.3 C J	21.9 C J	43.6 C J	59.7 C J
19		1.42 J	3.18 J	1.65 J	2.24 J	1.74 J	3.35 J	9.56 J
20	20 + 28	66.1 C J	255 C J	132 C J	196 C J	99.9 C J	241 C J	235 C J
21	21 + 33	13.4 C J	34.9 C J	16.8 C J	40.5 C J	18.7 C J	42.7 C J	46.2 C J
22		12.4 J	32.9 J	13.2 J	34.1 J	19.2 J	50.5 J	57 J
23		0.0849 UJ	0.342 J	0.153 J	0.14 J	0.086 J	0.293 J	0.162 J
24		0.271 J	0.667 J	0.315 J	0.496 J	0.405 J	1 J	1.1 J
25		2.36 J	21.1 J	4.53 J	6.41 J	3.86 J	10.5 J	10.7 J
26	26 + 29	7.6 C J	43.6 C J	13.2 C J	21.4 C J	10.5 C J	28.3 C J	27.8 C J
27		0.875 J	4.66 J	1.48 J	2.01 J	1.46 J	3.8 J	7.72 J
28	20 + 28	C20 J	C20 J	C20 J	C20 J	C20 J	C20 J	C20 J
29	26 + 29	C26 J	C26 J	C26 J	C26 J	C26 J	C26 J	C26 J
30	18 + 30	C18 J	C18 J	C18 J	C18 J	C18 J	C18 J	C18 J
31		32.3 J	150 J	46.4 J	90.7 J	55.6 J	147 J	118 J
32		2.13 J	12.1 J	2.71 J	6.56 J	2.87 J	6.36 J	10.2 J
33	21 + 33	C21 J	C21 J	C21 J	C21 J	C21 J	C21 J	C21 J
34		0.088 J	1.23 J	0.286 J	0.297 J	0.222 J	0.764 J	0.852 J
35		0.0861 UJ	0.0894 UJ	0.148 J-EMPC	0.129 UJ	0.0812 UJ	0.0808 UJ	0.0913 UJ
36		0.0781 UJ	0.0811 UJ	0.0839 UJ	0.118 UJ	0.0737 UJ	0.0734 UJ	0.0829 UJ
37		5.02 J	39.8 J	13.4 J	6.44 J	6.15 J	17.1 J	24.5 J
38		0.079 J-EMPC	1.65 J-EMPC	0.176 J-EMPC	0.149 J-EMPC	0.112 J-EMPC	0.253 J-EMPC	0.168 J-EMPC
39		0.504 J	8.73 J-EMPC	0.859 J	0.93 J-EMPC	0.507 J	1.65 J	1.47 J
40	40 + 41 + 71	28.9 C J	1180 C J	43.8 C J	64.5 C J	42.2 C J	114 C J	107 C J
41	40 + 41 + 71	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J
42		21.8 J	544 J	42.4 J	43.9 J	31.6 J	112 J	98.2 J
43		4.32 J	91.7 J	9.09 J	13.2 J	7.36 J	18.1 J	14 J
44	44 + 47 + 65	152 C J	6390 C J	1290 C J	401 C J	253 C J	641 C J	450 C J
45	45 + 51	6.02 C J	105 C J	10.8 C J	12.9 C J	10.7 C J	29.8 C J	31.2 C J
46		1.22 J	15.9 J	1.58 J	2.55 J	2.27 J	4.43 J	5.76 J
47	44 + 47 + 65	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J
48		19.4 J	352 J	32.2 J	46.2 J	25.9 J	79 J	70 J
49	49 + 69	121 C J	5360 C J	1490 C J	317 C J	179 C J	545 C J	346 C J
50	50 + 53	5.72 C J	249 C J	8.88 C J	10.1 C J	8.8 C J	26.9 C J	27.9 C J
51	45 + 51	C45 J	C45 J	C45 J	C45 J	C45 J	C45 J	C45 J
52		289 J	18500 J	3240 J	723 J	476 J	1220 J	678 J
53	50 + 53	C50 J	C50 J	C50 J	C50 J	C50 J	C50 J	C50 J
54		0.069 J	1.81 J	0.14 UJ	0.336 J	0.19 J	0.523 J	2.13 J
55		0.202 UJ	0.84 UJ	0.563 UJ	0.311 UJ	0.225 UJ	0.549 UJ	0.445 UJ
56		18.9 J	1030 J	272 J	45.6 J	43.9 J	136 J	124 J
57		0.92 J	4.37 J	6.79 J	2.03 J	1.44 J	3.01 J	2.7 J
58		0.43 J	0.834 UJ	0.559 UJ	1.51 J	0.221 UJ	0.541 UJ	2.65 J
59	59 + 62 + 75	12.5 C J	131 C J	28.8 C J	31.3 C J	18.2 C J	48.8 C J	39.1 C J
60		66.7 J	1410 J	1200 J	226 J	91.2 J	237 J	197 J
61	61 + 70 + 74 + 76	464 C J	23500 C J	19500 C J	1410 C J	729 C J	2260 C J	1140 C J
62	59 + 62 + 75	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J
63		24.3 J	368 J	451 J	59.2 J	27.6 J	69.7 J	47.9 J
64		68.3 J	2610 J	113 J	167 J	113 J	317 J	231 J
65	44 + 47 + 65	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J
66		401 J	10300 J	10300 J	1030 J	483 J	1160 J	912 J
67		2.44 J	27.2 J	23.5 J	8.32 J	3.64 J	11.6 J	9.53 J
68		6.74 J	23.5 J	30.1 J	9.21 J	7.08 J	14.4 J	9.92 J
69	49 + 69	C49 J	C49 J	C49 J	C49 J	C49 J	C49 J	C49 J
70	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J
71	40 + 41 + 71	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J
72		4.75 J	39.8 J	33 J	12 J	7.05 J	15.9 J	13.5 J
73		0.0495 UJ	0.0499 UJ	0.127 UJ	0.0805 UJ	0.0616 UJ	0.0496 UJ	0.0495 UJ
74	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J
75	59 + 62 + 75	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J
76	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J
77		24.1 J	165 J	205 J	44.8 J	31.5 J	70.3 J	62.4 J
78		0.776 J	16.2 J	31.4 J	1.94 J	0.226 UJ	0.551 UJ	0.446 UJ
79		4.67 J	683 J	596 J	12.4 J	9.99 J	54.2 J	10.8 J
80		0.176 UJ	0.734 UJ	0.492 UJ	0.279 UJ	0.202 UJ	0.493 UJ	0.399 UJ
81		1.43 J	19.5 J	23.8 J	3.84 J	2.05 J	4.22 J	3.24 J
82		49.1 J	10100 J	680 J	78.1 J	95.2 J	296 J	54.1 J
83	83 + 99	1550 C J	75300 C J	63200 C J	5230 C J	1820 C J	5930 C J	2530 C J
84		65.3 J	14200 J	196 J	125 J	154 J	438 J	123 J
85	85 + 116 + 117	464 C J	23400 C J	18600 C J	1470 C J	549 C J	1650 C J	800 C J
86	86 + 87 + 97 + 108 + 119 + 125	750 C J	78300 C J	22600 C J	1480 C J	934 C J	3740 C J	924 C J
87	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
88	88 + 91	79.4 C J	10500 C J	608 C J	144 C J	126 C J	487 C J	144 C J
89		1.87 J	347 J	3.28 J	4.08 J	3.9 J	10.3 J	3.86 J
90	90 + 101 + 113	1490 C J	117000 C J	35800 C J	3020 C J	1750 C J	6610 C J	2110 C J
91	88 + 91	C88 J	C88 J	C88 J	C88 J	C88 J	C88 J	C88 J
92		272 J	17600 J	3430 J	669 J	353 J	1040 J	498 J
93	93 + 95 + 98 + 100 + 102	437 C J	47700 C J	6020 C J	939 C J	659 C J	2360 C J	725 C J
94		0.746 UJ	88.1 J	1.27 J	1.14 J	1.48 J	5.9 J	3.56 J
95	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
96		1.41 J	161 J	2.72 J	3.82 J	2.37 J	6.22 J	4.54 J
97	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
98	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
99	83 + 99	C83 J	C83 J	C83 J	C83 J	C83 J	C83 J	C83 J
100	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
101	90 + 101 + 113	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J
102	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
103		5.3 J	306 J	52.3 J	10.9 J	8.31 J	28.5 J	12.8 J
104		0.0667 UJ	0.994 J	0.252 UJ	0.156 J-EMPC	0.112 J-EMPC	0.536 J	0.908 J
105		966 J	50400 J	45500 J	2980 J	1230 J	3540 J	1540 J
106		0.375 UJ	4.07 UJ	3.99 UJ	0.748 UJ	0.433 UJ	0.753 UJ	0.513 UJ
107	107 + 124	64.3 C J	3230 C J	3810 C J	118 C J	60.3 C J	377 C J	78.3 C J
108	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
109		295 J	8940 J	10600 J	584 J	317 J	954 J	392 J
110	110 + 115	1080 C J	120000 C J	7140 C J	2190 C J	1500 C J	4920 C J	1660 C J
111		2.87 J	4.22 J	5.84 J	6.44 J	3.53 J	5.73 J-EMPC	5.71 J
112		0.479 UJ	1.01 UJ	0.365 UJ	0.231 UJ	0.59 UJ	0.178 UJ	0.199 UJ
113	90 + 101 + 113	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J
114		92.6 J	3200 J	4040 J	281 J	106 J	337 J	120 J
115	110 + 115	C110 J	C110 J	C110 J	C110 J	C110 J	C110 J	C110 J
116	85 + 116 + 117	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J
117	85 + 116 + 117	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J
118		3310 J	138000 J	132000 J	8310 J	3610 J	10800 J	3750 J
119	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J

Table 5a
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10448-1 through L10448-7
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected June/ August 2006

IUPAC #	COELUTING CONGENERS ¹	060605100SB L10448-1	060605101SB L10448-2	060605200SB L10448-3	060605201SB L10448-4	060605202SB L10448-5	060605203SB L10448-6	060605204SB L10448-7
120		15 J	51.7 J	35.1 J	28.2 J	17.5 J	28.5 J	28.9 J
121		1.32 J	4.33 J	1.56 J	3.64 J	1.8 J	3.53 J	3.25 J
122		0.413 UJ	474 J	523 J	0.876 UJ	11 J	56.3 J	11.5 J
123		55.7 J	1600 J	2450 J	118 J	63.3 J	217 J	69.5 J
124	107 + 124	C107 J	C107 J	C107 J	C107 J	C107 J	C107 J	C107 J
125	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
126		5.05 J	55.3 J	75.5 J	9.74 J	8.07 J	15.9 J	11.1 J
127		6.9 J	241 J	265 J	26.8 J	7.03 J	34.4 J	9.34 J
128	128 + 166	603 C J	30800 C J	21000 C J	2300 C J	806 C J	2500 C J	1240 C J
129	129 + 138 + 160 + 163	4320 C J	168000 C J	126000 C J	14000 C J	5220 C J	16200 C J	8070 C J
130		172 J	9060 J	7720 J	302 J	232 J	1060 J	268 J
131		9.5 J	1520 J	395 J	16.5 J	16.9 J	119 J	12.3 J
132		228 J	38700 J	3080 J	421 J	399 J	1910 J	352 J
133		83.5 J	1460 J	1450 J	208 J	96.5 J	281 J	162 J
134	134 + 143	48.6 C J	5130 C J	3170 C J	83.2 C J	75.3 C J	458 C J	76.7 C J
135	135 + 151 + 154	492 C J	19700 C J	4910 C J	1220 C J	703 C J	2380 C J	1170 C J
136		87 J	9020 J	247 J	172 J	118 J	439 J	166 J
137		283 J	11900 J	15300 J	1100 J	317 J	1220 J	344 J
138	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J
139	139 + 140	68.7 C J	3090 C J	1660 C J	271 C J	81.4 C J	284 C J	130 C J
140	139 + 140	C139 J	C139 J	C139 J	C139 J	C139 J	C139 J	C139 J
141		250 J	18800 J	5770 J	723 J	294 J	1210 J	365 J
142		0.661 UJ	2.91 UJ	2.57 UJ	1.36 UJ	0.699 UJ	0.756 UJ	0.78 UJ
143	134 + 143	C134 J	C134 J	C134 J	C134 J	C134 J	C134 J	C134 J
144		52.3 J	3490 J	1920 J	96.6 J	67.5 J	361 J	77.5 J
145		0.174 J-EMPC	37.9 J	0.585 J	0.481 J	0.322 J	1.27 J	0.371 J
146		883 J	16000 J	19000 J	1720 J	966 J	2950 J	1300 J
147	147 + 149	725 C J	59800 C J	31700 C J	1220 C J	1160 C J	6370 C J	1180 C J
148		3.39 J	61.2 J	8.95 J	8.09 J	5.48 J	17.1 J	9.25 J
149	147 + 149	C147 J	C147 J	C147 J	C147 J	C147 J	C147 J	C147 J
150		1.44 J	72.4 J	13.1 J	2.61 J	2.41 J	11.6 J	3.54 J
151	135 + 151 + 154	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J
152		1.04 J	81.4 J	3.55 J	2.9 J	1.28 J	3.86 J	2.82 J
153	153 + 168	4920 C J	111000 C J	117000 C J	16100 C J	5540 C J	16800 C J	8500 C J
154	135 + 151 + 154	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J
155		3.5 J	14.4 J	3.36 J	9.17 J	4.27 J	8.39 J	9.28 J
156	156 + 157	654 C J	26600 C J	31400 C J	2220 C J	735 C J	2890 C J	846 C J
157	156 + 157	C156 J	C156 J	C156 J	C156 J	C156 J	C156 J	C156 J
158		304 J	17400 J	12900 J	1400 J	403 J	1520 J	660 J
159		4.52 J	179 J	121 J	8.3 J	8.21 J	41 J	8.36 J
160	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J
161		0.434 UJ	1.91 UJ	1.69 UJ	0.944 UJ	0.485 UJ	0.525 UJ	0.542 UJ
162		23.2 J	530 J	610 J	63.5 J	27 J	90.1 J	38.3 J
163	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J
164		97 J	7230 J	6480 J	192 J	131 J	643 J	162 J
165		2.69 J	23.3 J	17.3 J	7.27 J	3.3 J	8.05 J	6.29 J
166	128 + 166	C128 J	C128 J	C128 J	C128 J	C128 J	C128 J	C128 J
167		226 J	6500 J	9650 J	428 J	239 J	961 J	250 J
168	153 + 168	C153 J	C153 J	C153 J	C153 J	C153 J	C153 J	C153 J
169		1.52 UJ	7.28 UJ	4.49 UJ	2.75 UJ	1.29 UJ	5.03 UJ	2.6 UJ
170		457 J	12100 J	9940 J	2280 J	661 J	2100 J	1140 J
171	171 + 173	150 C J	3890 C J	1810 C J	685 C J	233 C J	711 C J	493 C J
172		69.6 J	1560 J	1280 J	299 J	106 J	380 J	171 J
173	171 + 173	C171 J	C171 J	C171 J	C171 J	C171 J	C171 J	C171 J
174		104 J	4840 J	3590 J	209 J	182 J	994 J	190 J
175		18.4 J	314 J	237 J	46.3 J	24.9 J	94.3 J	35.7 J
176		17.2 J	624 J	211 J	29.3 J	29.1 J	191 J	38.8 J
177		251 J	3800 J	3400 J	371 J	344 J	1630 J	429 J
178		171 J	1580 J	1080 J	476 J	236 J	720 J	447 J
179		92.8 J	1840 J	191 J	210 J	159 J	686 J	302 J
180	180 + 193	1460 C J	20600 C J	18800 C J	5930 C J	2020 C J	5400 C J	3040 C J
181		10.8 J	357 J	397 J	42.4 J	13 J	56.9 J	19.3 J
182		3.79 J	81.8 J	34.7 J	16.9 J	7.22 J	16.1 J	10.9 J
183	183 + 185	426 C J	6240 C J	4050 C J	1620 C J	573 C J	1660 C J	1060 C J
184		3.59 J	24.4 J	7.99 J	10.1 J	4.56 J	10.7 J	10.7 J
185	183 + 185	C183 J	C183 J	C183 J	C183 J	C183 J	C183 J	C183 J
186		0.0545 UJ	5.14 J	0.189 UJ	0.107 UJ	0.071 UJ	0.0926 UJ	0.0495 UJ
187		1510 J	8670 J	7970 J	2500 J	1730 J	4520 J	2260 J
188		3.76 J	18.2 J	12.3 J	6.22 J	4.27 J	10.8 J	6.04 J
189		21.6 J	482 J	531 J	75.9 J	25 J	113 J	39 J
190		180 J	2350 J	1570 J	647 J	229 J	624 J	440 J
191		27.5 J	465 J	419 J	117 J	34.8 J	98 J	60 J
192		0.0591 UJ	0.504 UJ	0.205 UJ	0.122 UJ	0.081 UJ	0.106 UJ	0.0519 UJ
193	180 + 193	C180 J	C180 J	C180 J	C180 J	C180 J	C180 J	C180 J
194		170 J	1720 J	1170 J	688 J	215 J	654 J	399 J
195		85.6 J	777 J	433 J	357 J	125 J	330 J	265 J
196		117 J	881 J	597 J	445 J	141 J	349 J	255 J
197	197 + 200	19.2 C J	189 C J	88.1 C J	60.8 C J	26.1 C J	105 C J	49.5 C J
198	198 + 199	243 C J	1610 C J	1150 C J	547 C J	277 C J	896 C J	371 C J
199	198 + 199	C198 J	C198 J	C198 J	C198 J	C198 J	C198 J	C198 J
200	197 + 200	C197 J	C197 J	C197 J	C197 J	C197 J	C197 J	C197 J
201		41 J	226 J	135 J	76.8 J	47 J	159 J	70.5 J
202		104 J	642 J	296 J	284 J	128 J	486 J	267 J
203		241 J	1620 J	702 J	828 J	279 J	804 J	587 J
204		0.401 J	1.71 J	0.991 J	1.09 J	0.527 J	1.17 J	0.903 J
205		11.1 J	97.9 J	42.2 J	39.9 J	14 J	49.8 J	29.1 J
206		93.9 J	749 J	335 J	276 J	103 J	364 J	217 J
207		18.9 J	107 J	60.7 J	50.6 J	21.5 J	56 J	41.6 J
208		30.3 J	163 J	95.8 J	57.8 J	35.3 J	132 J	58 J
209		39.1 J	164 J	83.2 J	74.2 J	43 J	140 J	93.6 J
Total PCBs ² (pg/g)		33,700 J	1,440,000 J	879,000 J	96,700 J	42,000 J	137,000 J	59,400 J
Total PCBs ² (ug/kg or ppb)		33.7 J	1,440 J	879 J	96.7 J	42.0 J	137 J	59.4 J

Notes:

All results are reported in units of pg/g (picograms/gram)

C = concentration represents coeluting congeners

J = The reported value is an estimate.

J-EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

PCBs = Polychlorinated Biphenyls

U = The analyte was not detected above the reported analyte specific detection limit.

pg/g = picograms per gram

ug/kg = micrograms per kilogram

1= When two or more congeners can not be resolved in the chromatogram they are considered to be 'coeluting' and are reported as a single concentration. This concentration is reported once for all the coeluting congeners, to eliminate possible errors during congener summation.

2=Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, UJ, or J-EMPC.

Table 5b
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10448-8 through L10448-14
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected June/ August 2006

IUPAC #	COELUTING CONGENERS ¹	060605205SB L10448-8	060605207SB L10448-9	060605208SB L10448-10	060605209SB L10448-11	060606102SB L10448-12	060606103SB L10448-13	060606104SB L10448-14
1		0.773 J	0.243 UJ	0.293 UJ	1.73 J	0.572 J	0.484 J	0.235 UJ
2		0.561 J	0.37 J	0.519 J	1.46 J	0.686 J	0.548 J	0.237 J
3		0.442 UJ	0.241 UJ	0.253 UJ	1.07 J	0.372 UJ	0.328 UJ	0.0502 UJ
4		3.17 J	3.09 J	2.5 J	8.16 J	2.95 J	3.76 J	2.13 J
5		0.23 J	0.156 J	0.203 UJ	0.784 J	0.353 UJ	0.219 UJ	0.09 J
6		1.61 J	1.77 J	1.45 J	9.01 J	3.84 J	1.98 J	1.43 J
7		0.449 J	0.347 J	0.313 J	3.98 J	0.315 UJ	0.457 J	0.225 J
8		6.68 J	7.6 J	7.19 J	40.1 J	6.89 J	8.63 J	5.25 J
9		0.579 J	0.385 J	0.381 J	5.89 J	0.387 J	0.788 J	0.318 J
10		0.176 J	0.155 J	0.186 UJ	0.422 J	0.323 UJ	0.206 J	0.134 J
11		53 J	57.2 J	95.6 J	136 J	39.3 J	67.5 J	35.4 J
12	12 + 13	1.77 C J	0.122 C UJ	0.178 C UJ	5.72 C J	2.78 C J	1.6 C J	0.831 C J
13	12 + 13	C12 J	C12 J	C12 J	C12 J	C12 J	C12 J	C12 J
14		0.122 J	0.127 J	0.179 UJ	0.264 J	0.321 UJ	0.199 UJ	0.099 J
15		1.95 J	1.85 J	2.53 J	14.1 J	2.1 J	2.18 J	1.83 J
16		9.76 J	10.2 J	10.6 J	39.5 J	7.89 J	12.2 J	6.26 J
17		27.2 J	16.4 J	17.3 J	317 J	13.3 J	53.1 J	8.97 J
18	18 + 30	44 C J	34.1 C J	39.2 C J	825 C J	26.5 C J	69.5 C J	19.8 C J
19		2.79 J	2.77 J	2.87 J	8.54 J	2.73 J	4.5 J	1.89 J
20	20 + 28	414 C J	149 C J	276 C J	5550 C J	124 C J	452 C J	83 C J
21	21 + 33	39 C J	27.6 C J	42.7 C J	606 C J	21.5 C J	49.6 C J	15.3 C J
22		33.8 J	28.6 J	56.3 J	380 J	18.9 J	43.2 J	15.2 J
23		0.351 J	0.135 UJ	0.239 J	1.95 UJ	0.474 UJ	0.348 J	0.095 J
24		0.754 J	0.657 J	0.698 J-EMPC	2.82 J	0.51 J	0.763 J	0.415 J
25		12 J	4.48 J	9.33 J	418 J	4.3 J	11.8 J	2.65 J
26	26 + 29	49.1 C J	15.6 C J	24.9 C J	745 C J	13.9 C J	61.2 C J	8.94 C J
27		4.79 J	2.52 J	3.03 J	46.8 J	2.19 J	12 J	1.32 J
28	20 + 28	C20 J	C20 J	C20 J	C20 J	C20 J	C20 J	C20 J
29	26 + 29	C26 J	C26 J	C26 J	C26 J	C26 J	C26 J	C26 J
30	18 + 30	C18 J	C18 J	C18 J	C18 J	C18 J	C18 J	C18 J
31		117 J	79.5 J	127 J	5070 J	66.7 J	162 J	43.7 J
32		14.3 J	3.98 J	6.27 J	198 J	3.98 J	32.5 J	2.41 J
33	21 + 33	C21 J	C21 J	C21 J	C21 J	C21 J	C21 J	C21 J
34		0.758 J	0.326 J	0.544 J-EMPC	7.4 J	0.464 UJ	1.3 J	0.19 J-EMPC
35		0.111 UJ	0.142 UJ	0.155 UJ	2.13 UJ	0.486 UJ	0.238 UJ	0.0502 UJ
36		0.101 UJ	0.129 UJ	0.141 UJ	1.88 UJ	0.449 UJ	0.22 UJ	0.0502 UJ
37		46.5 J	10.3 J	19.9 J	696 J	15.2 J	41.1 J	6.02 J
38		1.01 J-EMPC	0.186 J	0.406 J-EMPC	12.3 J	0.445 UJ	1.45 J-EMPC	0.083 J-EMPC
39		6.17 J	0.993 J	1.56 J-EMPC	112 J-EMPC	1.51 J	7.99 J	0.495 J
40	40 + 41 + 71	653 C J	51.7 C J	119 C J	14200 C J	95 C J	688 C J	21.2 C J
41	40 + 41 + 71	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J
42		541 J	39.6 J	123 J	10100 J	66.8 J	377 J	15.9 J
43		97.3 J	8.42 J	19.8 J	1990 J	23.1 J	108 J	4.52 J
44	44 + 47 + 65	6430 C J	302 C J	850 C J	138000 C J	894 C J	6400 C J	135 C J
45	45 + 51	64.9 C J	11.9 C J	27 C J	1040 C J	14 C J	70.9 C J	7.19 C J
46		8.54 J	2.51 J	4.15 J	96.3 J	2.43 J	7.84 J	1.66 J
47	44 + 47 + 65	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J
48		299 J	37 J	77.8 J	4900 J	56.7 J	305 J	18.2 J
49	49 + 69	7290 C J	236 C J	636 C J	123000 C J	886 C J	6590 C J	102 C J
50	50 + 53	132 C J	8.52 C J	27.8 C J	3160 C J	13.7 C J	54.9 C J	5.53 C J
51	45 + 51	C45 J	C45 J	C45 J	C45 J	C45 J	C45 J	C45 J
52		24100 J	585 J	1180 J	351000 J	2990 J	21200 J	256 J
53	50 + 53	C50 J	C50 J	C50 J	C50 J	C50 J	C50 J	C50 J
54		1.45 J	0.266 J	0.677 J	7.71 J	0.573 UJ	2.74 J	0.152 J
55		0.677 UJ	0.36 UJ	0.478 UJ	26.4 UJ	0.304 UJ	0.876 UJ	0.479 UJ
56		357 J	44.9 J	145 J	24900 J	87.5 J	253 J	19.6 J
57		6.38 J	1.83 J	3.28 J	27.6 UJ	1.98 J	0.863 UJ	1.1 J
58		0.667 UJ	1.57 J	0.471 UJ	25.4 UJ	0.297 UJ	0.855 UJ	1.04 J
59	59 + 62 + 75	162 C J	25.3 C J	63.8 C J	2120 C J	33.1 C J	162 C J	12.6 C J
60		2070 J	156 J	484 J	30200 J	315 J	1750 J	68.2 J
61	61 + 70 + 74 + 76	22400 C J	1010 C J	2360 C J	368000 C J	4730 C J	19800 C J	445 C J
62	59 + 62 + 75	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J
63		573 J	38.2 J	120 J	9180 J	164 J	571 J	21.2 J
64		2870 J	135 J	415 J	45400 J	397 J	2450 J	65.2 J
65	44 + 47 + 65	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J	C44 J
66		12700 J	735 J	1700 J	143000 J	2690 J	12700 J	335 J
67		20.3 J	5 J	12.9 J	278 J	7.81 J	27.3 J	3.32 J
68		15.8 J	7.94 J	22.6 J	297 J	14.3 J	26.2 J	4.29 J
69	49 + 69	C49 J	C49 J	C49 J	C49 J	C49 J	C49 J	C49 J
70	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J
71	40 + 41 + 71	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J	C40 J
72		48.9 J	9.54 J	23.4 J	469 J	10.6 J	45.6 J	5.71 J
73		0.0491 UJ	0.132 UJ	0.119 UJ	0.516 UJ	0.519 UJ	0.221 UJ	0.0502 UJ
74	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J
75	59 + 62 + 75	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J	C59 J
76	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J	C61 J
77		214 J	36.7 J	77.2 J	3530 J	102 J	186 J	21.7 J
78		0.679 UJ	1.43 J	0.479 UJ	343 J	0.302 UJ	0.872 UJ	0.609 J
79		558 J	8.22 J	26 J	11000 J	37.9 J	192 J	3.22 J
80		0.607 UJ	0.323 UJ	0.429 UJ	22.6 UJ	0.269 UJ	0.775 UJ	0.622 J
81		19.1 J-EMPC	2.33 J	5.76 J	23.1 UJ	8.07 J	11.7 J	1.21 J
82		5760 J	37.2 J	151 J	125000 J	209 J	1130 J	12.1 J
83	83 + 99	105000 C J	3470 C J	6850 C J	1050000 C J	16400 C J	88200 C J	1250 C J
84		6710 J	72.6 J	306 J	180000 J	340 J	1690 J	33.2 J
85	85 + 116 + 117	30300 C J	985 C J	2030 C J	327000 C J	4910 C J	26600 C J	350 C J
86	86 + 87 + 97 + 108 + 119 + 125	72700 C J	1020 C J	2520 C J	890000 C J	5580 C J	38900 C J	326 C J
87	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
88	88 + 91	7680 C J	90 C J	433 C J	168000 C J	453 C J	2780 C J	38.5 C J
89		143 J	2.75 J	5.54 J	3000 J	12.4 J	102 J	0.863 J
90	90 + 101 + 113	127000 C J	2350 C J	5740 C J	1400000 C J	10700 C J	74900 C J	880 C J
91	88 + 91	C88 J	C88 J	C88 J	C88 J	C88 J	C88 J	C88 J
92		19500 J	530 J	1280 J	213000 J	2110 J	14400 J	231 J
93	93 + 95 + 98 + 100 + 102	30600 C J	614 C J	1860 C J	573000 C J	3170 C J	20800 C J	282 C J
94		26 J	0.809 J	6.3 J	906 J	3.63 UJ	5.75 J	0.483 J
95	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
96		100 J	2.75 J	5.53 J	1710 J	14.9 J	103 J	1.19 J
97	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
98	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
99	83 + 99	C83 J	C83 J	C83 J	C83 J	C83 J	C83 J	C83 J
100	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
101	90 + 101 + 113	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J
102	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J	C93 J
103		278 J	8.15 J	30.1 J	5180 J	25.7 J	164 J	3.77 J
104		0.778 J	0.221 UJ	0.648 J-EMPC	9.27 J-EMPC	1.06 UJ	0.455 UJ	0.13 J-EMPC
105		66300 J	2090 J	3910 J	766000 J	11200 J	57700 J	717 J
106		4.87 UJ	0.401 UJ	0.998 UJ	65.3 UJ	2.37 UJ	3.93 UJ	3.32 UJ
107	107 + 124	2410 C J	83 C J	136 C J	55600 C J	472 C J	1720 C J	38.7 C J
108	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
109		13100 J	432 J	922 J	185000 J	3260 J	11200 J	207 J
110	110 + 115	111000 C J	1680 C J	4280 C J	1270000 C J	8470 C J	60600 C J	593 C J
111		5.58 J-EMPC	5.01 J	12.5 J	56 UJ	4.89 J	9.2 J	3.33 J
112		0.631 UJ	0.279 UJ	0.935 UJ	56.1 UJ	2.37 UJ	1.82 UJ	0.0698 UJ
113	90 + 101 + 113	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J	C90 J
114		4870 J	173 J	332 J	65700 J	1680 J	4470 J	59.4 J
115	110 + 115	C110 J	C110 J	C110 J	C110 J	C110 J	C110 J	C110 J
116	85 + 116 + 117	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J
117	85 + 116 + 117	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J	C85 J
118		199000 J	6430 J	10300 J	2180000 J	52400 J	164000 J	2420 J
119	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J

Table 5b
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10448-8 through L10448-14
Bradford Island - Remedial Investigation
Smallmouth Bass Collected June/ August 2006

IUPAC #	COELUTING CONGENERS ¹	060605205SB L10448-8	060605207SB L10448-9	060605208SB L10448-10	060605209SB L10448-11	060606102SB L10448-12	060606103SB L10448-13	060606104SB L10448-14
120		59.6 J-EMPC	25.9 J	51.2 J	344 J	29.5 J	77.6 J	16.3 J
121		4.69 J	2.74 J	6.89 J	58 UJ	2.53 UJ	6.64 J	1.59 J
122		207 J	5.96 J	22.6 J	9000 J	2.75 UJ	4.56 UJ	3.52 UJ
123		1940 J	81 J	136 J	35600 J	948 J	2070 J	32.3 J
124	107 + 124	C107 J	C107 J	C107 J	C107 J	C107 J	C107 J	C107 J
125	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J	C86 J
126		85.7 J	8.9 J	14.3 J	1260 J	26.2 J	45.3 J	6.42 J
127		341 J	16.1 J	26.6 J	3700 J	142 J	416 J	5.94 J
128	128 + 166	42000 C J	1590 C J	2740 C J	336000 C J	6640 C J	33300 C J	652 C J
129	129 + 138 + 160 + 163	239000 C J	10400 C J	20400 C J	1940000 C J	42300 C J	197000 C J	4410 C J
130		11200 J	271 J	707 J	126000 J	1190 J	5270 J	121 J
131		992 J	9.83 J	43.3 J	18200 J	50.5 J	285 J	3.19 J
132		23200 J	240 J	1180 J	394000 J	777 J	3870 J	100 J
133		2110 J	175 J	353 J	22300 J	519 J	1760 J	92 J
134	134 + 143	3770 C J	58.6 C J	198 C J	63500 C J	235 C J	1120 C J	26.2 C J
135	135 + 151 + 154	19900 C J	1090 C J	2680 C J	266000 C J	2070 C J	13300 C J	539 C J
136		5920 J	138 J	364 J	89500 J	484 J	2960 J	60.1 J
137		20000 J	606 J	997 J	220000 J	5410 J	19600 J	199 J
138	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J
139	139 + 140	4370 C J	185 C J	330 C J	41300 C J	695 C J	3450 C J	74.7 C J
140	139 + 140	C139 J	C139 J	C139 J	C139 J	C139 J	C139 J	C139 J
141		24000 J	462 J	1330 J	250000 J	2050 J	16700 J	188 J
142		3.11 UJ	0.923 UJ	1.47 UJ	207 J	1.34 UJ	2.66 UJ	0.71 UJ
143	134 + 143	C134 J	C134 J	C134 J	C134 J	C134 J	C134 J	C134 J
144		3460 J	75.2 J	244 J	53200 J	251 J	1410 J	30.9 J
145		19 J	0.263 J-EMPC	0.756 J	356 J	0.947 UJ	8.05 J	0.076 J-EMPC
146		25100 J	1440 J	3290 J	291000 J	7220 J	21800 J	725 J
147	147 + 149	37500 C J	738 C J	4390 C J	598000 C J	2150 C J	11400 C J	358 C J
148		60 J	7.44 J	21.6 J	667 J	9.36 J	44.1 J	3.98 J
149	147 + 149	C147 J	C147 J	C147 J	C147 J	C147 J	C147 J	C147 J
150		37.2 J	1.41 J	8.48 J	863 J	2.73 J	9.25 J	0.865 J
151	135 + 151 + 154	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J
152		76.3 J	2.39 J	5.33 J	891 J	9.98 J	61.5 J	1.09 J
153	153 + 168	179000 C J	11200 C J	23100 C J	1440000 C J	48200 C J	169000 C J	5570 C J
154	135 + 151 + 154	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J	C135 J
155		12.9 J	8.48 J	14.6 J	1.01 UJ	5.88 J	17.4 J	5.76 J
156	156 + 157	44600 C J	1360 C J	2390 C J	403000 C J	12800 C J	38600 C J	541 C J
157	156 + 157	C156 J	C156 J	C156 J	C156 J	C156 J	C156 J	C156 J
158		24500 J	914 J	1730 J	237000 J	3500 J	19700 J	366 J
159		129 J	5.18 J	26.1 J	3140 J	12.1 J	56.4 J	3.82 J
160	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J
161		2.16 UJ	0.641 UJ	1.02 UJ	79.8 UJ	0.955 UJ	1.89 UJ	0.466 UJ
162		846 J	47.4 J	83.7 J	9120 J	245 J	814 J	25.4 J
163	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J	C129 J
164		8820 J	154 J	478 J	91900 J	601 J	3780 J	71.2 J
165		26 J	5.87 J	11.5 J	88 UJ	8.76 J	27.6 J	3.71 J
166	128 + 166	C128 J	C128 J	C128 J	C128 J	C128 J	C128 J	C128 J
167		9350 J	311 J	574 J	116000 J	3650 J	7990 J	161 J
168	153 + 168	C153 J	C153 J	C153 J	C153 J	C153 J	C153 J	C153 J
169		11.2 UJ	3.27 UJ	5.08 UJ	127 UJ	8.24 UJ	14.5 UJ	3.47 UJ
170		18900 J	1310 J	2570 J	198000 J	4720 J	13700 J	727 J
171	171 + 173	5310 C J	520 C J	1050 C J	60300 C J	890 C J	3840 C J	301 C J
172		2540 J	191 J	441 J	31600 J	652 J	1760 J	106 J
173	171 + 173	C171 J	C171 J	C171 J	C171 J	C171 J	C171 J	C171 J
174		4060 J	134 J	755 J	117000 J	303 J	1320 J	75.5 J
175		424 J	38 J	103 J	6570 J	104 J	282 J	20.8 J
176		362 J	22.3 J	124 J	11700 J	31.7 J	168 J	12.2 J
177		4150 J	408 J	1210 J	87300 J	1240 J	1960 J	205 J
178		2160 J	481 J	970 J	27700 J	627 J	1780 J	280 J
179		1680 J	244 J	632 J	26800 J	221 J	1090 J	136 J
180	180 + 193	33300 C J	3570 C J	7510 C J	348000 C J	18200 C J	26800 C J	2150 C J
181		639 J	28.7 J	49.6 J	6320 J	172 J	496 J	13.8 J
182		122 J	11.7 J	28.2 J	1130 J	27 J	101 J	7.71 J
183	183 + 185	9230 C J	1180 C J	2510 C J	120000 C J	2000 C J	6770 C J	667 C J
184		28.5 J	10.6 J	18.2 J	122 J	7.27 J	29.3 J	7.56 J
185	183 + 185	C183 J	C183 J	C183 J	C183 J	C183 J	C183 J	C183 J
186		0.441 UJ	0.0658 UJ	0.148 UJ	42.4 J	0.396 UJ	0.34 UJ	0.0502 UJ
187		12300 J	2470 J	5940 J	159000 J	9320 J	9470 J	1350 J
188		19.7 J	5.77 J	13 J	139 J	7.69 J	17.6 J	3.66 J
189		841 J	49.1 J	91 J	9300 J	324 J	661 J	31.1 J
190		3580 J	487 J	870 J	36500 J	1210 J	2670 J	301 J
191		756 J	70.6 J	138 J	9430 J	300 J	616 J	40.9 J
192		0.503 UJ	0.075 UJ	0.168 UJ	11.4 UJ	0.45 UJ	0.387 UJ	0.0502 UJ
193	180 + 193	C180 J	C180 J	C180 J	C180 J	C180 J	C180 J	C180 J
194		3090 J	421 J	783 J	52500 J	1790 J	2410 J	310 J
195		1220 J	242 J	467 J	18800 J	568 J	1050 J	187 J
196		1600 J	260 J	535 J	31000 J	991 J	1210 J	176 J
197	197 + 200	227 C J	45.5 C J	112 C J	6130 C J	55.2 C J	165 C J	32.7 C J
198	198 + 199	3050 C J	401 C J	986 C J	59600 C J	2060 C J	1840 C J	240 C J
199	198 + 199	C198 J	C198 J	C198 J	C198 J	C198 J	C198 J	C198 J
200	197 + 200	C197 J	C197 J	C197 J	C197 J	C197 J	C197 J	C197 J
201		370 J	73 J	180 J	6980 J	211 J	260 J	47.3 J
202		988 J	294 J	540 J	11000 J	288 J	860 J	214 J
203		2760 J	618 J	1130 J	21900 J	654 J	2060 J	438 J
204		1.96 J	0.933 J	1.63 J	2.98 UJ	0.724 J	2.47 J	0.682 J
205		155 J	32.2 J	56.4 J	1520 J	42.9 J	123 J	24.8 J
206		1440 J	233 J	364 J	13600 J	271 J	928 J	199 J
207		191 J	41.9 J	71.9 J	2550 J	71.5 J	134 J	36.5 J
208		304 J	57.1 J	110 J	3140 J	91.8 J	182 J	44.9 J
209		221 J	82.5 J	127 J	1080 J	65.4 J	214 J	85.3 J
Total PCBs ² (pg/g)		1,730,000 J	69,700 J	149,000 J	19,300,000 J	325,000 J	1,310,000 J	32,200 J
Total PCBs ² (ug/kg or ppb)		1,730 J	69.7 J	149 J	19,300 J	325 J	1,310 J	32.2 J

Notes:

All results are reported in units of pg/g (picograms/gram)

C = concentration represents coeluting congeners

J = The reported value is an estimate.

J-EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

PCBs = Polychlorinated Biphenyls

U = The analyte was not detected above the reported analyte specific detection limit.

pg/g = picograms per gram

ug/kg = micrograms per kilogram

1= When two or more congeners can not be resolved in the chromatogram they are considered to be 'coeluting' and are reported as a single concentration.

This concentration is reported once for all the coeluting congeners, to eliminate possible errors during congener summation.

2=Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, UJ, or J-EMPC.

Table 5c
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10448-15 through L10448-19
Bradford Island - Remedial Investigation
Smallmouth Bass Collected June/ August 2006

IUPAC #	COELUTING CONGENERS ¹	060606210SB L10448-15	060815402SB L10448-16	060815403SB L10448-17	060815405SB L10448-18	060815406SB L10448-19
1		0.194 UJ	7.14 J	1.31 J	0.428 J	0.226 UJ
2		0.262 J	2.84 J	1.44 J	1.01 J	0.829 J
3		0.263 UJ	8.28 J	1.09 J	0.535 UJ	0.279 UJ
4		1.79 J	909 J	11.5 J	2.21 J	1.77 J
5		0.12 J	138 J	0.424 J	0.293 UJ	0.153 J
6		1.01 J	1620 J	13.7 J	1.66 J	0.912 J
7		0.282 J	396 J	5.86 J	0.504 J	0.276 J
8		4.62 J	7240 J	50.4 J	6.14 J	4.78 J
9		0.266 J	643 J	16.4 J	4.94 J	0.284 J
10		0.131 J-EMPC	54.3 J	0.934 J	0.343 J	0.178 J
11		28.4 J	230 J	404 J	495 J	562 J
12	12 + 13	0.622 C J	72.2 C J	11.4 C J	9.28 C J	0.126 C UJ
13	12 + 13	C12 J	C12 J	C12 J	C12 J	C12 J
14		0.089 J-EMPC	0.557 J	0.176 J	0.269 UJ	0.13 J
15		1.3 J	1570 J	282 J	112 J	9.51 J
16		5.82 J	7050 J	117 UJ	10.1 J	5.61 J
17		9.45 J	14300 J	1360 J	37.9 J	7.65 J
18	18 + 30	20 C J	23000 C J	3090 C J	130 C J	19.1 C J
19		1.71 J	1290 J	23 J	2.66 J	1.65 J
20	20 + 28	90.8 C J	76900 C J	16100 C J	1210 C J	112 C J
21	21 + 33	15.8 C J	19100 C J	2280 C J	45.4 C J	14.8 C J
22		16.8 J	23500 J	856 J	45.5 J	15.2 J
23		0.102 J	86.4 J	79.3 UJ	0.486 J-EMPC	0.197 UJ
24		0.371 J	438 J	72.8 UJ	0.79 J	0.323 J
25		3.11 J	4840 J	1140 J	125 J	3.31 J
26	26 + 29	9.6 C J	11100 C J	2340 C J	279 C J	10.6 C J
27		1.3 J	1050 J	224 J-EMPC	12.7 J	1.25 J
28	20 + 28	C20 J	C20 J	C20 J	C20 J	C20 J
29	26 + 29	C26 J	C26 J	C26 J	C26 J	C26 J
30	18 + 30	C18 J	C18 J	C18 J	C18 J	C18 J
31		47.8 J	59700 J	12200 J	837 J	47.1 J
32		2.53 J	7510 J	647 J	12.6 J	2.07 J
33	21 + 33	C21 J	C21 J	C21 J	C21 J	C21 J
34		0.195 J-EMPC	192 J	103 J	4.1 J	0.274 J
35		0.05 UJ	2.4 UJ	87.5 UJ	0.31 UJ	0.29 J-EMPC
36		0.05 UJ	2.24 UJ	79.2 UJ	0.29 UJ	0.298 J-EMPC
37		5.12 J	5850 J	2950 J	189 J	28 J
38		0.093 J	30.3 J	78.2 UJ	1.93 J	0.192 UJ
39		0.556 J	264 J	349 J	9.61 J	0.8 J
40	40 + 41 + 71	29.2 C J	13600 C J	22900 C J	799 C J	21.2 C J
41	40 + 41 + 71	C40 J	C40 J	C40 J	C40 J	C40 J
42		27.3 J	11400 J	19000 J	879 J	15.1 J
43		5.91 J	2280 J	15800 J	104 J	4.05 J
44	44 + 47 + 65	281 C J	47500 C J	200000 C J	10100 C J	115 C J
45	45 + 51	20.5 C J	7400 C J	1720 C J	63.2 C J	8.63 C J
46		1.63 J	1490 J	307 J	7.73 J	2.01 J
47	44 + 47 + 65	C44 J	C44 J	C44 J	C44 J	C44 J
48		23.4 J	11000 J	13900 J	339 J	13.3 J
49	49 + 69	173 C J	34200 C J	194000 C J	15100 C J	82 C J
50	50 + 53	7.57 C J	2630 C J	6170 C J	124 C J	6.83 C J
51	45 + 51	C45 J	C45 J	C45 J	C45 J	C45 J
52		424 J	54300 J	733000 J	43900 J	225 J
53	50 + 53	C50 J	C50 J	C50 J	C50 J	C50 J
54		0.135 J	56.1 J	90.2 J	1.02 J	0.35 UJ
55		0.476 UJ	185 J	28800 J	7.12 UJ	0.596 UJ
56		26.2 J	2560 J	52400 J	3280 J	20 J
57		1.39 J	231 J	631 UJ	19.2 J	1.66 J
58		1.38 J	46.8 J	654 UJ	7.05 UJ	1.03 J
59	59 + 62 + 75	18.4 C J	4870 C J	6050 C J	250 C J	9.05 C J
60		100 J	2600 J	52200 J	5430 J	60.3 J
61	61 + 70 + 74 + 76	719 C J	39800 C J	1000000 C J	87000 C J	566 C J
62	59 + 62 + 75	C59 J	C59 J	C59 J	C59 J	C59 J
63		30.6 J	1470 J	15400 J	1520 J	45.9 J
64		96.7 J	20400 J	56100 J	2800 J	47.9 J
65	44 + 47 + 65	C44 J	C44 J	C44 J	C44 J	C44 J
66		510 J	18500 J	371000 J	39600 J	505 J
67		5.02 J	988 J	985 J	81.3 J	4.14 J
68		20.8 J	101 J	611 UJ	76.8 J	15.8 J
69	49 + 69	C49 J	C49 J	C49 J	C49 J	C49 J
70	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J
71	40 + 41 + 71	C40 J	C40 J	C40 J	C40 J	C40 J
72		7.99 J	219 J	826 J	87.6 J	6.85 J
73		0.05 UJ	0.0491 UJ	20600 J	0.494 UJ	0.361 UJ
74	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J
75	59 + 62 + 75	C59 J	C59 J	C59 J	C59 J	C59 J
76	61 + 70 + 74 + 76	C61 J	C61 J	C61 J	C61 J	C61 J
77		23.6 J	334 J	8950 J	577 J	56.8 J
78		0.447 UJ	15.1 J	1340 J	6.7 UJ	1.32 J
79		6.88 J	300 J	21400 J	1850 J	6.37 J
80		0.819 J	6.53 UJ	552 UJ	6.16 UJ	1.15 J
81		1.3 J	19.8 J	1190 J	6.15 UJ	3.58 J
82		33.4 J	2130 J	175000 J	10300 J	21.9 J
83	83 + 99	2570 C J	41700 C J	1680000 C J	117000 C J	1110 C J
84		62.8 J	3630 J	201000 J	7280 J	42.5 J
85	85 + 116 + 117	723 C J	11800 C J	483000 C J	52200 C J	252 C J
86	86 + 87 + 97 + 108 + 119 + 125	843 C J	25200 C J	1350000 C J	81900 C J	345 C J
87	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J
88	88 + 91	89.8 C J	4040 C J	170000 C J	10600 C J	44.4 C J
89		1.56 J	123 J	3620 J	231 J	1.28 UJ
90	90 + 101 + 113	2150 C J	41600 C J	1920000 C J	125000 C J	816 C J
91	88 + 91	C88 J	C88 J	C88 J	C88 J	C88 J
92		476 J	7390 J	297000 J	25600 J	154 J
93	93 + 95 + 98 + 100 + 102	570 C J	21500 C J	932000 C J	54500 C J	266 C J
94		0.748 J	109 J	1290 J	40.2 J	1.34 UJ
95	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J
96		1.79 J	230 J	1500 J	135 J	0.877 J
97	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J
98	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J
99	83 + 99	C83 J	C83 J	C83 J	C83 J	C83 J
100	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J
101	90 + 101 + 113	C90 J	C90 J	C90 J	C90 J	C90 J
102	93 + 95 + 98 + 100 + 102	C93 J	C93 J	C93 J	C93 J	C93 J
103		8.42 J	217 J	6620 J	576 J	4.31 J
104		0.094 J-EMPC	4.03 J	68.6 J	1.06 J-EMPC	0.781 UJ
105		1600 J	30100 J	1300000 J	109000 J	738 J
106		5.73 UJ	44.7 UJ	1610 J	29.5 UJ	3.7 UJ
107	107 + 124	62.9 C J	1330 C J	88700 C J	6320 C J	45.2 C J
108	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J
109		366 J	4970 J	208000 J	23200 J	389 J
110	110 + 115	1370 C J	36300 C J	1530000 C J	91800 C J	498 C J
111		4.24 J	7.76 J	482 J	21.7 J	5.71 J
112		0.0624 UJ	0.729 UJ	300 UJ	4.86 UJ	0.86 UJ
113	90 + 101 + 113	C90 J	C90 J	C90 J	C90 J	C90 J
114		122 J	2330 J	89800 J	11200 J	115 J
115	110 + 115	C110 J	C110 J	C110 J	C110 J	C110 J
116	85 + 116 + 117	C85 J	C85 J	C85 J	C85 J	C85 J
117	85 + 116 + 117	C85 J	C85 J	C85 J	C85 J	C85 J
118		4970 J	92100 J	3270000 J	312000 J	3820 J
119	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J

Table 5c
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10448-15 through L10448-19
Bradford Island - Remedial Investigation
Smallmouth Bass Collected June/ August 2006

IUPAC #	COELUTING CONGENERS ¹	060606210SB L10448-15	060815402SB L10448-16	060815403SB L10448-17	060815405SB L10448-18	060815406SB L10448-19
120		20.4 J	35.1 J	621 J	99 J	23.8 J
121		2.33 J	3.49 J	328 UJ	5.71 J	1.36 J
122		6.08 UJ	296 J	24400 J	1610 J	5.17 J
123		57.4 J	1200 J	55300 J	6100 J	75 J
124	107 + 124	C107 J	C107 J	C107 J	C107 J	C107 J
125	86 + 87 + 97 + 108 + 119 + 125	C86 J	C86 J	C86 J	C86 J	C86 J
126		7.55 J	48 UJ	3030 J	125 J	12.3 J
127		12 J	191 J	8100 J	878 J	6.66 J
128	128 + 166	1300 C J	13100 C J	427000 C J	67600 C J	399 C J
129	129 + 138 + 160 + 163	8540 C J	81400 C J	2530000 C J	252000 C J	4700 C J
130		237 J	3050 J	175000 J	21000 J	242 J
131		9.41 J	331 J	29100 J	2380 J	7.73 J
132		216 J	6160 J	425000 J	37400 J	158 J
133		140 J	862 J	27900 J	4180 J	122 J
134	134 + 143	56.7 C J	1220 C J	93900 C J	8960 C J	43.6 C J
135	135 + 151 + 154	910 C J	6210 C J	272000 C J	30200 C J	395 C J
136		117 J	1870 J	78000 J	8580 J	50.2 J
137		481 J	7880 J	274000 J	39500 J	314 J
138	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J
139	139 + 140	158 C J	1480 C J	49200 C J	7460 C J	36.7 C J
140	139 + 140	C139 J	C139 J	C139 J	C139 J	C139 J
141		466 J	7660 J	242000 J	35300 J	137 J
142		1.91 UJ	20.4 UJ	758 UJ	72.1 UJ	0.715 UJ
143	134 + 143	C134 J	C134 J	C134 J	C134 J	C134 J
144		71.6 J	997 J	61000 J	6970 J	41.5 J
145		0.137 J-EMPC	6.49 J	469 J	34.9 J	0.414 UJ
146		1180 J	10300 J	313000 J	48400 J	1430 J
147	147 + 149	756 C J	12800 C J	948000 C J	86000 C J	709 C J
148		6.79 J	24.1 J	776 J	99.2 J	3.73 J
149	147 + 149	C147 J	C147 J	C147 J	C147 J	C147 J
150		1.86 J	19.7 J	1250 J	92.7 J	1.56 J
151	135 + 151 + 154	C135 J	C135 J	C135 J	C135 J	C135 J
152		1.87 J	26.9 J	522 J	92.1 J	0.483 J
153	153 + 168	8780 C J	73000 C J	1890000 C J	202000 C J	7180 C J
154	135 + 151 + 154	C135 J	C135 J	C135 J	C135 J	C135 J
155		6.54 J	6.74 J	60.2 J	13.7 J	4.01 J
156	156 + 157	1200 C J	16900 C J	486000 C J	83000 C J	791 C J
157	156 + 157	C156 J	C156 J	C156 J	C156 J	C156 J
158		737 J	7890 J	254000 J	39300 J	190 J
159		5.12 J	56 J	3990 J	336 J	8.56 J
160	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J
161		1.26 UJ	13.4 UJ	504 UJ	47.3 UJ	0.469 UJ
162		39.1 J	355 J	11100 J	1900 J	33.3 J
163	129 + 138 + 160 + 163	C129 J	C129 J	C129 J	C129 J	C129 J
164		145 J	2380 J	112000 J	14600 J	82.4 J
165		4.81 J	15.5 UJ	596 UJ	54.8 J	5.19 J
166	128 + 166	C128 J	C128 J	C128 J	C128 J	C128 J
167		270 J	4710 J	140000 J	21000 J	356 J
168	153 + 168	C153 J	C153 J	C153 J	C153 J	C153 J
169		3.18 UJ	15.1 UJ	607 UJ	28 UJ	4.39 UJ
170		994 J	7860 J	177000 J	36200 J	632 J
171	171 + 173	380 C J	1690 C J	42900 C J	8260 C J	122 C J
172		134 J	1000 J	22100 J	3960 J	119 J
173	171 + 173	C171 J	C171 J	C171 J	C171 J	C171 J
174		117 J	1340 J	73500 J	8130 J	157 J
175		29.6 J	154 J	4970 J	715 J	35.7 J
176		20.8 J	164 J	8700 J	829 J	22.5 J
177		293 J	1690 J	58800 J	8090 J	506 J
178		341 J	1080 J	14900 J	2760 J	255 J
179		180 J	609 J	14400 J	2080 J	86.7 J
180	180 + 193	2430 C J	17300 C J	248000 C J	59100 C J	3450 C J
181		23.3 J	228 J	6480 J	1070 J	14.6 J
182		10.7 J	47.5 J	1120 J	194 J	7.49 J
183	183 + 185	822 C J	3710 C J	72000 C J	15100 C J	598 C J
184		8.12 J	12.1 J	139 J-EMPC	36.6 J	3.23 J
185	183 + 185	C183 J	C183 J	C183 J	C183 J	C183 J
186		0.077 J-EMPC	0.946 J	46.6 J	5.53 J	0.158 UJ
187		1760 J	8810 J	100000 J	20900 J	3590 J
188		4.84 J	10.7 J	213 J	32.2 J	6.34 J
189		40.7 J	402 J	10100 J	1880 J	41.9 J
190		347 J	1390 J	29200 J	6200 J	252 J
191		50.5 J	299 J	7110 J	1240 J	45.4 J
192		0.053 UJ	0.342 UJ	48.5 UJ	1.28 UJ	0.169 UJ
193	180 + 193	C180 J	C180 J	C180 J	C180 J	C180 J
194		295 J	1860 J	17900 J	5150 J	341 J
195		175 J	648 J	6840 J	1800 J	157 J
196		173 J	812 J	8560 J	2070 J	197 J
197	197 + 200	32.1 C J	104 C J	2030 C J	315 C J	26.5 C J
198	198 + 199	288 C J	1980 C J	17500 C J	4200 C J	443 C J
199	198 + 199	C198 J	C198 J	C198 J	C198 J	C198 J
200	197 + 200	C197 J	C197 J	C197 J	C197 J	C197 J
201		55.5 J	183 J	2050 J-EMPC	448 J	70.1 J
202		233 J	582 J	3110 J	1290 J	134 J
203		415 J	997 J	10300 J	3080 J	273 J
204		0.668 J	1.21 J	55.9 J	3.13 J	0.449 J
205		23.5 J	64.5 J	923 J	237 J	16.9 J
206		179 J	546 J	5570 J	2020 J	111 J
207		31.6 J	88.1 J	702 J	247 J	27 J
208		45.3 J	168 J	1370 J	404 J	53 J
209		69.8 J	132 J	841 J	342 J	51.7 J
Total PCBs ² (pg/g)		54,800 J	1,190,000 J	26,500,000 J	2,480,000 J	40,800 J
Total PCBs² (ug/kg or ppb)		54.8 J	1,190 J	26,500 J	2,480 J	40.8 J

Notes:

All results are reported in units of pg/g (picograms/gram)

C = concentration represents coeluting congeners

J = The reported value is an estimate.

J-EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

PCBs = Polychlorinated Biphenyls

U = The analyte was not detected above the reported analyte specific detection limit.

pg/g = picograms per gram

ug/kg = micrograms per kilogram

1= When two or more congeners can not be resolved in the chromatogram they are considered to be 'coeluting' and are reported as a single concentration. This concentration is reported once for all the coeluting congeners, to eliminate possible errors during congener summation.

2=Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, UJ, or J-EMPC.

Table 6
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10965-1 through L10965-7
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected October/ November 2007

IUPAC #	COELUTING CONGENERS ¹	071027R01 L10965-1	071027R02 L10965-2	071027R03 L10965-3	071027R04 L10965-4	071027R05 L10965-5	071027R06 L10965-6	071115R07 L10965-7
1		50.7	257	2.64	4.88	1.42 J-EMPC	15.5 J-EMPC	1.63 U
2		149	612	4.99	9.99	2.43 J-EMPC	35.2	2.15 J-EMPC
3		7.52	330	6.57 J-EMPC	7.75	3.38 J-EMPC	23.2 J-EMPC	3.29 J-EMPC
4		6.49 U	5.78	7.12 U	6.84 U	25.4 J-EMPC	9.49 J-EMPC	4.96 U
5		4.36 U	6.32	4.9 U	5.03 U	3.65 U	5.69 U	3.2 U
6		6.85 J-EMPC	13.8	4.39 U	4.51 U	16.8	5.1 U	2.87 U
7		3.99 U	13.9	4.5 U	4.63 U	3.36 U	5.23 U	2.95 U
8		8.4	12.8 J-EMPC	6.67	7.82 J-EMPC	66.7	22.2	6.54 J-EMPC
9		3.93 U	10.7 J-EMPC	4.36 U	4.48 U	3.25 U	5.07 U	2.85 U
10		3.8 U	4.15	4.1 U	4.21 U	3.05 U	4.76 U	2.68 U
11		644	519	930	748	1070	438	339
12	12 + 13	22.6 EMPC	31.4 C	4.77 C U	4.9 C U	3.55 C U	5.54 C U	3.12 C U
13	12 + 13	C12	C12	C12	C12	C12	C12	C12
14		4.14 U	10.9	4.54 U	4.66 U	3.38 U	5.28 U	2.97 U
15		9.85	5.92 J-EMPC	5.64 U	6.03 U	17.8	6.46 U	3.54 U
16		8.46	9.14	11.3 J-EMPC	10.3 J-EMPC	113	40.5	10.8 J-EMPC
17		11.7 J-EMPC	11.5	15.3	10.9	297	80.3	18.4
18	18 + 30	25.4 C	23.8 C	33 C	25.8 C	458 C	158 C	39.1 C
19		3.24 J-EMPC	2.31	3.33 J-EMPC	2.16 J-EMPC	65.4	8.89 J-EMPC	2.44 J-EMPC
20	20 + 28	146 C	145 C	180 C	120 C	1760 C	740 C	219 C
21	21 + 33	28.9 C	24.4 C	29.5 C	22.1 EMPC	342 C	155 C	33.5 C
22		32.2	25.6	34	30.4	310	151	35.1
23		1.14 U	1.3 U	1.95 U	1.48 U	2.71 U	1.15 U	0.838 U
24		0.697 U	1.02 J-EMPC	0.913 U	1.11 J-EMPC	6.17 J-EMPC	3 J-EMPC	0.776 U
25		5.67 J-EMPC	5.17	6.1 J-EMPC	2 J-EMPC	119	30.4	6.87
26	26 + 29	15.9 C	14.8 C	18.3 C	12.5 C	305 C	92.4 C	23.4 EMPC
27		2.19 J-EMPC	2.2	2.56 J-EMPC	1.75 J-EMPC	75.8	11	2.62
28	20 + 28	C20	C20	C20	C20	C20	C20	C20
29	26 + 29	C26	C26	C26	C26	C26	C26	C26
30	18 + 30	C18	C18	C18	C18	C18	C18	C18
31		84.8	74.6	97.2	73.2	889	409	108
32		4	3.47 J-EMPC	3.04	2.75 J-EMPC	236	27.6	5.3
33	21 + 33	C21	C21	C21	C21	C21	C21	C21
34		1.14 U	1.3 U	1.92 U	1.45 U	10.5 J-EMPC	2.02 J-EMPC	0.823 U
35		1.16 U	1.32 U	2.12 U	1.61 U	2.94 U	1.26 U	0.911 U
36		1.12 U	1.28 U	1.87 U	1.42 U	2.6 U	1.11 U	0.804 U
37		17.1	13.6 J-EMPC	20.8 J-EMPC	16.9	127	49.4	15.4
38		1.18 U	1.35 U	2.04 U	1.54 U	2.82 U	1.2 U	0.874 U
39		1.16 U	1.32 U	1.98 U	1.5 U	9.71 J-EMPC	5.27	1.38 J-EMPC
40	40 + 41 + 71	62.8 C	50.9 C	55.9 C	36.2 C	1360 C	240 C	64.4 C
41	40 + 41 + 71	C40	C40	C40	C40	C40	C40	C40
42		48.5	37.9	48.6	31.1	727	180	58.6
43		8.55 J-EMPC	5.58 J-EMPC	9.93 J-EMPC	5.05	178	32.1 J-EMPC	12.6 J-EMPC
44	44 + 47 + 65	308 C	257 C	311 C	164 C	4190 C	771 C	377 C
45	45 + 51	16.8 C	14.8 C	15.4 C	10.7 C	358 C	59.4 C	17.9 C
46		3.54	3.38	3.45 J-EMPC	2.68 J-EMPC	60.4	12.9 J-EMPC	3.47
47	44 + 47 + 65	C44	C44	C44	C44	C44	C44	C44
48		38.3	32.1	1.11 U	21.7	503	178	0.662 U
49	49 + 69	228 C	191 C	233 C	128 C	3400 C	621 C	301 C
50	50 + 53	15.2 C	8.76 C	15.5 C	7.97 EMPC	295 C	45.4 C	12.8 C
51	45 + 51	C45	C45	C45	C45	C45	C45	C45
52		551	436	558	276	5400	978	575
53	50 + 53	C50	C50	C50	C50	C50	C50	C50
54		0.706 U	0.516 J-EMPC	0.758 U	0.78 U	13.9	0.814 U	0.492 U
55		8.47 J-EMPC	5.47 U	12 J-EMPC	9.48	148 J-EMPC	20.2	6.11 J-EMPC
56		80.9	52.7	74.1	52.1	920	87.1	64.2
57		6.38 U	5.39 U	4.45 U	5.1 U	26.7	8.61 U	2.29 U
58		7.01 U	5.92 U	4.65 U	5.34 U	19.4 U	9.01 U	2.39 U
59	59 + 62 + 75	27.5 C	23.9 C	30.4 C	15.3 C	392 C	83 C	34.6 C
60		135	129	146	73.8	1320	145	129
61	61 + 70 + 74 + 76	959 C	821 C	936 C	480 C	5610 C	1220 C	785 C
62	59 + 62 + 75	C59	C59	C59	C59	C59	C59	C59
63		29.7	32.3	31.6	16.9	277	49.7	36.3
64		148	121	159	90.7	2010	400	175
65	44 + 47 + 65	C44	C44	C44	C44	C44	C44	C44
66		593	602	626	324	5480	700	572
67		8.3 J-EMPC	6.77	9.76 J-EMPC	5.78	63.1	19.5	9.4
68		10.9 J-EMPC	11.2	7.68 J-EMPC	5.18 J-EMPC	45.4	11.6 J-EMPC	7.59
69	49 + 69	C49	C49	C49	C49	C49	C49	C49
70	61 + 70 + 74 + 76	C61	C61	C61	C61	C61	C61	C61
71	40 + 41 + 71	C40	C40	C40	C40	C40	C40	C40
72		10.8	10.6	11.9	4.66 U	77.7	13.5 J-EMPC	11
73		0.654 U	3.74 J-EMPC	0.817 U	0.762 U	0.667 U	0.796 U	7.72 J-EMPC
74	61 + 70 + 74 + 76	C61	C61	C61	C61	C61	C61	C61
75	59 + 62 + 75	C59	C59	C59	C59	C59	C59	C59
76	61 + 70 + 74 + 76	C61	C61	C61	C61	C61	C61	C61
77		47	35.8	43.5	25.4	195	38.1	30.1
78		6.83 U	5.77 U	4.69 U	5.38 U	19.5 U	9.08 U	2.41 U
79		13.7 J-EMPC	9.52 J-EMPC	10.3 J-EMPC	5.71 J-EMPC	28 J-EMPC	16.2	7.61
80		5.79 U	4.89 U	3.91 U	4.49 U	16.3 U	7.57 U	2.01 U
81		6.81 U	5.74 U	5.04 U	5.47 U	20.5 U	9.44 U	2.53 U
82		97.5	54.4 J-EMPC	68.9	42.4	323	112	59.7
83	83 + 99	1940 C	1680 C	1850 C	777 C	7520 C	1660 C	1760 C
84		196	108	161	77.6	621	147	126
85	85 + 116 + 117	568 C	486 C	539 C	232 C	2500 C	502 C	513 C
86	86 + 87 + 97 + 108 + 119 + 125	1150 C	771 C	1010 C	471 C	3760 C	1100 C	829 C
87	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
88	88 + 91	187 C	126 C	164 C	81.2 C	886 C	183 C	133 C
89		4.65 J-EMPC	3.78	3.51 J-EMPC	2.12 J-EMPC	50.1 J-EMPC	4.43 J-EMPC	1.71 U
90	90 + 101 + 113	2620 C	1900 C	2500 C	1010 C	8280 C	2160 C	1950 C
91	88 + 91	C88	C88	C88	C88	C88	C88	C88
92		505	410	513	200	1880	401	404
93	93 + 95 + 98 + 100 + 102	951 C	632 C	824 C	393 C	3440 C	835 C	653 C
94		3.71 J-EMPC	1.55 J-EMPC	2.81 J-EMPC	1.92 U	20.3	4.04 J-EMPC	1.99 J-EMPC
95	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
96		2.3 J-EMPC	2.4	3.81 J-EMPC	0.977 J-EMPC	48.9	6.41 J-EMPC	1.88 J-EMPC
97	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
98	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
99	83 + 99	C83	C83	C83	C83	C83	C83	C83
100	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
101	90 + 101 + 113	C90	C90	C90	C90	C90	C90	C90
102	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
103		16.5	11.7	17	8.46	85.6	15.8	11.6 J-EMPC
104		1.11 J-EMPC	0.535 U	0.697 U	0.454 U	2.87 J-EMPC	0.947 U	0.507 U
105		1150	1070	1110	498	4060	1160	1010
106		10 U	8.59 U	9.75 U	4.24 U	23.6 U	12 U	8.48 U
107	107 + 124	92.9 C	75.2 C	79.4 C	38.4 C	214 C	95.8 C	56.8 EMPC
108	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
109		311	286	268	127	802	251	262
110	110 + 115	2150 C	1480 C	1940 C	904 C	7350 C	1760 C	1500 C
111		4	6.03	5.32	1.75 J-EMPC	13	1.56 U	4.79 J-EMPC
112		1.52 U	0.97 U	1.82 U	1.29 U	4.44 U	1.51 U	1.21 U
113	90 + 101 + 113	C90	C90	C90	C90	C90	C90	C90
114		77	72.3	65.2	29.2	300	85.6 J-EMPC	68.4 J-EMPC
115	110 + 115	C110	C110	C110	C110	C110	C110	C110

Table 6
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L10965-1 through L10965-7
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected October/ November 2007

IUPAC #	COELUTING CONGENERS ¹	071027R01 L10965-1	071027R02 L10965-2	071027R03 L10965-3	071027R04 L10965-4	071027R05 L10965-5	071027R06 L10965-6	071115R07 L10965-7
116	85 + 116 + 117	C85	C85	C85	C85	C85	C85	C85
117	85 + 116 + 117	C85	C85	C85	C85	C85	C85	C85
118		3300	3050	3010	1330	10200	3140	3110
119	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
120		21.1	21.7 J-EMPC	21.4	10.3 J-EMPC	54.7	15.4	22.7
121		3.26	2.66	3.01 J-EMPC	1.35 J-EMPC	11.3	2.91	2.35
122		21.4 J-EMPC	9.49 U	14.8	4.86 U	27 U	22.8 J-EMPC	9.72 U
123		55.4	47.7	43.5 J-EMPC	24.8	184	47 J-EMPC	53.1
124	107 + 124	C107	C107	C107	C107	C107	C107	C107
125	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
126		11.2 U	11.6 J-EMPC	12.2 U	5.61	30.1 U	15.7 U	10.7 U
127		10.2 U	8.75 U	10.1 U	4.41 U	24.5 U	12.5 U	8.83 U
128	128 + 166	842 C	724 C	747 C	350 C	2030 C	713 C	704 C
129	129 + 138 + 160 + 163	5820 C	5250 C	5640 C	2430 C	14300 C	4680 C	5240 C
130		332	276	321	154	632	282	239
131		28.2	13.5	21	10.6 J-EMPC	32.6 J-EMPC	29.4	12.2 J-EMPC
132		646	381	529	282	1170	550	381
133		118	108	118	52.4	323	97.8	111
134	134 + 143	141 C	79.6 C	120 C	60.7 C	260 C	137 C	80.5 C
135	135 + 151 + 154	1210 C	993 C	1200 C	512 C	3100 C	913 C	904 C
136		187	134	181	75.4	610	147	131
137		174	147	125	68.9	573	178	166
138	129 + 138 + 160 + 163	C129	C129	C129	C129	C129	C129	C129
139	139 + 140	87.5 C	79.3 C	89.5 C	37.4 C	253 C	73.6 C	75.5 C
140	139 + 140	C139	C139	C139	C139	C139	C139	C139
141		324	255	275	153	1490	337	269
142		7.73 U	13 U	7.25 U	3.01 U	14.3 U	6.52 U	11.4 U
143	134 + 143	C134	C134	C134	C134	C134	C134	C134
144		110	81.5	109 J-EMPC	48.4	243	99.9	70.9
145		0.6 U	0.555 U	0.667 U	0.491 U	0.771 U	0.733 U	0.571 U
146		1020	939	978	429	2540	767	901
147	147 + 149	2400 C	1450 C	1920 C	1060 C	3250 C	1980 C	1400 C
148		11.6 J-EMPC	10 J-EMPC	11.2	4.22	36.6	7.79	7.82 J-EMPC
149	147 + 149	C147	C147	C147	C147	C147	C147	C147
150		6.01	3.99 J-EMPC	7.15 J-EMPC	3.76 J-EMPC	11.7 J-EMPC	5.88 J-EMPC	3.81
151	135 + 151 + 154	C135	C135	C135	C135	C135	C135	C135
152		1.45 J-EMPC	1.78 J-EMPC	1.01 J-EMPC	0.956	14.4	0.675 U	1.14
153	153 + 168	5530 C	5250 C	5040 C	2510 C	15500 C	4230 C	5710 C
154	135 + 151 + 154	C135	C135	C135	C135	C135	C135	C135
155		6.7	5.11	6.87	3.1 J-EMPC	16	3.02	5
156	156 + 157	468 C	402 C	378 C	194 C	1390 C	490 C	448 C
157	156 + 157	C156	C156	C156	C156	C156	C156	C156
158		439	393	435	188	1220	396	391
159		11.5	8.69 U	9.01	6.33	24	10.4	8.5
160	129 + 138 + 160 + 163	C129	C129	C129	C129	C129	C129	C129
161		5.38 U	9.04 U	5.18 U	2.15 U	10.2 U	4.66 U	8.16 U
162		22.7	23.6 J-EMPC	17.3 J-EMPC	8.3 J-EMPC	52.4	19.2 J-EMPC	18.3
163	129 + 138 + 160 + 163	C129	C129	C129	C129	C129	C129	C129
164		180	139	167	81.4	541	173	122
165		6.32 J-EMPC	10.2 U	5.85 U	2.75 J-EMPC	13.6	5.26 U	9.22 U
166	128 + 166	C128	C128	C128	C128	C128	C128	C128
167		193	169	157	84.3	536	181	168
168	153 + 168	C153	C153	C153	C153	C153	C153	C153
169		5.51 U	8.9 U	5.36 U	2.27 U	10.9 U	4.89 U	8.57 U
170		438	457	406	260	1950	398	498
171	171 + 173	238 C	242 C	249 C	122 C	766 C	208 C	241 C
172		84.6	94.6	79.8	57.7	376	83.6	93.3
173	171 + 173	C171	C171	C171	C171	C171	C171	C171
174		270	195	229	164	642	254	185
175		31.4	29.3	32.7	17.1 J-EMPC	71.8	28.3 J-EMPC	26.3
176		66.4	42	62.2	36	91	58.1	44.3
177		535	429	557	291	903	441	382
178		292	303	351	166	786	237	288
179		321	232	342	153	810	230	229
180	180 + 193	1220 C	1310 C	1120 C	806 C	5270 C	1040 C	1500 C
181		10.6 J-EMPC	10.3	8.97 J-EMPC	4.54	32.5	10.9	8.36 J-EMPC
182		7.69 J-EMPC	5.65 J-EMPC	8.57	5.13	24.4 J-EMPC	4.26	6.39 J-EMPC
183	183 + 185	559 C	573 C	567 C	297 C	1740 C	458 C	549 C
184		7.16	7.07	6.44	2.86 J-EMPC	19.4	3.98 J-EMPC	5.95 J-EMPC
185	183 + 185	C183	C183	C183	C183	C183	C183	C183
186		1.24 U	0.703 U	0.589 U	0.54 U	0.775 U	0.854 U	0.553 U
187		1840	1810	2040	1000	3850	1450	1690
188		5.67	4.91 J-EMPC	5.62	2.31 J-EMPC	11.9	3.35 J-EMPC	4.31 J-EMPC
189		16.5 J-EMPC	17.4	16.8 J-EMPC	13.3	67.7	19.5 J-EMPC	23.2 J-EMPC
190		179	192	185	103	570	144	201
191		22.3	26.4	21.2	16.7	81.1	24	25.9
192		1.29 U	0.732 U	0.626 U	0.574 U	0.824 U	0.908 U	0.588 U
193	180 + 193	C180	C180	C180	C180	C180	C180	C180
194		167	150	126	122	618	138	208
195		112	105	95.2	65.2	334	77	122
196		88.2	101	69.2	58.1	284	85.8 J-EMPC	106
197	197 + 200	34.6 C	28.2 C	28.5 C	20.5 C	71.2 C	27 C	32.3 C
198	198 + 199	279 C	258 C	222 C	192 C	702 C	210 C	261 C
199	198 + 199	C198	C198	C198	C198	C198	C198	C198
200	197 + 200	C197	C197	C197	C197	C197	C197	C197
201		51.2	46.2	46.9	27.9	109	40.2 J-EMPC	41.6
202		173	166	175	100	428	125	205
203		237	237	210	169 J-EMPC	596	191	284
204		1.64 U	0.578 U	0.64 U	0.872 J-EMPC	0.676 U	0.683 U	0.578 U
205		15.4	14.6 J-EMPC	14.5 J-EMPC	10.6 J-EMPC	37.9	11.7	16
206		103	95.6	72.8	66.6	240	76.4	136
207		19.6	16.8	13.3 J-EMPC	11.7 J-EMPC	38.8	12.8	24
208		43.9	36.1	31.5 J-EMPC	27.7	87.1	29.7	44.4
209		52.4	44	36.9	33.9	90.2	41.1 J-EMPC	72.3
Total PCBs ² (pg/g)		47,713	41,765	44,625	22,068	163,517	44,253	41,536
Total PCBs ² (ug/kg or ppb)		47.7	41.8	44.6	22.1	164	44.3	41.5

Notes:

All results are reported in units of pg/g (picograms/gram)

C = concentration represents coeluting congeners

J = The reported value is an estimate.

J-EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

PCBs = Polychlorinated Biphenyls

U = The analyte was not detected above the reported analyte specific detection limit.

pg/g = picograms per gram

ug/kg = micrograms per kilogram

1= When two or more congeners can not be resolved in the chromatogram they are considered to be 'coeluting' and are reported as a single concentration. This concentration is reported once for all the coeluting congeners, to eliminate possible errors during congener summation.

2=Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, UJ, or J-EMPC.

Table 7a
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L11390-1 through L11390-7
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected May 2008

IUPAC #	COELUTING CONGENERS ¹	080517R10 L11390-1	080517R11 L11390-2	080517R12 L11390-3	080517R13 L11390-4	080517R14 L11390-5	080521R15 L11390-6	080521R16 L11390-7
1		1.05	0.452 J-EMPC	0.43 J-EMPC	0.626	0.476 J-EMPC	0.403	0.566 J-EMPC
2		1.66	1.11	0.666	1.34	0.904	0.694	0.522
3		0.748	0.488	0.34 J-EMPC	0.617	0.342 J-EMPC	0.398 J-EMPC	0.391 J-EMPC
4		9.61	3.81	2.37	3.55	3.44	3.34	2.23
5		0.462	0.234 U	0.255 U	0.208	0.184 U	0.153 J-EMPC	0.261 U
6		5.37	1.99	1.02	2.12	1.76	1.73	1.68
7		1.04	0.466	0.236 U	0.561	0.436	0.421	0.339
8		22.7	10.4	4.91	9.98	7.37	8.61	6.55
9		1.84	0.652	0.294 J-EMPC	0.718	0.577	0.514	0.528
10		0.377 J-EMPC	0.217 U	0.238 U	0.141 U	0.163 U	0.125 U	0.231 U
11		342	377	173	320	223	206	75.5
12	12 + 13	0.177 C U	0.228 C U	0.25 C U	0.153 C U	0.178 C U	3.04 C J-EMPC	0.251 C U
13	12 + 13	C12	C12	C12	C12	C12	C12	C12
14		0.17 U	0.219 U	0.239 U	0.151 U	0.176 U	0.134 U	0.248 U
15		4.92	2.91	1.41	3.45	2.07	3.5	1.75
16		31	13.3	7.42	22.5	8.8	9.25	7.26
17		86	19.3	10.8	52.3	12.2	12.9	11.7
18	18 + 30	131 C	43.8 C	22 C	96 C	28 C	26 C	24.6 C
19		6.14	3.23	1.84	3.46	2.23	2.62	1.87
20	20 + 28	1020 C	215 C	150 C	666 C	128 C	173 C	186 C
21	21 + 33	152 C	42.8 C	30.2 C	125 C	22.7 C	29.2 C	34.9 C
22		212	51	30.9	115	27.2	39.3	36.4
23		0.775	0.197	0.172 J-EMPC	0.68	0.151	0.124 J-EMPC	0.149
24		2.68	0.691	0.405 J-EMPC	1.45	0.427 J-EMPC	0.427	0.399
25		37.9	7.91	5.36	18.3	3.44	7.01	23
26	26 + 29	110 C	23.6 C	16 C	80 C	12.6 C	18.7 C	47.1 C
27		6.74	2.85	1.85	6.12	2	1.87	1.64
28	20 + 28	C20	C20	C20	C20	C20	C20	C20
29	26 + 29	C26	C26	C26	C26	C26	C26	C26
30	18 + 30	C18	C18	C18	C18	C18	C18	C18
31		596	125	78.9	338	59.7	94.4	99.6
32		34.1	6.56	4.23	24.6	3.78	4.69	10.3
33	21 + 33	C21	C21	C21	C21	C21	C21	C21
34		1.8	0.507	0.497	1.44	0.326	0.501 J-EMPC	1.27
35		0.163 U	0.127 J-EMPC	0.0726 U	0.118 U	0.0499 U	0.048 U	0.0832 U
36		0.142 U	0.0498 U	0.0635 U	0.101 U	0.0484 U	0.048 U	0.0714 U
37		28.1	20	7	26.8	11.5	17.6	16.5
38		1.17	0.243 J-EMPC	0.247 J-EMPC	0.476	0.101 J-EMPC	0.154 J-EMPC	0.356 J-EMPC
39		7.43	1.95	1.45	6.04	0.998	1.49	2.02
40	40 + 41 + 71	220 C	66.9 C	62.2 C	225 C	30 C	54.2 C	126 C
41	40 + 41 + 71	C40	C40	C40	C40	C40	C40	C40
42		239	55	46.1	187	24.9	46	97.4
43		38.4	8.38	8.71	31.2	5.23	5.3	9.49
44	44 + 47 + 65	1090 C	271 C	260 C	824 C	182 C	270 C	781 C
45	45 + 51	58.4 C	15.8 C	13.2 C	49.1 C	8.2 C	12.8 C	22.8 C
46		9.01	3.98	2.53	10.8	1.93	3.65	5.61
47	44 + 47 + 65	C44	C44	C44	C44	C44	C44	C44
48		178	42.4	35	166	24.1	30.1	39.8
49	49 + 69	866 C	203 C	192 C	657 C	113 C	218 C	697 C
50	50 + 53	24.2 C	12.6 C	10 C	38.3 C	6.37 C	11.5 C	29.8 C
51	45 + 51	C45	C45	C45	C45	C45	C45	C45
52		1280	402	384	1140	304	438	1090
53	50 + 53	C50	C50	C50	C50	C50	C50	C50
54		0.37 J-EMPC	0.28	0.194	0.643	0.177	0.428	0.98
55		0.249 U	0.406 U	0.485 U	0.228 U	0.136 U	0.208 U	0.333 U
56		109	80.9	53.2	135	35	87.3	206
57		8.57	2.09	2.15	5.13	1.61	2.5	7.77
58		3.69	1.87	2.09	2.98	0.93	2.04	5.14
59	59 + 62 + 75	107 C	25.4 C	23.3 C	81 C	14.5 C	23.4 C	35.3 C
60		325	123	116	209	110	145	332
61	61 + 70 + 74 + 76	2130 C	848 C	756 C	1690 C	664 C	974 C	4660 C
62	59 + 62 + 75	C59	C59	C59	C59	C59	C59	C59
63		101	29.5	34	63.3	39.1	35.6	184
64		554	147	121	427	83.5	136	190
65	44 + 47 + 65	C44	C44	C44	C44	C44	C44	C44
66		1590	534	601	1040	670	679	3880
67		29.1	9.61	8.65	18.4	5.21	9.34	25.7
68		16.3	7.78	9.79	13.8	9.84	9.61	69.5
69	49 + 69	C49	C49	C49	C49	C49	C49	C49
70	61 + 70 + 74 + 76	C61	C61	C61	C61	C61	C61	C61
71	40 + 41 + 71	C40	C40	C40	C40	C40	C40	C40
72		22.7	8.21	8.94	18.2	7.29	12.8	55.4
73		0.0486 U	0.0495 U	0.0484 U	0.0492 U	0.0484 U	0.048 U	0.0491 U
74	61 + 70 + 74 + 76	C61	C61	C61	C61	C61	C61	C61
75	59 + 62 + 75	C59	C59	C59	C59	C59	C59	C59
76	61 + 70 + 74 + 76	C61	C61	C61	C61	C61	C61	C61
77		75.4	36.2	43.6	70.1	54.8	49.3	172
78		0.238 U	0.389 U	0.465 U	0.229 U	0.137 U	0.209 U	0.334 U
79		17.1	13.4	11.8	27	8.15	15.2	247
80		2.3	0.818	0.948	1.32	1	0.862	0.286 U
81		5.52	2.56	2.63	3.26	2.63	2.35	15.9
82		55.2	57	44.9	131	16.7	68.4	751
83	83 + 99	5090 C	1410 C	1530 C	2670 C	1730 C	1800 C	23200 C
84		122	120	93.5	279	47.6	144	511
85	85 + 116 + 117	1420 C	393 C	423 C	752 C	465 C	533 C	5890 C
86	86 + 87 + 97 + 108 + 119 + 125	1310 C G	758 C G	674 C G	1560 C G	441 C G	939 C G	10500 C
87	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
88	88 + 91	174 C	117 C	113 C	288 C	51.7 C	138 C	838 C
89		3.79	3.01	2.84	6.39	1.16	3.3	5.9
90	90 + 101 + 113	3510 C	1730 C	1670 C	3490 C	1180 C	2090 C	17900 C
91	88 + 91	C88	C88	C88	C88	C88	C88	C88
92		812	353	342	665	278	429	2210
93	93 + 95 + 98 + 100 + 102	979 C	563 C	552 C	1320 C	354 C	672 C	3370 C
94		2.17	1.84	1.87	4.3	0.492	1.63	3.4
95	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
96		4.25	1.79	1.8	6.05	1.2	2.02	4.83
97	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
98	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
99	83 + 99	C83	C83	C83	C83	C83	C83	C83
100	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
101	90 + 101 + 113	C90	C90	C90	C90	C90	C90	C90
102	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93	C93	C93
103		14.1	9.48	10.8	21.8	3.76	11	47.8
104		0.261 J-EMPC	0.163 J-EMPC	0.237	0.42	0.0808 U	0.22	0.223 J-EMPC
105		3500	940	1000	1910	1370	1310	23400
106		0.874 U	0.583 U	0.544 U	0.304 U	0.436 U	0.316 U	1.96 U
107	107 + 124	132 C	71 C	62.2 C	128 C	57.7 C	90 C	1540 C
108	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
109		677	223	285	408	373	308	6030
110	110 + 115	2460 C	1400 C	1230 C	2960 C	807 C	1770 C	10600 C
111		9.55	3.48	5.06	5.82	5.29	4.35	10.7
112		0.147 U	0.387 U	0.531 U	0.246 U	0.314 U	0.382 U	0.181 U
113	90 + 101 + 113	C90	C90	C90	C90	C90	C90	C90
114		272	59.9	80.2	123	145	87.2	2910
115	110 + 115	C110	C110	C110	C110	C110	C110	C110
116	85 + 116 + 117	C85	C85	C85	C85	C85	C85	C85

Table 7a
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L11390-1 through L11390-7
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected May 2008

IUPAC #	COELUTING CONGENERS ¹	080517R10 L11390-1	080517R11 L11390-2	080517R12 L11390-3	080517R13 L11390-4	080517R14 L11390-5	080521R15 L11390-6	080521R16 L11390-7
117	85 + 116 + 117	C85	C85	C85	C85	C85	C85	C85
118		11800	2580	3630	4850	6210	3740	98600
119	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
120		57.3	17	24.2	29.3	29.9	21.9	57.7
121		4.77	1.76	2.26	3.49	1.67	2.21	2.34
122		7.66	12.1	5.37	22.8	6.75	15.3	234
123		148	43	55.3	81.1	104	60.6	1830
124	107 + 124	C107	C107	C107	C107	C107	C107	C107
125	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86	C86	C86
126		25.9	6.03	9.55	12.6	14.3	9.45	74.6
127		0.9 U	0.6 U	0.561 U	0.326 U	0.469 U	0.339 U	2.1 U
128	128 + 166	2400 C	545 C	551 C	1060 C	702 C	720 C	7850 C
129	129 + 138 + 160 + 163	15500 C	4390 C	5020 C	7510 C	6520 C	5160 C	66800 C
130		405	265	246	459	225	298	3900
131		13.7	17.9	11.3	36.5	4.6	20.5	261
132		378	406	324	922	167	532	3600
133		280	87.2	105	163	134	105	804
134	134 + 143	84.4 C	80 C	65.9 C	176 C	36.7 C	94.8 C	718 C
135	135 + 151 + 154	1690 C	834 C	814 C	1590 C	648 C	936 C	2980 C
136		178	119	116	274	74.2	140	558
137		720	104	151	245	275	164	8560
138	129 + 138 + 160 + 163	C129	C129	C129	C129	C129	C129	C129
139	139 + 140	258 C	59.3 C	62.5 C	123 C	70.5 C	73.9 C	771 C
140	139 + 140	C139	C139	C139	C139	C139	C139	C139
141		660	191	225	432	182	244	3540
142		0.798 U	0.703 U	0.731 U	0.625 U	0.628 U	0.484 U	2.21 U
143	134 + 143	C134	C134	C134	C134	C134	C134	C134
144		98.1	73.8	65.3	153	40.2	83.9	755
145		0.0486 U	0.296 J-EMPC	0.235 J-EMPC	0.737	0.0484 U	0.283 J-EMPC	1.08
146		2380	811	1080	1420	1550	924	11400
147	147 + 149	1340 C	1470 C	1250 C	3160 C	640 C	1720 C	13000 C
148		12.3	7.27	8.56	13.9	4.53	7.54	12.8
149	147 + 149	C147	C147	C147	C147	C147	C147	C147
150		2.54	3.48	4.18	7.6	1.22	3.59	11.4
151	135 + 151 + 154	C135	C135	C135	C135	C135	C135	C135
152		3.06	1.08	1.18	2.32	0.993	1.28	4.3
153	153 + 168	18200 C	4080 C	5650 C	7260 C	9040 C	5090 C	69500 C
154	135 + 151 + 154	C135	C135	C135	C135	C135	C135	C135
155		15.2	4.36	4.97	7.66	6.33	4.8	3.55
156	156 + 157	1890 C	290 C	430 C	638 C	882 C	447 C	20000 C
157	156 + 157	C156	C156	C156	C156	C156	C156	C156
158		1420	328	302	616	402	406	4520
159		14.1	10.9	10.6	19	7.57	11.4	71.6
160	129 + 138 + 160 + 163	C129	C129	C129	C129	C129	C129	C129
161		0.574 U	0.506 U	0.525 U	0.44 U	0.442 U	0.341 U	1.55 U
162		77.3	14.6	21	28.7	35.3	19	442
163	129 + 138 + 160 + 163	C129	C129	C129	C129	C129	C129	C129
164		228	115	130	232	97.1	145	2010
165		11.3	3.51	5.19	6.6	5.19	4.18	12.9
166	128 + 166	C128	C128	C128	C128	C128	C128	C128
167		571	117	211	242	380	180	6540
168	153 + 168	C153	C153	C153	C153	C153	C153	C153
169		8.12 U	1.3 U	1.86 U	2.79 U	3.07 U	1.54 U	6.62 U
170		2180	370	459	693	831	480	7510
171	171 + 173	966 C	214 C	201 C	380 C	305 C	246 C	1020 C
172		305	75.7	86.3	138	114	86.5	869
173	171 + 173	C171	C171	C171	C171	C171	C171	C171
174		231	198	194	375	121	212	1480
175		58.6	25.8	27.6	46.7	28.3	27.7	142
176		40.1	48.5	34.3	97.9	19	54.9	134
177		633	496	437	829	417	512	2030
178		848	275	283	470	338	307	584
179		411	250	215	478	154	264	271
180	180 + 193	6100 C	1060 C	1550 C	1900 C	3000 C	1300 C	15600 C
181		45.2	6.76	9.23	12.9	15.7	9.11	258
182		20.5	4.59	6.47	8.23	6.95	5.64	27.5
183	183 + 185	2010 C	483 C	547 C	857 C	759 C	542 C	2520 C
184		21.4	4.25	5.8	8.47	7.07	5	4.75
185	183 + 185	C183	C183	C183	C183	C183	C183	C183
186		0.0631 U	0.0495 U	0.0484 U	0.063 U	0.0484 U	0.0597 U	0.0594 U
187		3880	1680	2180	2730	2640	1750	6820
188		9.74	4.19	5.68	7.24	6.31	4.57	10.8
189		102	14.7	21.7	31.3	44.4	19.7	532
190		912	169	198	292	411	209	1520
191		121	20.1	27.2	36	48.3	25.3	308
192		0.0715 U	0.0495 U	0.0484 U	0.072 U	0.05 U	0.0682 U	0.0679 U
193	180 + 193	C180	C180	C180	C180	C180	C180	C180
194		661	133	153	244	344	163	1150
195		510	97	97.8	177	219	105	385
196		424	78.2	101	148	189	93.1	478
197	197 + 200	85.6 C	27 C	25 C	52 C	31.1 C	27 C	57.7 C
198	198 + 199	582 C	228 C	241 C	420 C	348 C	263 C	1020 C
199	198 + 199	C198	C198	C198	C198	C198	C198	C198
200	197 + 200	C197	C197	C197	C197	C197	C197	C197
201		127	42.6	53.9	87.4	71	46.1	113
202		485	143	121	265	186	161	191
203		1170	221	229	367	443	255	621
204		1.66	0.365	0.472	0.738	0.657	0.459	0.633
205		58.1	12.5	12.2	23.1	23.2	13.7	43.2
206		357	86.2	77	137	131	96.9	245
207		75.1	14.6	17.6	25.7	31.7	16.4	45.4
208		90.6	37.3	32.8	60.2	44.9	37.9	71.8
209		153	45.7	41.5	67.6	65	38.1	65.6
Total PCBs ² (pg/g)		117,051	35,797	39,767	69,053	50,191	43,101	498,856
Total PCBs ² (ug/kg or ppb)		117	35.8	39.8	69.1	50.2	43.1	499

Notes:

All results are reported in units of pg/g (picograms/gram)

C = concentration represents coeluting congeners

J = The reported value is an estimate.

J-EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

PCBs = Polychlorinated Biphenyls

U = The analyte was not detected above the reported analyte specific detection limit.

pg/g = picograms per gram

ug/kg = micrograms per kilogram

1= When two or more congeners can not be resolved in the chromatogram they are considered to be 'coeluting' and are reported as a single concentration. This concentration is reported once for all the coeluting congeners, to eliminate possible errors during congener

2=Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, JJ, or J-EMPC.

Table 7b
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L11390-8 through L11390-12
Bradford Island - Remedial Investigation
Smallmouth Bass Collected May 2008

IUPAC #	COELUTING CONGENERS ¹	080521R17 L11390-8	080521R18 L11390-9	080521R19 L11390-10	080521R20 L11390-11	080521R21 L11390-12
1		0.444	0.471	0.655 J-EMPC	0.661 J-EMPC	0.345
2		0.89	0.582 J-EMPC	0.715	0.89	0.397
3		0.513	0.43 J-EMPC	0.58	0.534	0.489
4		3.63	3.48	4.84	3.9	2.68
5		0.191	0.366 U	0.213 U	0.511 U	0.34 U
6		1.75	1.88	3.08	1.64	1.56
7		0.406	0.335	0.633	0.448 U	0.35
8		8.9	7.56	11.5	8.04	8.52
9		0.611	0.476	0.689	0.44 U	0.451
10		0.141	0.307 U	0.179 U	0.427 U	0.284 U
11		475	117	416	298	117
12	12 + 13	0.156 C U	0.358 C U	0.209 C U	0.499 C U	0.332 C U
13	12 + 13	C12	C12	C12	C12	C12
14		0.148 U	0.339 U	0.198 U	0.473 U	0.315 U
15		3.19	1.9	4.86	3.21	2.39
16		11.4	9.53	12.8	12.5	10
17		15.7	13.8	18.7	16.3	14.2
18	18 + 30	34.6 C	30.1 C	40.3 C	35.9 C	29.1 C
19		2.88	2.37	3.26	2.76	2.44
20	20 + 28	175 C	169 C	193 C	164 C	139 C
21	21 + 33	36.8 C	34.4 C	43.2 C	35 C	30.2 C
22		42.8	33.8	46.5	38.9	32.7
23		0.148	0.214	0.172 U	0.18 U	0.145 U
24		0.594 J-EMPC	0.409 J-EMPC	0.688	0.138 U	0.662 J-EMPC
25		9.4	7.34	9.7	6.17	6.02
26	26 + 29	22.3 C	19.3 C	23.3 C	18.4 C	16.2 C
27		2.76	2.43	3.03	3.11	2.31
28	20 + 28	C20	C20	C20	C20	C20
29	26 + 29	C26	C26	C26	C26	C26
30	18 + 30	C18	C18	C18	C18	C18
31		101	82.5	110	84.5	81.7
32		4.44	4.63	6.09	3.91	5.54
33	21 + 33	C21	C21	C21	C21	C21
34		0.566	0.729	0.627	0.555 J-EMPC	0.353 J-EMPC
35		0.107 U	0.203 U	0.203 U	0.213 U	0.172 U
36		0.0919 U	0.176 U	0.175 U	0.184 U	0.148 U
37		18.8	10	21	13.4	14
38		0.261 J-EMPC	0.18 U	0.251 J-EMPC	0.188 U	0.152 U
39		1.68	1.51	2.03	1.75	0.15 U
40	40 + 41 + 71	68.7 C	60 C	90.6 C	61.2 C	65.1 C
41	40 + 41 + 71	C40	C40	C40	C40	C40
42		57.1	53.5	74.7	58	47.3
43		8.9	10.9	12.8	10.7	7.92
44	44 + 47 + 65	326 C	350 C	432 C	327 C	300 C
45	45 + 51	15.4 C	9.12 C J-EMPC	21.3 C	13 C	15.2 C
46		4.01	2.93	4.92	3.37	3.51
47	44 + 47 + 65	C44	C44	C44	C44	C44
48		38.1	39.8	53.4	44.5	32.9
49	49 + 69	259 C	278 C	342 C	219 C	248 C
50	50 + 53	14.7 C	12.3 C	19.8 C	12.6 C	13.2 C
51	45 + 51	C45	C45	C45	C45	C45
52		495	544	658	520	487
53	50 + 53	C50	C50	C50	C50	C50
54		0.318	0.298	0.425 J-EMPC	0.207	0.376
55		0.204 U	0.393 U	0.393 U	0.389 U	0.326 U
56		112	73.3	128	74.8	88.8
57		2.59	2.6	3.15	2.12	2.88
58		3.12	2.38	3.12	2.27	2.53
59	59 + 62 + 75	28.2 C	31.7 C	38.4 C	30 C	26 C
60		143	193	212	152	142
61	61 + 70 + 74 + 76	992 C	1120 C	1390 C	905 C	1010 C
62	59 + 62 + 75	C59	C59	C59	C59	C59
63		32.7	47.2	48.6	35.8	36.1
64		151	158	204	156	146
65	44 + 47 + 65	C44	C44	C44	C44	C44
66		642	942	907	686	638
67		10.6	9.5	15.6	8.27	10.7
68		10.9	10.8	13.4	8.27	10.5
69	49 + 69	C49	C49	C49	C49	C49
70	61 + 70 + 74 + 76	C61	C61	C61	C61	C61
71	40 + 41 + 71	C40	C40	C40	C40	C40
72		13.8	13.9	17.5	10.4	13.2
73		0.0526 U	0.0707 U	0.076 U	0.111 U	0.0875 U
74	61 + 70 + 74 + 76	C61	C61	C61	C61	C61
75	59 + 62 + 75	C59	C59	C59	C59	C59
76	61 + 70 + 74 + 76	C61	C61	C61	C61	C61
77		53.7	59.7	70.1	52.8	49.7
78		0.208 U	0.401 U	0.401 U	0.396 U	0.333 U
79		22	19.3	29.7	21.7	21.5
80		0.177 U	0.341 U	0.341 U	0.337 U	1.19
81		3.4	4.06	3.76	2.02	3.11
82		86.3	79.6	125	58.9	93.5
83	83 + 99	1780 C	2600 C	3010 C	1980 C	2330 C
84		149	126	240	125	177
85	85 + 116 + 117	554 C	829 C	902 C	632 C	654 C
86	86 + 87 + 97 + 108 + 119 + 125	1100 C G	1170 C	1730 C G	1050 C	1370 C
87	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86
88	88 + 91	155 C	137 C	253 C	131 C	196 C
89		3.32	3.75	5.15	2.88	4.12
90	90 + 101 + 113	2320 C	2470 C	3810 C	2280 C	2800 C
91	88 + 91	C88	C88	C88	C88	C88
92		448	523	751	471	586
93	93 + 95 + 98 + 100 + 102	702 C	733 C	1150 C	694 C	848 C
94		2.08	1.47	3.51	1.31	2.9
95	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93
96		2.3	2.37	3.37	2.24	2.62 J-EMPC
97	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86
98	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93
99	83 + 99	C83	C83	C83	C83	C83
100	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93
101	90 + 101 + 113	C90	C90	C90	C90	C90
102	93 + 95 + 98 + 100 + 102	C93	C93	C93	C93	C93
103		12.7	12.1	22.1	10.1	16.8
104		0.231	0.23	0.408 J-EMPC	0.245 U	0.343 J-EMPC
105		1320	2000	2090	1440	1680
106		0.536 U	1.18 U	0.686 U	0.786 U	0.548 U
107	107 + 124	91.4 C	90.9 C	141 C	81.9 C	118 C
108	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86
109		290	443	522	362	382
110	110 + 115	1960 C	2040 C	2910 C	1890 C	2320 C
111		4.28	6.68 J-EMPC	8.35	4	5.35
112		0.561 U	0.801 U	0.217 U	0.366 U	0.439 U
113	90 + 101 + 113	C90	C90	C90	C90	C90
114		82.6	132	137	97.1	106
115	110 + 115	C110	C110	C110	C110	C110

Table 7b
Smallmouth Bass PCB Congener Analysis Results
Lab Sample ID's L11390-8 through L11390-12
 Bradford Island - Remedial Investigation
 Smallmouth Bass Collected May 2008

IUPAC #	COELUTING CONGENERS ¹	080521R17 L11390-8	080521R18 L11390-9	080521R19 L11390-10	080521R20 L11390-11	080521R21 L11390-12
116	85 + 116 + 117	C85	C85	C85	C85	C85
117	85 + 116 + 117	C85	C85	C85	C85	C85
118		3650	5970	5350	4780	4460
119	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86
120		22	32.8	37.4	28.1	27
121		2.3	2.98	4.51	2.56	2.73
122		19.8	10.3	28.4	9.82	20.6
123		64.8	84	80.2	76.1	69.1
124	107 + 124	C107	C107	C107	C107	C107
125	86 + 87 + 97 + 108 + 119 + 125	C86	C86	C86	C86	C86
126		9.01	13.4	12.9	10.7	8.65
127		0.575 U	1.27 U	0.735 U	0.843 U	0.587 U
128	128 + 166	727 C	1120 C	1250 C	849 C	912 C
129	129 + 138 + 160 + 163	5450 C	7870 C	9990 C	6720 C	6760 C
130		292	296	570	303	407
131		19.5	15	38.7	14.7	27.5
132		476	394	867	411	640
133		92.1	145	194	128	131
134	134 + 143	87.3 C	80.1 C	176 C	85.1 C	117 C
135	135 + 151 + 154	914 C	1070 C	1870 C	1110 C	1270 C
136		133	137	254	151	197
137		171	299	271	203	218
138	129 + 138 + 160 + 163	C129	C129	C129	C129	C129
139	139 + 140	68.1 C	108 C	136 C	87 C	96.9 C
140	139 + 140	C139	C139	C139	C139	C139
141		288	420	484	313	351
142		0.792 U	0.955 U	1.19 U	1.32 U	0.984 U
143	134 + 143	C134	C134	C134	C134	C134
144		84.1	83.6	174	85.6	123
145		0.379	0.206	0.571 J-EMPC	0.405 J-EMPC	0.443 J-EMPC
146		899	1320	1790	1210	1230
147	147 + 149	1610 C	1310 C	3260 C	1440 C	2140 C
148		7.57	8.46	17.6	8	11.2
149	147 + 149	C147	C147	C147	C147	C147
150		3.71	2.87	9.05	3.21	5.99
151	135 + 151 + 154	C135	C135	C135	C135	C135
152		1.24	1.5	2.29	1.57	1.75 J-EMPC
153	153 + 168	4850 C	8170 C	9180 C	7410 C	5650 C
154	135 + 151 + 154	C135	C135	C135	C135	C135
155		4.6	7.9	10.2	7.21	6.63
156	156 + 157	420 C	786 C	714 C	557 C	544 C
157	156 + 157	C156	C156	C156	C156	C156
158		412	606	798	490	557
159		14.3	13.3	25.2	14.1 J-EMPC	15.4
160	129 + 138 + 160 + 163	C129	C129	C129	C129	C129
161		0.555 U	0.67 U	0.836 U	0.928 U	0.69 U
162		20	36	38.6	27.9	23.5
163	129 + 138 + 160 + 163	C129	C129	C129	C129	C129
164		143	169	228	167	185
165		3.83	6.28	8.53	4.82	4.99 J-EMPC
166	128 + 166	C128	C128	C128	C128	C128
167		175	286	242	276	198
168	153 + 168	C153	C153	C153	C153	C153
169		2.16 U	4.82 U	5.96 U	3.56 U	2.1 U
170		491	866	887	636	522
171	171 + 173	245 C	389 C	548 C	345 C	311 C
172		98	159	193	115	101
173	171 + 173	C171	C171	C171	C171	C171
174		242	220	447	235	270
175		29.3	36	71.5	37.1	39.4
176		50.4	37.4	124	45.7	76.9
177		503	462	1220	550	675
178		291	422	683	419	384
179		244	243	549	315	348
180	180 + 193	1380 C	2670 C	2870 C	2110 C	1460 C
181		10	16.8	18.8	14.4	12
182		7.89	13.4	15.8	10.7	9.23
183	183 + 185	583 C	904 C	1290 C	843 C	700 C
184		4.51	8.34	10.9	8.55	6.7
185	183 + 185	C183	C183	C183	C183	C183
186		0.0919 U	0.126 U	0.158 U	0.187 U	0.175 U
187		1800	2510	4090	2650	2330
188		4.36	6.67	10.1	6.91	6.04
189		20.9	38.6	37.5	29.5	20.5
190		217	381	431	345	243
191		28.4	52	59.5	42.3	31.9
192		0.119 U	0.163 U	0.205 U	0.242 U	0.226 U
193	180 + 193	C180	C180	C180	C180	C180
194		157	285	289	204	134
195		91.8	172	195	146	97.2
196		97.1	187	193	147	96.2
197	197 + 200	28.7 C	39.2 C	64.3 C	35.1 C	35.1 C
198	198 + 199	277 C	465 C	532 C	315 C	248 C
199	198 + 199	C198	C198	C198	C198	C198
200	197 + 200	C197	C197	C197	C197	C197
201		43.6	66.9	110	67.6	55.1
202		144	232	348	198	166
203		252	468	506	364	234
204		0.427	1.06	0.932 J-EMPC	0.54	0.491 J-EMPC
205		13.8	22.9	28.6	19.2	13.4
206		94.4	185	171	107	70.8
207		14.9	34.4	30.8	23.3	15.2
208		37	65.3	73	38.9	31
209		43.1	67.2	77.6	52.2	31.7
	Total PCBs ² (pg/g)	44,200	60,600	77,900	52,900	52,800
	Total PCBs² (ug/kg or ppb)	44.2	60.6	77.9	52.9	52.8

Notes:

All results are reported in units of pg/g (picograms/gram)

C = concentration represents coeluting congeners

J = The reported value is an estimate.

J-EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

PCBs = Polychlorinated Biphenyls

U = The analyte was not detected above the reported analyte specific detection limit.

pg/g = picograms per gram

ug/kg = micrograms per kilogram

1= When two or more congeners can not be resolved in the chromatogram they are considered to be 'coeluting' and are reported as a single concentration.

This concentration is reported once for all the coeluting congeners, to eliminate possible errors during congener summation.

2=Total PCBs are calculated by summing all 209 congeners, excluding results flagged as U, UJ, or J-EMPC.

RIVER OPERABLE UNIT REMEDIAL INVESTIGATION REPORT

QUALITY CONTROL SUMMARY REPORT FOR ANALYTICAL CHEMISTRY

REFERENCE AREA SMALLMOUTH BASS COLLECTED MAY 2008
AND AROCLORS FOR FOREBAY AND REFERENCE AREA SMALLMOUTH BASS
COLLECTED FROM JUNE 2006 TO NOVEMBER 2007

OCTOBER 2008

Prepared by:

URS

111 S.W. Columbia, Suite 1500
Portland, Oregon 97201-5850

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1
2.0 PROJECT DESCRIPTION..... 1
3.0 SAMPLING AND ANALYTICAL PROCEDURES..... 1
4.0 DATA VALIDATION 2
 4.1 Chain-of-Custody, Sample Preservation and Holding Time..... 4
 4.2 Instrument Calibration..... 5
 4.3 Review of Blanks 6
 4.4 Surrogate Recovery Review (non-congener analyses only)..... 7
 4.5 Labeled Internal Standard Recovery Review (congener analysis only) 7
 4.6 Laboratory Control Samples and Matrix Spike/Matrix Spike Duplicate Review 8
 4.7 Duplicate Review 9
 4.8 Compound Quantification..... 9
 4.9 Target Compound Identification 11
 4.10 Reporting Limits..... 11
5.0 COMPLETENESS 12
6.0 REFERENCES 13

TABLES

Table 1 Sample Identification and Analysis Summary..... Following Report
Table 2 Non-congener Qualifier Summary..... Following Report
Table 3 Congener Qualifier Summary Following Report

1.0 Executive Summary

The overall assessment of the smallmouth bass sample results shows the quality of the data is acceptable to support project objectives. The contracted laboratory provided results for all requested analyses and laboratory data reports were complete. Some data were qualified as estimated and flagged 'J' or 'J-EMPC'. Some data were qualified as not detected and flagged 'U'. All data qualifiers resulting from this review have been added to both the project database and the data tables within the main body of this report. Refer to Section 4.0 of this report for a listing of qualifier definitions. The end user should be aware of the potential low bias of the mercury and Aroclor results due to hold time exceedances (as discussed in Section 4.1). Additionally, the identification and quantification of individual Aroclors may be subjective due to pattern degradation within the sample matrix (see Section 4.8).

2.0 Project Description

A total of 38 smallmouth bass were collected from both the forebay and reference area from June 2006 through May 2008 in support of the Bradford Island Bonneville Lock and Dam Project, River Operable Unit Remedial Investigation. These bass were submitted for chemical analysis in three separate groups, based on collection date. Table 1 summarizes the URS and analytical laboratory identification numbers, capture date, length, weight, and requested analyses for each smallmouth bass collected within these three groups.

The most recent smallmouth bass sample collection was conducted between May 17 and May 21, 2008. Twelve smallmouth bass were captured from the project defined reference area under the supervision of the United States Army Corp of Engineers (USACE), and stored at a USACE storage facility frozen. URS retrieved these twelve smallmouth bass from the USACE storage facility near Bonneville Dam on June 16, 2008 and submitted them for analysis (as described below).

Additionally, the twenty-six previously analyzed smallmouth bass from the forebay and reference area were authorized for PCB Aroclor analysis. Previous analytical results for these bass are reported in the *Forebay Fish Analyses and Summary Report*, March 10, 2008 and the *Reference Area Smallmouth Bass Collected October/November 2007 Analysis and Summary*, July 29, 2008 (URS 2008a and URS 2008c). Table 1 summarizes analytes previously analyzed and reported. Only the most recent Aroclor analytical results are included in this report.

3.0 Sampling and Analytical Procedures

Samples were analyzed according to the Bradford Island Bonneville Lock and Dam Project, River Operable Unit Remedial Investigation Quality Assurance Project Plan (QAPP) (URS 2007). The twelve reference area bass collected in May 2008 were submitted to Columbia Analytical Services (CAS) located in Kelso, Washington on June 17, 2008 for homogenization and analysis. Whole-body fish samples were homogenized using an industrial blender, then

stored frozen by CAS. An aliquot of the homogenized tissue was sent to Axys Analytical Services Ltd. (Axys) to perform the PCB congener analysis by EPA Method 1668A, *Chlorinated Biphenyl Congeners in Water, Soil, Sediment and Tissue by High Resolution Gas Chromatography/High Resolution Mass Spectrometry*. The Axys analytical data report includes a listing of the Axys Method 1668A modifications.

The twenty-six smallmouth bass previously submitted to CAS in two separate shipments were received on September 21, 2007 and February 12, 2008. Whole-body fish were homogenized using an industrial blender and then archived frozen by CAS.

The following table lists the parameters analyzed for one or more of the samples. Table 1 summarizes the specific requested analyses for each sample by URS and laboratory identification numbers. (Note: Semi-Volatile Organic Compounds (SVOCs) and Polycyclic Aromatic Hydrocarbons (PAHs) were both performed using Selective Ion Monitoring (SIM), but analyzed separately for tissue matrices and as such, discussed separately in this report).

Method	Analytical Parameter
EPA 8082M	Polychlorinated Biphenyls (PCBs) as Aroclors
EPA 1668A	PCBs as congeners
EPA 6000/7000 series	Metals
EPA 8270C-SIM	Semi-Volatile Organic Compounds (SVOCs)
EPA 8270C-SIM	Polycyclic Aromatic Hydrocarbons (PAHs)
Puget Sound Estuary Program (PSEP 1996)	Percent Lipids
Freeze Dry	Percent Solids

4.0 Data Validation

Analyses were performed in general accordance with the above-referenced methods. The analytical results for all samples were subjected to a quality assurance/quality control (QA/QC) review. This QA/QC review includes evaluation of representativeness (sample collection/handling), accuracy (spike and/or standard recoveries), analytical precision (duplicate relative percent difference), comparability (use of standard methods) and completeness (percent of usable data). Specifically, the following items were reviewed when appropriate: compliance with the QAPP, chain of custody (COC), laboratory case narrative, proper sample preservation and handling procedures, holding times, quantitation limits, field/method/trip blank analyses, matrix/matrix spike duplicate recoveries, laboratory duplicate results, field duplicate results, blank spike recoveries (laboratory control samples), data completeness and format, data qualifiers assigned by the laboratory, and analyte identification. The following items were reviewed for 15% or greater of the data: primary and secondary column verification, initial and continuing instrument calibrations and a verification of the reported electronic data with the hard copy deliverable.

The data review process for this investigation followed the QAPP. Additionally, because the QAPP-referenced *Department of Defense Quality Systems Manual* does not discuss PCB congeners, the data review process utilized guidance from EPA's *Contract Laboratory Program National Functional Guidelines (EPA NFGs) for Chlorinated Dibenzop-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review* (USEPA 2005) and *EPA Region 10 Standard Operating Procedure (SOP) for the Validation of Method 1668 Toxic, Dioxin-like, PCB Data* (USEPA 1995) as appropriate for method performed. In the case of disagreement between the guidance documents and the analytical method, method criteria were utilized for data review. The SVOC and metals results were reviewed in accordance with the criteria contained in the DoD QSM (DoD 2006), the above listed methods, and EPA's *NFGs for Organic Data Review* (USEPA 1999), and the *NFGs for Inorganic Data Review* (USEPA 2004), in that order of precedence. Project-specific QC criteria are listed in the above mentioned QAPP.

A summary of qualifiers assigned to results in this investigation is included in Table 2 and Table 3. Samples are listed by their URS sample identification assigned in the field as well as the laboratory identification. CAS was requested to report analytical results above the method detection limit (MDL) but below the method reporting limit (MRL). These results were flagged 'J' by CAS and are not included in Table 2. These 'J' qualifiers are included in the database and are included in the data tables included in the main body of this report. Congeners are reported using sample-specific detection limits. Qualifiers that may be assigned to the results of this investigation include the following:

- U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J-EMPC – The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration of the analyte in the sample - used only for PCB congener results.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
- DNR - Do Not Report. Another value is available that is more reliable or appropriate.

Final sample results and qualifiers are presented in the analytical tables provided in the sampling report.

Note: Data package K0805513, provided from CAS, has an addendum reporting the corrected dry weight concentrations for sample K0805513-015. Data package K0805409, also from CAS, has an addendum containing the missing COC form. Data package DPW26477, from Axys, has an addendum containing a corrected case narrative. Each of these addendums are attached to the final data reports and the corrections if applicable have been made to the database and the data tables within the body of this report.

4.1 Chain-of-Custody, Sample Preservation and Holding Time

Non-congener Results

Twenty-six archived bass were submitted as whole fish samples to CAS on September 21, 2007 and February 12, 2008. CAS stored all tissues samples frozen at -20°C until homogenization and analysis. As reported previously, the chain-of-custody (COC) forms indicate that samples were maintained under proper chain-of-custody and forms were signed upon release and receipt. All coolers were submitted at temperatures within the EPA-recommended temperature of 6°C or below.

URS submitted twelve additional whole fish tissue samples to CAS on June 17, 2008. CAS stored all tissue samples frozen at -20°C until homogenization and analysis. The COC forms indicate that samples were maintained under proper chain-of-custody and forms were signed upon release and receipt. The COC form for sample delivery group K0805409 indicated Ti (titanium) instead of TI (thallium), this was corrected and thallium was analyzed. PAHs were not specifically indicated on the COC for sample delivery group K0805409, as noted previously PAHs and SVOCs are analyzed separately only for tissue matrices; for project consistency both PAHs and SVOCs are represented as SVOCs on all project COC forms. Additionally, Aroclors were requested via email after the initial submission of the COC and therefore are not indicated on the COC form. All requested analyses (either on the COC or via email) were reported in sample delivery group K0805409.

All coolers were submitted at temperatures within the EPA-recommended temperature range of 6°C or below with the exception of one color temperature reading of 6.6°C. However, the temperature blanks within the cooler were between 0.5°C and 1.1°C therefore no data qualification was necessary. Data were not qualified based on sample receipt or COC forms.

All samples were analyzed within technical and contracted holding times with the following exceptions:

- Forebay bass collected June 5 and 6, 2006 and August 15 and 16, 2006 exceeded the 1 year holding time for PCB Aroclors (as specified in the QAPP), by 14 months and 12 months, respectively. As a result, all forebay smallmouth bass results have been qualified as estimated and flagged 'J/UJ' due to holding time exceedances (Table 2). It

should be noted that these results may be biased low due to sample degradation. (*Note: The date of sample collection is incorrectly reported in the data package (K0805513) as June 5 and August 16, 2007 and it should be June 5 and August 16, 2006.*)

- The 28-day hold time for mercury was exceeded for samples K0805409-001 through K0805409-005 by 22 days. Samples K0805409-006 through K0805409-012 exceeded holding time by 18 days. All twelve of these mercury sample results were flagged 'J/UJ' due to hold time exceedance (Table 2). The data were not rejected due to holding time; however, the end user should be aware of the potential low bias of the mercury results due to sample degradation.

Congener Results

The chain-of-custody (COC) forms from CAS to Axys indicate that samples were maintained under chain of custody and forms were signed upon release and receipt. The condition and temperature of the samples upon receipt by Axys was appropriate and all samples listed on the COC form were present. Data were not qualified based COC and sample shipment procedures.

All samples were analyzed within the technical and contracted holding times.

4.2 Instrument Calibration

The laboratory performed initial multipoint calibrations for all target and surrogate compounds as required by the analytical methods. Initial calibrations (ICALs) and continuing calibrations (CCALs) were analyzed at the proper frequency and at the appropriate concentrations required by the methods.

Non-congener Results

Instrument calibrations were acceptable for all sample analyses performed.

Congener Results

ICALs and continuing calibration verifications (CCVs) were reviewed for PCB congener analyses. The laboratory performed initial multipoint calibrations for all target and standard compounds as required by the Method 1668A. ICALs, CCVs and OPR (ongoing precision recovery) standards were analyzed at the proper frequency and at appropriate concentrations as required by EPA Method 1668A. Calibration compounds met the acceptance criteria as listed in the method with the following exception:

- The 12-hour CCV bracketing the diluted extract for sample 080517R13SB (L11390-4W) was not acceptable due to a power issue with the instrument during the analysis of the CCV, therefore analytical results for this CCV have been omitted from the report. The initial CCV bracketing this sample (L11390-4W) was analyzed on 8/26/08 at 9:44am and the subsequent successful CCV was analyzed on 8/27/08 at 8:44am (23hrs later), both met acceptance criteria. The laboratory deemed there was no adverse affect to the sample (L11390-4W) and therefore it was not reanalyzed. The only congener reported from the diluted extract of sample L11390-4W was PCB 118, all other congeners were

reported from the original (undiluted extract). Results for PCB 118 in this sample were not qualified due to the omission of the 12-hour CCV.

4.3 Review of Blanks

Method blanks are used to check for laboratory contamination and instrument bias. The laboratory analyzed at least one method blank per analysis for each batch, per QAPP requirements. Initial calibration and continuing calibration blanks are also analyzed when appropriate per analytical method (i.e 6000/7000 series metal analyses) to check for laboratory contamination and instrument bias. Field blanks were not collected as part of this analytical program. Qualification of samples due to method blank and calibration blank contamination followed guidelines set forth in the EPA NFGs.

Non-congener Results

Non-congener organic sample results less than five times (5x) and inorganic sample results (or common laboratory organic contaminants such as phthalates) less than ten times (10x) the blank concentration and between the method detection limit (MDL) and the MRL were qualified as non-detect and flagged with a 'U' at the MRL. When sample results were less than 5x (or 10x for inorganics and phthalates) the blank concentration but above the MRL, the reported result was qualified as non-detect and flagged 'U'. Target compounds detected in the method blank but reported as not detected in the associated samples were not qualified. Target compounds reported with concentrations greater than 5x (or 10x) the blank concentration were not qualified. For solid matrices reported in both wet and dry weight concentrations, the above-noted guidelines were applied using the wet weight results and any qualifiers assigned were also assigned to the dry weight results.

All analytical tests indicate non-detects for all method blanks with the following exceptions:

- Nickel and zinc were detected in the method blank and nickel, chromium, thallium, and cobalt were detected in bracketing continuing calibration blanks associated with samples in CAS delivery group K0805409. All blank concentrations were above the MDL but below the MRL. All detected results for the above-listed metals were greater than 10x the associated blank concentrations. Metal analytical results were not qualified based on blank detections.

Congener Results

PCB congener sample results that were reported as detected at a concentration less than five times (5x) the associated blank concentration were flagged 'U' or non-detect at the reported concentration. Target compounds reported with concentrations greater than 5x the blank concentration were not qualified. Target compounds detected in the method blank but reported as not detected in the associated samples were not qualified. Method blank results reported as EMPCs were not considered appropriate for use in qualifying associated sample results. Method 1668A stipulates using a method blank as similar to the matrix as possible. The method blank was prepared using corn oil to approximate the lipid content of the samples.

The method blank associated with fish tissue samples had only low levels of few PCB congeners. No sample results were qualified based on method blank concentrations.

4.4 Surrogate Recovery Review (non-congener analyses only)

Each sample analyzed for organic compounds was spiked with surrogates (system monitoring compounds). Surrogate recoveries are a measure of accuracy for the overall analysis of each individual sample. When more than one surrogate per fraction (acid or base/neutral) was spiked in the sample, PAHs and/or SVOCs were qualified if two or more surrogate recoveries for a given fraction were outside DoD QSM sample criteria. When only one surrogate per fraction was spiked, all sample results associated with that fraction were qualified when the surrogate recovery was outside DoD QSM sample criteria. Surrogate recoveries were acceptable for all analyses with the following exceptions:

- Dilutions performed on samples K0805513-011 and K0805513-017 resulted in surrogate concentrations above the MDL, but below the MRL. The surrogate recoveries were in control, data were not qualified based on surrogate criteria.
- The PAH surrogate recovery for Fluorene-d10 in sample 080521R15SB was below the DoD QSM control limit of 60% with a recovery of 59%. Because the other two surrogates were in control, no data were qualified.

4.5 Labeled Internal Standard Recovery Review (congener analysis only)

Samples analyzed for PCB congeners are spiked with labeled internal (quantification) standards. These standards are used to quantitate target congeners and the calculations of target compound concentrations are designed to compensate for low extraction and/or cleanup efficiencies. In addition, their recovery is measured against injection standards added after extraction and cleanup to evaluate extraction and/or cleanup efficiency, which could affect sensitivity and could also affect accuracy for target compounds not quantitated against a chemically identical, isotopically labeled standard. The percent recovery of the labeled standards was compared with the limits set forth in EPA Method 1668A and those set by Axys detailed in Table 1 of the Axys narrative. All recoveries were acceptable with the following exception:

- The percent recoveries of ¹³C-labeled PCB 1 and ¹³C-labeled PCB 4 in sample L11390-3 were below the Axys control limits of 15% and 30%, with recoveries of 10.5% and 17.5%, respectively. Both PCB 1 and PCB 4 have chemically identical isotopic labeled standards. Given that isotopic dilution calculations produce recovery corrected quantitation results, only the non-chemically identical PCB congeners, quantitated using these labeled standards were estimated based on these internal standard recoveries. Associated analytical results for PCB 2, and PCB 5 through 14 for sample L11390-3 were qualified 'J/UJ'.

Cleanup standards 28L, 111L, and 178L typically are added prior to cleanup and quantitated using injection standards added just prior to analysis to evaluate cleanup efficiency. The cleanup standards were within the 30-135% control limits set by EPA Method 1668A.

4.6 Laboratory Control Samples and Matrix Spike/Matrix Spike Duplicate Review

Laboratory control/laboratory control duplicate (LCS/LCSD) samples are used to monitor the laboratory's day-to-day performance of routine analytical methods independent of matrix effects and to assess accuracy for the target compounds. Matrix spike/matrix spike duplicate (MS/MSD) samples are analyzed to assess the ability of the laboratory to recover the target compounds from the sample matrix. At least one LCS and one MS/MSD were performed for each non-congener analysis and for each batch per method requirements.

Non-congener Results

LCS/LCSD and MS/MSD recoveries were acceptable for all non-congener analytical tests with the following exceptions:

- Recoveries of the MS/MSD sample K0805513-013 for Aroclor 1016 (142%/140%) and Aroclor 1260 (190%/188%) were at or above the DoD QSM upper control limits of 140% and 130% for Aroclor 1016 and Aroclor 1260, respectively. CAS reported that this was due to non-target compounds contributing to the MS concentration. The associated QC samples (LCS/LCSD) were in control indicating that the analytical batch was in control. All Aroclor results from the parent sample, K0805513-013, were reported as non-detect. Aroclor results were not qualified based on potential high bias MS/MSD recoveries. However, all Aroclor results for this sample were previously qualified as estimated 'J/UJ' due to hold time exceedance, Section 4.1.
- Similarly, MS/MSD recoveries for Aroclor 1260 (637%/574%) were above the upper control limit for sample K0805513-018, due to an apparent matrix interference. The associated QC samples (LCS/LCSD) were in control indicating that the analytical batch was in control. The Aroclor 1260 result from the parent sample, K0805513-013 was reported as non-detect. Therefore, the Aroclor 1260 result for parent sample, K0805513-013 was not qualified based on potential high bias MS/MSD recoveries. The Aroclor results for this sample were previously qualified as estimated 'J/UJ' due to hold time exceedance, Section 4.1.
- The percent recoveries for the mercury MS and MSD performed on sample K0805409-004 were below DoD QSM criteria of 80% with recoveries of 70% and 72%, respectively. The recovery of mercury in the standard reference material (SRM) analysis was in control, indicating the analytical batch was in control and the low recovery may have been due to matrix interference. As a result, all associated mercury results within the sample delivery group K0805409 were qualified as estimated 'J/UJ' reflecting the potential low bias.
- The percent recovery for benzo(a)pyrene in the PAH LCS was 115%. This was above the DoD QSM upper control limit of 110%. The expected bias direction is high and none of the samples contained a detectable concentration of this analyte; therefore, no data were qualified.

Congener Results

MS/MSD samples are not required by Method 1668A for PCB congener analysis. For Method 1668A, Ongoing Precision and Recovery (OPR) samples were used in place of LCS to monitor laboratory performance. The OPR was prepared using corn oil to approximate the lipid content of the samples. OPR recoveries were acceptable for congener analyses.

- The 23.8 percent recovery of ¹³C-labeled PCB 4 (PCB 4L) in the OPR was below the Axys control limit of 30%. All unlabeled congeners were within control limits for the OPR, including PCB 4. Additionally the labeled and non-labeled standards had acceptable recoveries in the method blank (corn oil) and project samples, with the one exception stated above in section 4.5. Analytical results were not qualified as estimated based on the low recovery of PCB 4L within the OPR.

4.7 Duplicate Review

Non-congener Results

Field duplicates were not collected during this sampling event. To evaluate laboratory precision, CAS performed duplicate analyses (i.e. LCS/LCSD and MS/MSD) as discussed above. All duplicate analyses were within relative percent difference criteria. No samples were qualified exclusively on duplicate precision exceedances.

Congener Results

Axys performed a laboratory duplicate analysis on sample L11390-4. For these analytical results greater than 5x the sample specific detection limit and not reported as Estimated Maximum Potential Concentrations (EMPCs), the relative percent difference for individual congeners on average was less than 10%, indicating good analytical precision. The detailed evaluation can be found within the Axys analytical report.

4.8 Compound Quantification

Non-congener Results

All second column confirmations performed by CAS using Method 8082 were acceptable with the following exceptions:

- The second column confirmation criterion of a Relative Percent Difference (RPD) less than or equal to 40% was exceeded for Aroclor 1242 results in samples K0805513-016, K0805513-021, K0805513-026 and K0805409-001. For these samples, the lower Aroclor 1242 value was reported because of an apparent interference that produced the higher value. The Aroclor 1242 results for samples K0805513-016, K0805513-021, K0805513-026, and K0805409-001 were qualified as estimated, 'J/UJ' due to second column confirmation precision exceedance.

- Aroclors 1242 and 1254 exceeded the second column confirmation criterion of 40% for sample K0805409-004. For reasons discussed above, results for Aroclors 1242 and 1254 for sample K0805409-004 were qualified as estimated, and flagged 'J/UJ' due to second column confirmation exceedance.
- CAS reported that samples associated with sample delivery groups K0805409 and K0805513 *"appear to have been subjected to environmental stresses...causing pattern degradation and changing peak ratios. When pattern degradation occurs, correct identification and quantitative analysis of the individual Aroclors can be subjective."* *"Aroclor 1254 and Aroclor 1242 were difficult to differentiate and their assignment may be incorrect."* The data user should consider this when examining Aroclor results from these deliverables. All Aroclor 1242 and 1254 analytical results for sample delivery groups K0805409 and K0805513 were qualified 'J/UJ' based on pattern recognition.

Congener Results

Samples L11390-1, L11390-4, L11390-5, L11390-9, L11390-7, L11390-10, L11390-11 and L11390-12 were diluted and reanalyzed to bring area responses of some target congeners within the linear calibration range of the instrument. Only the affected target compounds are reported from the reanalysis. Relevant concentrations from both the undiluted and diluted analytical results are reported within the data deliverable. The reanalysis results are identified with a sample ID suffix of 'W' or 'Wi' within the report.

Sample L11390-8 was reanalyzed to confirm possible instrumental carry-over. The initial analysis was deemed affected by carry-over and therefore only the reanalysis results were reported.

The internal standard method is used to calculate concentrations of PCB congeners that do not have chemically identical labeled standards. The internal standard method is dependent upon consistent detector response over the calibration range. If the detector response varies, concentrations can be biased high or low based on variations in the detector sensitivity. During congener analysis, PFK (perfluorokerosene) is used as a lock mass reference standard to measure changes in detector sensitivity. Each lock mass must not vary more than 20% throughout its respective retention time window as required by Method 1668A. Variations of more than 20% indicate the presence of a co-eluting interference or decreased sensitivity. Lock mass was acceptable with the following exceptions:

- The lock mass signal had a small deflection at the retention time associated with the coelution PCB 86/87/97/108/119/125 for all samples within the Axys sample delivery group. Samples L11390-1 through L11390-6, and L11390-8 and L11390-10 demonstrated a drop in lock mass greater than 20% affecting these congeners. Similar deflections were not seen in the associated QC samples; therefore, due the frequency and repeated shape of the deviation, the cause is thought to be due to a matrix interference within these samples. The chromatograms for the diluted analyses for these samples showed a decrease in the lock mass deflection or none at all, pointing to a matrix interference that may be overcome by dilution. After a telephone conversation

with the project manager at Axys, it was discovered that the analytical results from the diluted analyses (where the deflection was not present) and undiluted analyses (where the deflection was present) were within 10-15% (i.e. within applicable analytical precision). These samples were not reanalyzed and the concentrations were reported from the undiluted analyses. Results for the coelution PCB 86/87/97/108/119/125 were estimated and flagged 'J', due to potential low bias from lock mass deviation. It should be noted that together these congeners only represent 1% to 3% of the total PCB concentration.

4.9 Target Compound Identification

Non-congener Results

- Two standard reference materials (SRM) were analyzed for metals. All recoveries were within CAS control limits.

Congener Results

Ion abundance ratios are used to identify PCB congeners. Results that met all other qualitative identification criteria but differ by more than 15% from the theoretical ion abundance criterion set by EPA Method 1668A were flagged in the laboratory report with a 'K' flag. Those results flagged 'K' with ion abundance ratios outside the identified quantitation criteria are considered estimated maximum possible concentrations (EMPC) and were re-flagged 'J-EMPC' during this review. If the analyte result was previously qualified 'U' by method blank detection, the result retained the 'U' qualifier and it was not qualified further because an ion ratio was out of limits (there is no ion ratio criterion for non-detects). These EMPC flags are listed in Table 3, appear within the data tables in the main body of this deliverable, and have been entered into the database.

Ion ratios outside the control limits are generally a consequence of co-eluting interferences to either one or both quantitation peaks. In these cases, Axys chose to use the quantitation peak areas as recorded; no adjustments were made to force the peaks to match the theoretical ion abundance ratios before reporting EMPC results. EMPC results should be considered by the data users as part of evaluating the data for end-use objectives.

Additionally, the flag 'C' was used in Table 3 to indicate co-eluting PCB isomers for this analysis. The concentrations of the co-eluting isomers were reported as a group, eliminating the need for any data qualification as part of this data review.

4.10 Reporting Limits

If sample concentrations were detected below the MRL but above the MDL, they were qualified as estimated by the laboratory and flagged with a 'J'. All laboratory J-flagged results are considered estimates. As stated above, these flags are recorded within the database and are reported in the data tables included in the main body of this report.

Several Aroclor results have elevated MDL and MRLs due to matrix interferences. These results were not qualified during this review, but should be considered as part of data use by the end users.

The dry weight basis Aroclor results for sample K0805513-015 were originally reported as non-detect with MDL and MRL of 98,000 ug/kg. CAS was contacted and stated that this was due to a reporting error. CAS reissued the results for sample K0805513-015. All results are still non-detect but the MDL and MRL are now reported as wet-weight basis results to be consistent with other sample results.

5.0 Completeness

The laboratory reported all requested analytes and the deliverable data reports were complete. Some data were qualified as estimated 'J' or 'J-EMPC' and some as non-detect 'U'. A summary of qualifiers can be found in Tables 2 and 3. A completeness summary follows; congener completeness was calculated using 209 congener results, considering coeluting congeners.

The electronic and portable delivery format (.pdf) versions of the deliverables were cross-checked for accuracy at a frequency of 20% or greater. Any minor discrepancies found between the deliverables were reported to CAS and corrected by updating the database to reflect the .pdf deliverable.

- *Technical Completeness* = (number of useable results/total reported results) x100

All samples results are considered useable

$$\text{Non-congener} = (774 \text{ compliant} / 774 \text{ total results}) = 100\%$$

$$\text{Congener} = (1,908 \text{ compliant} / 1,908 \text{ total results}) = 100\%$$

- *Analytical Completeness* = (number of unqualified results/total reported results) x100

$$\text{Non-congener} = (553 \text{ compliant} / 774 \text{ total results}) = 71\%$$

Data were qualified as estimated 'J', in particular a significant portion of the Aroclor data were qualified and estimated 'J' due to hold time exceedances and Aroclor pattern recognition. Non-congener data qualified 'J' due to detections between the MRL and the MRL were not included in this calculation.

$$\text{Congener} = (1,838 \text{ compliant} / 1,908 \text{ total results}) = 96\%$$

Congener data were qualified as estimated and flagged 'J' or 'J-EMPC' and some qualified non-detect and flagged 'U'.

- *Contract Completeness* = (number of contract compliant results/total reported results) x100

$$\text{Non-congener} = (591 \text{ compliant} / 774 \text{ total results}) = 76\%$$

$$\text{Congener} = (1,891 \text{ compliant} / 1,908 \text{ total results}) = 99\%$$

All samples analyzed met laboratory contract requirements with the exception of the samples analyzed outside of the 28 day hold time for mercury and the 1 year hold time for PCB Aroclors. Due to the nature of the sampling event, samples were not received by CAS or authorized for analysis until after the hold time expired.

- *Field Sampling Completeness* =(number samples collected/total reported results) x100

Non-congener = (12 compliant / 12 total results) =100%

Congener = (12 compliant / 12 total results) =100%

All smallmouth bass samples collected in May 2008 and submitted to CAS for analysis had a complete set of results. All samples had sufficient sample volume to analyze the full analyte list as detailed in the QAPP. Field completeness for the other smallmouth bass is documented with the reporting of the original data set.

6.0 References

- DOD 2006. Department of Defense Environmental Data Quality Workgroup. Department of Defense (DOD) Quality Systems Manual (QSM) for Environmental Laboratories. Final Version 3. January 2006. Retrieved from [http://www.navylabs.navy.mil/Archive/DoDV3.pdf] on 3/3/06
- Ecology 1997. Washington State Department of Ecology, *Analytical Methods for Petroleum Hydrocarbons*, Publication ECY 97-602, June 1997.
- Ecology 2008. Washington State Department of Ecology, *The Development of Sediment Sampling and Analysis Plan*, Publication 03-09-043, February 2008.
- Plumb 1981. *Procedures for Handling and Chemical Analysis of Sediment and Water Samples*, R.H. Plumb, prepared by USEPA and USACE, May 1981.
- PSEP 1996. Puget Sound Estuary Program *Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound*, January 1996 and subsequent chapter revisions.
- URS 2007. Quality Assurance Project Plan, *River Operable Unit Remedial Investigation*, Bradford Island, Bonneville Lock and Dam Project, Cascade Locks, Oregon. September 2007.
- URS 2008a. *Forebay Fish Analyses and Summary Report*, Bradford Island Remedial Investigation, March 10, 2008.
- URS 2008b. Memorandum: *Post-Removal Sample Collection*, Bradford Island Disposal Site, Bonneville Dam Forebay – Cascade Locks, Oregon, May 12, 2008.
- URS 2008c. *Reference Area Smallmouth Bass Collected October/November 2007 Analysis and Summary*, Bradford Island Remedial Investigation, July 29, 2008.
- USEPA 1995. EPA Region 10 Standard Operating Procedure (SOP) for the Validation of Method 1668 Toxic, Dioxin-like, PCB Data. December 1995.

USEPA 1999. U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Organic Data Review. October 1999.

USEPA 2004. U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. October 2004.

USEPA 2005. Contract Laboratory Program National Functional Guidelines (EPA NFGs) for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review. September 2005.

**Table 1. Sample Identification and Analysis Summary
Forebay and Reference Area Smallmouth Bass
Collected June 2006 through May 2008**

Quality Control Summary Report for Analytical Chemistry

URS ID	Length (mm)	Weight (grams)	Collection Date	CAS ID	Axys ID (congeners)	Analytes					
						PCB (Aroclors)	PCB (Congeners) (Axys Analytical)	PAHs	SVOCs	Metals	%Solids
Forebay collected June/August 2006 (19 smallmouth bass)											
060605100SB	270	255	6/5/06	K0805513-001	--	X	--	--	--	--	--
060605101SB	330	730	6/5/06	K0805513-002	--	X	--	--	--	--	--
060605200SB	270	226	6/5/06	K0805513-003	--	X	--	--	--	--	--
060605201SB	299	397	6/5/06	K0805513-004	--	X	--	--	--	--	--
060605202SB	300	539	6/5/06	K0805513-005	--	X	--	--	--	--	--
060605203SB	476	1502	6/5/06	K0805513-006	--	X	--	--	--	--	--
060605204SB	343	652	6/5/06	K0805513-007	--	X	--	--	--	--	--
060605205SB	394	850	6/5/06	K0805513-008	--	X	--	--	--	--	--
060605207SB	330	369	6/5/06	K0805513-009	--	X	--	--	--	--	--
060605208SB	419	1191	6/5/06	K0805513-010	--	X	--	--	--	--	--
060605209SB	381	680	6/5/06	K0805513-011	--	X	--	--	--	--	--
060606102SB	265	387	6/6/06	K0805513-012	--	X	--	--	--	--	--
060606103SB	411	1074	6/6/06	K0805513-013	--	X	--	--	--	--	--
060606104SB	380	719	6/6/06	K0805513-014	--	X	--	--	--	--	--
060606210SB	298	284	6/6/06	K0805513-015	--	X	--	--	--	--	--
060815402SB	406	1063	8/15/06	K0805513-016	--	X	--	--	--	--	--
060815403SB	273	284	8/15/06	K0805513-017	--	X	--	--	--	--	--
060815405SB	406	964	8/15/06	K0805513-018	--	X	--	--	--	--	--
060816406SB	314	369	8/16/06	K0805513-019	--	X	--	--	--	--	--
Reference Area collected in October/November 2007 (7 smallmouth bass)											
071027R01SB	380	820	10/27/07	K0805513-020	--	X	--	--	--	--	--
071027R02SB	360	802	10/27/07	K0805513-021	--	X	--	--	--	--	--
071027R03SB	325	548	10/27/07	K0805513-022	--	X	--	--	--	--	--
071027R04SB	370	906	10/27/07	K0805513-023	--	X	--	--	--	--	--
071027R05SB	350	646	10/27/07	K0805513-024	--	X	--	--	--	--	--
071027R06SB	330	501	10/27/07	K0805513-025	--	X	--	--	--	--	--
071115R07SB	425	964	11/15/07	K0805513-026	--	X	--	--	--	--	--
Reference Area collected May 2008 (12 smallmouth bass)											
080517R10SB	394	986	5/17/08	K0805409-001	L11390-1	X	X	X	X	X	X
080517R11SB	343	646	5/17/08	K0805409-002	L11390-2	X	X	X	X	X	X
080517R12SB	305	336	5/17/08	K0805409-003	L11390-3	X	X	X	X	X	X
080517R13SB	419	1140	5/17/08	K0805409-004	L11390-4	X	X	X	X	X	X
080517R14SB	330	530	5/17/08	K0805409-005	L11390-5	X	X	X	X	X	X
080521R15SB	330	587	5/21/08	K0805409-006	L11390-6	X	X	X	X	X	X
080521R16SB	356	622	5/21/08	K0805409-007	L11390-7	X	X	X	X	X	X
080521R17SB	343	647	5/21/08	K0805409-008	L11390-8	X	X	X	X	X	X
080521R18SB	394	1124	5/21/08	K0805409-009	L11390-9	X	X	X	X	X	X
080521R19SB	406	936	5/21/08	K0805409-010	L11390-10	X	X	X	X	X	X
080521R20SB	330	640	5/21/08	K0805409-011	L11390-11	X	X	X	X	X	X
080521R21SB	305	442	5/21/08	K0805409-012	L11390-12	X	X	X	X	X	X

Notes:

- CAS - Columbia Analytical Services
- Axys - Axys Analytical Services, Ltd.
- ID - Identification
- mm - millimeter
- PAHs - Polynuclear Aromatic Hydrocarbons
- PCB - Polychlorinated Biphenyl
- SVOCs - Semivolatile Organic Compound
- previously reported, not included in this quality control summary report.

Table 2. Non-congener Qualifier Summary
Forebay and Reference Area Smallmouth Bass
Quality Control Summary Report for Analytical Chemistry

Laboratory ID	URS ID	Analyte	Qualifier	Rational
K0805513-001	060605100SB	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260 Aroclor 1262 Aroclor 1268	J/UJ	hold time
K0805513-002	060605101SB			
K0805513-003	060605200SB			
K0805513-004	060605201SB			
K0805513-005	060605202SB			
K0805513-006	060605203SB			
K0805513-007	060605204SB			
K0805513-008	060605205SB			
K0805513-009	060605207SB			
K0805513-010	060605208SB			
K0805513-011	060605209SB			
K0805513-012	060606102SB			
K0805513-013	060606103SB			
K0805513-014	060606104SB			
K0805513-015	060606210SB			
K0805513-016	060815402SB			
K0805513-017	060815403SB			
K0805513-018	060815405SB			
K0805513-019	060816406SB			
K0805409-001	080517R10SB	mercury	J	hold time and MS/MSD recoveries
K0805409-002	080517R11SB			
K0805409-003	080517R12SB			
K0805409-004	080517R13SB			
K0805409-005	080517R14SB			
K0805409-006	080521R15SB			
K0805409-007	080521R16SB			
K0805409-008	080521R17SB			
K0805409-009	080521R18SB			
K0805409-010	080521R19SB			
K0805409-011	080521R20SB			
K0805409-012	080521R21SB			
K0805513-016	060815402SB	Aroclor 1242	J	secondary column confirmation
K0805513-021	071027R02SB			
K0805513-026	071115R07SB			
K0805409-001	080517R10SB			
K0805409-004	080517R13SB	Aroclor 1242 Aroclor 1254		
K0805513-001	060605100SB	Aroclor 1242 Aroclor 1254	J/UJ	Aroclor pattern recognition
K0805513-002	060605101SB			
K0805513-003	060605200SB			
K0805513-004	060605201SB			
K0805513-005	060605202SB			
K0805513-006	060605203SB			
K0805513-007	060605204SB			
K0805513-008	060605205SB			
K0805513-009	060605207SB			
K0805513-010	060605208SB			
K0805513-011	060605209SB			
K0805513-012	060606102SB			

Table 2. Non-congener Qualifier Summary
Forebay and Reference Area Smallmouth Bass
 Quality Control Summary Report for Analytical Chemistry

Laboratory ID	URS ID	Analyte	Qualifier	Rational
K0805513-013	060606103SB	Aroclor 1242 Aroclor 1254	J/UJ	Aroclor pattern recognition
K0805513-014	060606104SB			
K0805513-015	060606210SB			
K0805513-016	060815402SB			
K0805513-017	060815403SB			
K0805513-018	060815405SB			
K0805513-019	060816406SB			
K0805513-020	071027R01SB			
K0805513-021	071027R02SB			
K0805513-022	071027R03SB			
K0805513-023	071027R04SB			
K0805513-024	071027R05SB			
K0805513-025	071027R06SB			
K0805513-026	071115R07SB			
K0805409-001	080517R10SB			
K0805409-002	080517R11SB			
K0805409-003	080517R12SB			
K0805409-004	080517R13SB			
K0805409-005	080517R14SB			
K0805409-006	080521R15SB			
K0805409-007	080521R16SB			
K0805409-008	080521R17SB			
K0805409-009	080521R18SB			
K0805409-010	080521R19SB			
K0805409-011	080521R20SB			
K0805409-012	080521R21SB			

Note:

Not included are J flags indicating detections above the method detection limit (MDL) and below the method reporting limit (MRL). These are included in the data tables associated with this report and the project database.

Table 3a
Reference Area Smallmouth Bass Collected May 2008 PCB Congener Analysis Results
Lab Sample ID's L10448-1 through L10448-7
 Quality Control Summary Report for Analytical Chemistry

IUPAC #	COELUTING CONGENERS ¹	080517R10 L11390-1	Lab Qualifier	URS Review Qualifier	080517R11 L11390-2	Lab Qualifier	URS Review Qualifier	080517R12 L11390-3	Lab Qualifier	URS Review Qualifier	080517R13 L11390-4	Lab Qualifier	URS Review Qualifier	080517R14 L11390-5	Lab Qualifier	URS Review Qualifier	080521R15 L11390-6	Lab Qualifier	URS Review Qualifier	080521R16 L11390-7	Lab Qualifier	URS Review Qualifier
1		1.05			0.452	K	J-EMPC	0.43	K	J-EMPC	0.626			0.476	K	J-EMPC	0.403			0.566	K	J-EMPC
2		1.66			1.11			0.666		J	1.34			0.904			0.694			0.522		
3		0.748			0.488			0.34	K	J-EMPC	0.617			0.342	K	J-EMPC	0.398	K	J-EMPC	0.391	K	J-EMPC
4		9.61			3.81			2.37			3.55			3.44			3.34			2.23		
5		0.462			0.234	U		0.255	U	UJ	0.208			0.184	U		0.153	K	J-EMPC	0.261	U	
6		5.37			1.99			1.02		J	2.12			1.76			1.73			1.68		
7		1.04			0.466			0.236	U	UJ	0.561			0.436			0.421			0.339		
8		22.7			10.4			4.91		J	9.98			7.37			8.61			6.55		
9		1.84			0.652			0.294	K	J-EMPC	0.718			0.577			0.514			0.528		
10		0.377	K	J-EMPC	0.217	U		0.238	U	UJ	0.141	U		0.163	U		0.125	U		0.231	U	
11		342			377			173		J	320			223			206			75.5		
12	12 + 13	0.177	C U		0.228	C U		0.25	C U	UJ	0.153	C U		0.178	C U		3.04	C K	J-EMPC	0.251	C U	
13	12 + 13		C12			C12			C12			C12			C12						C12	
14		0.17	U		0.219	U		0.239	U	UJ	0.151	U		0.176	U		0.134	U		0.248	U	
15		4.92			2.91			1.41			3.45			2.07			3.5			1.75		
16		31			13.3			7.42			22.5			8.8			9.25			7.26		
17		86			19.3			10.8			52.3			12.2			12.9			11.7		
18	18 + 30	131	C		43.8	C		22	C		96	C		28	C		26	C		24.6	C	
19		6.14			3.23			1.84			3.46			2.23			2.62			1.87		
20	20 + 28	1020	C		215	C		150	C		666	C		128	C		173	C		186	C	
21	21 + 33	152	C		42.8	C		30.2	C		125	C		22.7	C		29.2	C		34.9	C	
22		212			51			30.9			115			27.2			39.3			36.4		
23		0.775			0.197			0.172	K	J-EMPC	0.68			0.151			0.124	K	J-EMPC	0.149		
24		2.68			0.691			0.405	K	J-EMPC	1.45			0.427	K	J-EMPC	0.427			0.399		
25		37.9			7.91			5.36			18.3			3.44			7.01			23		
26	26 + 29	110	C		23.6	C		16	C		80	C		12.6	C		18.7	C		47.1	C	
27		6.74			2.85			1.85			6.12			2			1.87			1.64		
28	20 + 28		C20			C20			C20			C20			C20			C20			C20	
29	26 + 29		C26			C26			C26			C26			C26			C26			C26	
30	18 + 30		C18			C18			C18			C18			C18			C18			C18	
31		596			125			78.9			338			59.7			94.4			99.6		
32		34.1			6.56			4.23			24.6			3.78			4.69			10.3		
33	21 + 33		C21			C21			C21			C21			C21			C21			C21	
34		1.8			0.507			0.497			1.44			0.326			0.501	K	J-EMPC	1.27		
35		0.163	U		0.127	K	J-EMPC	0.0726	U		0.118	U		0.0499	U		0.048	U		0.0832	U	
36		0.142	U		0.0498	U		0.0635	U		0.101	U		0.0484	U		0.048	U		0.0714	U	
37		28.1			20			7			26.8			11.5			17.6			16.5		
38		1.17			0.243	K	J-EMPC	0.247	K	J-EMPC	0.476			0.101	K	J-EMPC	0.154	K	J-EMPC	0.356	K	J-EMPC
39		7.43			1.95			1.45			6.04			0.998			1.49			2.02		
40	40 + 41 + 71	220	C		66.9	C		62.2	C		225	C		30	C		54.2	C		126	C	
41	40 + 41 + 71		C40			C40			C40			C40			C40			C40			C40	
42		239			55			46.1			187			24.9			46			97.4		
43		38.4			8.38			8.71			31.2			5.23			5.3			9.49		
44	44 + 47 + 65	1090	C		271	C		260	C		824	C		182	C		270	C		781	C	
45	45 + 51	58.4	C		15.8	C		13.2	C		49.1	C		8.2	C		12.8	C		22.8	C	
46		9.01			3.98			2.53			10.8			1.93			3.65			5.61		
47	44 + 47 + 65		C44			C44			C44			C44			C44			C44			C44	
48		178			42.4			35			166			24.1			30.1			39.8		
49	49 + 69	866	C		203	C		192	C		657	C		113	C		218	C		697	C	
50	50 + 53	24.2	C		12.6	C		10	C		38.3	C		6.37	C		11.5	C		29.8	C	
51	45 + 51		C45			C45			C45			C45			C45			C45			C45	
52		1280			402			384			1140			304			438			1090		
53	50 + 53		C50			C50			C50			C50			C50			C50			C50	
54		0.37	K	J-EMPC	0.28			0.194			0.643			0.177			0.428			0.98		
55		0.249	U		0.406	U		0.485	U		0.228	U		0.136	U		0.208	U		0.333	U	
56		109			80.9			53.2			135			35			87.3			206		
57		8.57			2.09			2.15			5.13			1.61			2.5			7.77		
58		3.69			1.87			2.09			2.98			0.93			2.04			5.14		
59	59 + 62 + 75	107	C		25.4	C		23.3	C		81	C		14.5	C		23.4	C		35.3	C	
60		325			123			116			209			110			145			332		
61	61 + 70 + 74 + 76	2130	C		848	C		756	C		1690	C		664	C		974	C		4660	C	
62	59 + 62 + 75		C59			C59			C59			C59			C59			C59			C59	
63		101			29.5			34			63.3			39.1			35.6			184		
64		554			147			121			427			83.5			136			190		
65	44 + 47 + 65		C44			C44			C44			C44			C44			C44			C44	
66		1590			534			601			1040			670			679			3880		
67		29.1			9.61			8.65			18.4			5.21			9.34			25.7		
68		16.3			7.78			9.79			13.8			9.84			9.61			69.5		
69	49 + 69		C49			C49			C49			C49			C49			C49			C49	
70	61 + 70 + 74 + 76		C61			C61			C61			C61			C61			C61			C61	
71	40 + 41 + 71		C40			C40			C40			C40			C40			C40			C40	
72		22.7			8.21			8.94			18.2			7.29			12.8			55.4		
73		0.0486	U		0.0495	U		0.0484	U		0.0492	U		0.0484	U		0.048	U		0.0491	U	
74	61 + 70 + 74 + 76		C61			C61			C61			C61			C61			C61			C61	
75	59 + 62 + 75		C59			C59			C59			C59			C59			C59			C59	
76	61 + 70 + 74 + 76		C61			C61			C61			C61			C61			C61			C61	
77		75.4			36.2			43.6			70.1			54.8			49.3			172		
78		0.238	U		0.389	U		0.465	U		0.229	U		0.137	U		0.209	U		0.334	U	
79		17.1			13.4			11.8			27			8.15			15.2			247		
80		2.3			0.818			0.948			1.32			1			0.862			0.286	U	
81		5.52			2.56			2.63			3.26			2.63			2.35			15.9		
82		55.2			57			44.9			131			16.7			68.4			751		
83	83 + 99	5090	C		1410	C		1530	C		2670	C		1730	C		1800	C		23200	C D	
84		122			120			93.5			279			47.6			144			511		
85	85 + 116 + 117	1420	C		393	C		423	C		752	C		465	C		533	C		5890	C D	
86	86 + 87 + 97 + 108 +																					

Table 3a
Reference Area Smallmouth Bass Collected May 2008 PCB Congener Analysis Results
Lab Sample ID's L10448-1 through L10448-7
 Quality Control Summary Report for Analytical Chemistry

IUPAC #	COELUTING CONGENERS ¹	080517R10 L11390-1	Lab Qualifier	URS Review Qualifier	080517R11 L11390-2	Lab Qualifier	URS Review Qualifier	080517R12 L11390-3	Lab Qualifier	URS Review Qualifier	080517R13 L11390-4	Lab Qualifier	URS Review Qualifier	080517R14 L11390-5	Lab Qualifier	URS Review Qualifier	080521R15 L11390-6	Lab Qualifier	URS Review Qualifier	080521R16 L11390-7	Lab Qualifier	URS Review Qualifier	
116	85 + 116 + 117		C85			C85			C85			C85			C85			C85			C85		
117	85 + 116 + 117		C85			C85			C85			C85			C85			C85			C85		
118		11800	D		2580			3630			4850	D		6210	D		3740			98600	D		
119	86 + 87 + 97 + 108 + 119 + 125		C86			C86			C86			C86			C86			C86			C86		
120		57.3			17			24.2			29.3			29.9			21.9			57.7			
121		4.77			1.76			2.26			3.49			1.67			2.21			2.34			
122		7.66			12.1			5.37			22.8			6.75			15.3			234			
123		148			43			55.3			81.1			104			60.6			1830			
124	107 + 124		C107			C107			C107			C107			C107			C107			C107		
125	86 + 87 + 97 + 108 + 119 + 125		C86			C86			C86			C86			C86			C86			C86		
126		25.9			6.03			9.55			12.6			14.3			9.45			74.6			
127		0.9	U		0.6	U		0.561	U		0.326	U		0.469	U		0.339	U		2.1	U		
128	128 + 166	2400	C		545	C		551	C		1060	C		702	C		720	C		7850	C		
129	129 + 138 + 160 + 163	15500	C D		4390	C		5020	C		7510	C		6520	C		5160	C		66800	C D		
130		405			265			246			459			225			298			3900			
131		13.7			17.9			11.3			36.5			4.6			20.5			261			
132		378			406			324			922			167			532			3600			
133		280			87.2			105			163			134			105			804			
134	134 + 143	84.4	C		80	C		65.9	C		176	C		36.7	C		94.8	C		718	C		
135	135 + 151 + 154	1690	C		834	C		814	C		1590	C		648	C		936	C		2980	C		
136		178			119			116			274			74.2			140			558			
137		720			104			151			245			275			164			8560			
138	129 + 138 + 160 + 163		C129			C129			C129			C129			C129			C129			C129		
139	139 + 140	258	C		59.3	C		62.5	C		123	C		70.5	C		73.9	C		771	C		
140	139 + 140		C139			C139			C139			C139			C139			C139			C139		
141		660			191			225			432			182			244			3540			
142		0.798	U		0.703	U		0.731	U		0.625	U		0.628	U		0.484	U		2.21	U		
143	134 + 143		C134			C134			C134			C134			C134			C134			C134		
144		98.1			73.8			65.3			153			40.2			83.9			755			
145		0.0486	U		0.296	K	J-EMPC	0.235	K	J-EMPC	0.737			0.0484	U		0.283	K	J-EMPC	1.08			
146		2380			811			1080			1420			1550	D		924			11400	D		
147	147 + 149	1340	C		1470	C		1250	C		3160	C		640	C		1720	C		13000	C D		
148		12.3			7.27			8.56			13.9			4.53			7.54			12.8			
149	147 + 149		C147			C147			C147			C147			C147			C147			C147		
150		2.54			3.48			4.18			7.6			1.22			3.59			11.4			
151	135 + 151 + 154		C135			C135			C135			C135			C135			C135			C135		
152		3.06			1.08			1.18			2.32			0.993			1.28			4.3			
153	153 + 168	18200	C D		4080	C		5650	C		7260	C		9040	C D		5090	C		69500	C D		
154	135 + 151 + 154		C135			C135			C135			C135			C135			C135			C135		
155		15.2			4.36			4.97			7.66			6.33			4.8			3.55			
156	156 + 157	1890	C		290	C		430	C		638	C		882	C		447	C		20000	C D		
157	156 + 157		C156			C156			C156			C156			C156			C156			C156		
158		1420			328			302			616			402			406			4520			
159		14.1			10.9			10.6			19			7.57			11.4			71.6			
160	129 + 138 + 160 + 163		C129			C129			C129			C129			C129			C129			C129		
161		0.574	U		0.506	U		0.525	U		0.44	U		0.442	U		0.341	U		1.55	U		
162		77.3			14.6			21			28.7			35.3			19			442			
163	129 + 138 + 160 + 163		C129			C129			C129			C129			C129			C129			C129		
164		228			115			130			232			97.1			145			2010			
165		11.3			3.51			5.19			6.6			5.19			4.18			12.9			
166	128 + 166		C128			C128			C128			C128			C128			C128			C128		
167		571			117			211			242			380			180			6540	D		
168	153 + 168		C153			C153			C153			C153			C153			C153			C153		
169		8.12	U		1.3	U		1.86	U		2.79	U		3.07	U		1.54	U		6.62	U		
170		2180			370			459			693			831			480			7510			
171	171 + 173	966	C		214	C		201	C		380	C		305	C		246	C		1020	C		
172		305			75.7			86.3			138			114			86.5			869			
173	171 + 173		C171			C171			C171			C171			C171			C171			C171		
174		231			198			194			375			121			212			1480			
175		58.6			25.8			27.6			46.7			28.3			27.7			142			
176		40.1			48.5			34.3			97.9			19			54.9			134			
177		633			496			437			829			417			512			2030			
178		848			275			283			470			338			307			584			
179		411			250			215			478			154			264			271			
180	180 + 193	6100	C D		1060	C		1550	C		1900	C		3000	C		1300	C		15600	C D		
181		45.2			6.76			9.23			12.9			15.7			9.11			258			
182		20.5			4.59			6.47			8.23			6.95			5.64			27.5			
183	183 + 185	2010	C		483	C		547	C		857	C		759	C		542	C		2520	C		
184		21.4			4.25			5.8			8.47			7.07			5			4.75			
185	183 + 185		C183			C183			C183			C183			C183			C183			C183		
186		0.0631	U		0.0495	U		0.0484	U		0.063	U		0.0484	U		0.0597	U		0.0594	U		
187		3880			1680			2180			2730			2640			1750			6820	D		
188		9.74			4.19			5.68			7.24			6.31			4.57			10.8			
189		102			14.7			21.7			31.3			44.4			19.7			532			
190		912			169			198			292			411			209			1520			
191		121			20.1			27.2			36			48.3			25.3			308			
192		0.0715	U		0.0495	U		0.0484	U		0.072	U		0.05	U		0.0682	U		0.0679	U		
193	180 + 193		C180			C180			C180			C180			C180			C180			C180		
194		661			133			153			244			344			163			1150			
195		510			97			97.8			177			219			105			385			
196		424			78.2			101			148			189			93.1			478			
197	197 + 200	85.6	C		27	C		25	C		52	C		31.1	C		27	C		57.7	C		
198	198 + 199	582	C		228	C		241	C		420	C		348	C		263	C		1020	C		
199	198 + 199		C198			C198			C198			C198			C198			C198			C198		
200	197 + 200		C197			C197			C197			C197											

Table 3b
Reference Area Smallmouth Bass Collected May 2008 PCB Congener Analysis Results
Lab Sample ID's L10448-8 through L10448-14
 Quality Control Summary Report for Analytical Chemistry

IUPAC #	COELUTING CONGENERS ¹	080521R17 L11390-8	Lab Qualifier	URS Review Qualifier	080521R18 L11390-9	Lab Qualifier	URS Review Qualifier	080521R19 L11390-10	Lab Qualifier	URS Review Qualifier	080521R20 L11390-11	Lab Qualifier	URS Review Qualifier	080521R21 L11390-12	Lab Qualifier	URS Review Qualifier	WG25830-101 Method Blank	Lab Qualifier
1		0.444			0.471	D		0.655	K D	J-EMPC	0.661	K D	J-EMPC	0.345	D		0.101	K
2		0.89			0.582	K D	J-EMPC	0.715	D		0.89	D		0.397	D		0.056	K
3		0.513			0.43	K D	J-EMPC	0.58	D		0.534	D		0.489	D		0.201	K
4		3.63			3.48	D		4.84	D		3.9	D		2.68	D		0.345	U
5		0.191			0.366	U D		0.213	U D		0.511	U D		0.34	U D		0.225	U
6		1.75			1.88	D		3.08	D		1.64	D		1.56	D		0.202	U
7		0.406			0.335	D		0.633	D		0.448	U D		0.35	D		0.209	U
8		8.9			7.56	D		11.5	D		8.04	D		8.52	D		0.187	U
9		0.611			0.476	D		0.689	D		0.44	U D		0.451	D		0.202	U
10		0.141			0.307	U D		0.179	U D		0.427	U D		0.284	U D		0.21	U
11		475			117	D		416	D		298	D		117	D		1.08	K
12	12 + 13	0.156	C U		0.358	C U D		0.209	C U D		0.499	C U D		0.332	C U D		0.22	C U
13	12 + 13		C12			C12			C12			C12			C12			C12
14		0.148	U		0.339	U D		0.198	U D		0.473	U D		0.315	U D		0.211	U
15		3.19			1.9	D		4.86	D		3.21	D		2.39	D		0.251	U
16		11.4			9.53	D		12.8	D		12.5	D		10	D		0.135	U
17		15.7			13.8	D		18.7	D		16.3	D		14.2	D		0.133	K
18	18 + 30	34.6	C		30.1	C D		40.3	C D		35.9	C D		29.1	C D		0.303	C K
19		2.88			2.37	D		3.26	D		2.76	D		2.44	D		0.087	K
20	20 + 28	175	C		169	C D		193	C D		164	C D		139	C D		0.434	C
21	21 + 33	36.8	C		34.4	C D		43.2	C D		35	C D		30.2	C D		0.222	C
22		42.8			33.8	D		46.5	D		38.9	D		32.7	D		0.168	U
23		0.148			0.214	D		0.172	U D		0.18	U D		0.145	U D		0.05	U
24		0.594	K	J-EMPC	0.409	K D	J-EMPC	0.688	D		0.138	U D		0.662	K D	J-EMPC	0.05	U
25		9.4			7.34	D		9.7	D		6.17	D		6.02	D		0.05	U
26	26 + 29	22.3	C		19.3	C D		23.3	C D		18.4	C D		16.2	C D		0.087	C K
27		2.76			2.43	D		3.03	D		3.11	D		2.31	D		0.05	U
28	20 + 28		C20			C20			C20			C20			C20			C20
29	26 + 29		C26			C26			C26			C26			C26			C26
30	18 + 30		C18			C18			C18			C18			C18			C18
31		101			82.5	D		110	D		84.5	D		81.7	D		0.304	K
32		4.44			4.63	D		6.09	D		3.91	D		5.54	D		0.091	K
33	21 + 33		C21			C21			C21			C21			C21			C21
34		0.566			0.729	D		0.627	D		0.555	K D	J-EMPC	0.353	K D	J-EMPC	0.05	U
35		0.107	U		0.203	U D		0.203	U D		0.213	U D		0.172	U D		0.05	U
36		0.0919	U		0.176	U D		0.175	U D		0.184	U D		0.148	U D		0.05	U
37		18.8			10	D		21	D		13.4	D		14	D		0.109	U
38		0.261	K	J-EMPC	0.18	U D		0.251	K D	J-EMPC	0.188	U D		0.152	U D		0.05	U
39		1.68			1.51	D		2.03	D		1.75	D		0.15	U D		0.05	U
40	40 + 41 + 71	68.7	C		60	C D		90.6	C D		61.2	C D		65.1	C D		0.166	C
41	40 + 41 + 71		C40			C40			C40			C40			C40			C40
42		57.1			53.5	D		74.7	D		58	D		47.3	D		0.071	K
43		8.9			10.9	D		12.8	D		10.7	D		7.92	D		0.05	U
44	44 + 47 + 65	326	C		350	C D		432	C D		327	C D		300	C D		0.441	C
45	45 + 51	15.4	C		9.12	C K D	J-EMPC	21.3	C D		13	C D		15.2	C D		0.08	C K
46		4.01			2.93	D		4.92	D		3.37	D		3.51	D		0.05	U
47	44 + 47 + 65		C44			C44			C44			C44			C44			C44
48		38.1			39.8	D		53.4	D		44.5	D		32.9	D		0.071	U
49	49 + 69	259	C		278	C D		342	C D		219	C D		248	C D		0.211	C
50	50 + 53	14.7	C		12.3	C D		19.8	C D		12.6	C D		13.2	C D		0.056	C K
51	45 + 51		C45			C45			C45			C45			C45			C45
52		495			544	D		658	D		520	D		487	D		0.556	U
53	50 + 53		C50			C50			C50			C50			C50			C50
54		0.318			0.298	D		0.425	K D	J-EMPC	0.207	D		0.376	D		0.05	U
55		0.204	U		0.393	U D		0.393	U D		0.389	U D		0.326	U D		0.0731	U
56		112			73.3	D		128	D		74.8	D		88.8	D		0.073	U
57		2.59			2.6	D		3.15	D		2.12	D		2.88	D		0.069	U
58		3.12			2.38	D		3.12	D		2.27	D		2.53	D		0.0721	U
59	59 + 62 + 75	28.2	C		31.7	C D		38.4	C D		30	C D		26	C D		0.05	C U
60		143			193	D		212	D		152	D		142	D		0.093	K
61	61 + 70 + 74 + 76	992	C		1120	C D		1390	C D		905	C D		1010	C D		0.451	C K
62	59 + 62 + 75		C59			C59			C59			C59			C59			C59
63		32.7			47.2	D		48.6	D		35.8	D		36.1	D		0.0666	U
64		151			158	D		204	D		156	D		146	D		0.106	U
65	44 + 47 + 65		C44			C44			C44			C44			C44			C44
66		642			942	D		907	D		686	D		638	D		0.226	U
67		10.6			9.5	D		15.6	D		8.27	D		10.7	D		0.0609	U
68		10.9			10.8	D		13.4	D		8.27	D		10.5	D		0.0651	U
69	49 + 69		C49			C49			C49			C49			C49			C49
70	61 + 70 + 74 + 76		C61			C61			C61			C61			C61			C61
71	40 + 41 + 71		C40			C40			C40			C40			C40			C40
72		13.8			13.9	D		17.5	D		10.4	D		13.2	D		0.0645	U
73		0.0526	U		0.0707	U D		0.076	U D		0.111	U D		0.0875	U D		0.05	U
74	61 + 70 + 74 + 76		C61			C61			C61			C61			C61			C61
75	59 + 62 + 75		C59			C59			C59			C59			C59			C59
76	61 + 70 + 74 + 76		C61			C61			C61			C61			C61			C61
77		53.7			59.7	D		70.1	D		52.8	D		49.7	D		0.072	U
78		0.208	U		0.401	U D		0.401	U D		0.396	U D		0.333	U D		0.0701	U
79		22			19.3	D		29.7	D		21.7	D		21.5	D		0.057	U
80		0.177	U		0.341	U D		0.341	U D		0.337	U D		1.19	D		0.0647	U
81		3.4			4.06	D		3.76	D		2.02	D		3.11	D		0.0696	U
82		86.3			79.6	D		125	D		58.9	D		93.5	D		0.05	U
83	83 + 99	1780	C		2600	C D		3010	C D		1980	C D		2330	C D		0.271	C
84		149			126	D		240	D		125	D		177	D		0.127	U
85	85 + 116 + 117	554	C		829	C D		902	C D		632	C D		654	C D		0.112	C
86	86 + 87 + 97 + 108 + 119 + 125	1100	C G	J	1170	C D		1730	C D G	J	1050	C D		1370	C D		0.397	C
87	86 + 87 + 97 + 108 + 119 + 125		C86			C86			C86			C86			C86			C86
88	88 + 91	155	C		137	C D		253	C D		131	C D		196	C D		0.069	C
89		3.32			3.75	D		5.15	D		2.88	D		4.12	D		0.05	U
90	90 + 101 + 113	2320	C		2470	C D		3810	C D		2280	C D		2800	C D		0.526	C K
91	88 + 91		C88			C88			C88			C88			C88			C88
92		448			523	D		751	D		471	D		586	D		0.082	K
93	93 + 95 + 98 + 100 + 102	702	C		733	C D		1150	C D		694	C D		848	C D		0.463	C
94		2.08			1.47	D		3.51	D		1.31	D		2.9	D		0.05	U
95	93 + 95 + 98 + 100 + 102		C93			C93			C93			C93			C93			C93
96		2.3			2.37	D		3.37	D		2.24	D		2.62	K D	J-EMPC	0.05	U
97	86 + 87 + 97 + 108 + 119 + 125		C86			C86												

Table 3b
Reference Area Smallmouth Bass Collected May 2008 PCB Congener Analysis Results
Lab Sample ID's L10448-8 through L10448-14
 Quality Control Summary Report for Analytical Chemistry

IUPAC #	COELUTING CONGENERS ¹	080521R17 L11390-8	Lab Qualifier	URS Review Qualifier	080521R18 L11390-9	Lab Qualifier	URS Review Qualifier	080521R19 L11390-10	Lab Qualifier	URS Review Qualifier	080521R20 L11390-11	Lab Qualifier	URS Review Qualifier	080521R21 L11390-12	Lab Qualifier	URS Review Qualifier	WG25830-101 Method Blank	Lab Qualifier
116	85 + 116 + 117		C85			C85			C85			C85			C85			C85
117	85 + 116 + 117		C85			C85			C85			C85			C85			C85
118		3650			5970	D		5350	D		4780	D		4460	D		0.617	
119	86 + 87 + 97 + 108 + 119 + 125		C86			C86			C86			C86			C86			C86
120		22			32.8	D		37.4	D		28.1	D		27	D		0.05	U
121		2.3			2.98	D		4.51	D		2.56	D		2.73	D		0.05	U
122		19.8			10.3	D		28.4	D		9.82	D		20.6	D		0.05	U
123		64.8			84	D		80.2	D		76.1	D		69.1	D		0.051	
124	107 + 124		C107			C107			C107			C107			C107			C107
125	86 + 87 + 97 + 108 + 119 + 125		C86			C86			C86			C86			C86			C86
126		9.01			13.4	D		12.9	D		10.7	D		8.65	D		0.05	K
127		0.575	U		1.27	U D		0.735	U D		0.843	U D		0.587	U D		0.05	U
128	128 + 166	727	C		1120	C D		1250	C D		849	C D		912	C D		0.122	C
129	129 + 138 + 160 + 163	5450	C		7870	C D		9990	C D		6720	C D		6760	C D		0.679	C K
130		292			296	D		570	D		303	D		407	D		0.052	
131		19.5			15	D		38.7	D		14.7	D		27.5	D		0.05	U
132		476			394	D		867	D		411	D		640	D		0.16	K
133		92.1			145	D		194	D		128	D		131	D		0.05	U
134	134 + 143	87.3	C		80.1	C D		176	C D		85.1	C D		117	C D		0.05	C U
135	135 + 151 + 154	914	C		1070	C D		1870	C D		1110	C D		1270	C D		0.159	C K
136		133			137	D		254	D		151	D		197	D		0.063	
137		171			299	D		271	D		203	D		218	D		0.05	K
138	129 + 138 + 160 + 163		C129			C129			C129			C129			C129			C129
139	139 + 140	68.1	C		108	C D		136	C D		87	C D		96.9	C D		0.05	C U
140	139 + 140		C139			C139			C139			C139			C139			C139
141		288			420	D		484	D		313	D		351	D		0.122	
142		0.792	U		0.955	U D		1.19	U D		1.32	U D		0.984	U D		0.05	U
143	134 + 143		C134			C134			C134			C134			C134			C134
144		84.1			83.6	D		174	D		85.6	D		123	D		0.05	U
145		0.379			0.206	D		0.571	K D	J-EMPC	0.405	K D	J-EMPC	0.443	K D	J-EMPC	0.05	U
146		899			1320	D		1790	D		1210	D		1230	D		0.129	K
147	147 + 149	1610	C		1310	C D		3260	C D		1440	C D		2140	C D		0.317	C
148		7.57			8.46	D		17.6	D		8	D		11.2	D		0.05	U
149	147 + 149		C147			C147			C147			C147			C147			C147
150		3.71			2.87	D		9.05	D		3.21	D		5.99	D		0.05	U
151	135 + 151 + 154		C135			C135			C135			C135			C135			C135
152		1.24			1.5	D		2.29	D		1.57	D		1.75	K D	J-EMPC	0.05	U
153	153 + 168	4850	C		8170	C D		9180	C D		7410	C D		5650	C D		0.609	C
154	135 + 151 + 154		C135			C135			C135			C135			C135			C135
155		4.6			7.9	D		10.2	D		7.21	D		6.63	D		0.05	U
156	156 + 157	420	C		786	C D		714	C D		557	C D		544	C D		0.244	C
157	156 + 157		C156			C156			C156			C156			C156			C156
158		412			606	D		798	D		490	D		557	D		0.096	K
159		14.3			13.3	D		25.2	D		14.1	K D	J-EMPC	15.4	D		0.05	U
160	129 + 138 + 160 + 163		C129			C129			C129			C129			C129			C129
161		0.555	U		0.67	U D		0.836	U D		0.928	U D		0.69	U D		0.05	U
162		20			36	D		38.6	D		27.9	D		23.5	D		0.05	U
163	129 + 138 + 160 + 163		C129			C129			C129			C129			C129			C129
164		143			169	D		228	D		167	D		185	D		0.05	U
165		3.83			6.28	D		8.53	D		4.82	D		4.99	K D	J-EMPC	0.05	U
166	128 + 166		C128			C128			C128			C128			C128			C128
167		175			286	D		242	D		276	D		198	D		0.09	K
168	153 + 168		C153			C153			C153			C153			C153			C153
169		2.16	U		4.82	U D		5.96	U D		3.56	U D		2.1	U D		0.072	K
170		491			866	D		887	D		636	D		522	D		0.187	
171	171 + 173	245	C		389	C D		548	C D		345	C D		311	C D		0.091	C K
172		98			159	D		193	D		115	D		101	D		0.05	U
173	171 + 173		C171			C171			C171			C171			C171			C171
174		242			220	D		447	D		235	D		270	D		0.072	K
175		29.3			36	D		71.5	D		37.1	D		39.4	D		0.05	U
176		50.4			37.4	D		124	D		45.7	D		76.9	D		0.05	U
177		503			462	D		1220	D		550	D		675	D		0.07	
178		291			422	D		683	D		419	D		384	D		0.05	U
179		244			243	D		549	D		315	D		348	D		0.056	
180	180 + 193	1380	C		2670	C D		2870	C D		2110	C D		1460	C D		0.26	C
181		10			16.8	D		18.8	D		14.4	D		12	D		0.05	U
182		7.89			13.4	D		15.8	D		10.7	D		9.23	D		0.05	U
183	183 + 185	583	C		904	C D		1290	C D		843	C D		700	C D		0.091	C
184		4.51			8.34	D		10.9	D		8.55	D		6.7	D		0.05	U
185	183 + 185		C183			C183			C183			C183			C183			C183
186		0.0919	U		0.126	U D		0.158	U D		0.187	U D		0.175	U D		0.05	U
187		1800			2510	D		4090	D		2650	D		2330	D		0.142	K
188		4.36			6.67	D		10.1	D		6.91	D		6.04	D		0.05	U
189		20.9			38.6	D		37.5	D		29.5	D		20.5	D		0.088	K
190		217			381	D		431	D		345	D		243	D		0.05	U
191		28.4			52	D		59.5	D		42.3	D		31.9	D		0.05	U
192		0.119	U		0.163	U D		0.205	U D		0.242	U D		0.226	U D		0.05	U
193	180 + 193		C180			C180			C180			C180			C180			C180
194		157			285	D		289	D		204	D		134	D		0.058	
195		91.8			172	D		195	D		146	D		97.2	D		0.05	U
196		97.1			187	D		193	D		147	D		96.2	D		0.05	U
197	197 + 200	28.7	C		39.2	C D		64.3	C D		35.1	C D		35.1	C D		0.05	C U
198	198 + 199	277	C		465	C D		532	C D		315	C D		248	C D		0.068	C
199	198 + 199		C198			C198			C198			C198			C198			C198
200	197 + 200		C197			C197			C197			C197			C197			C197
201		43.6			66.9	D		110	D		67.6	D		55.1	D		0.05	U
202		144			232	D		348	D		198	D		166	D		0.05	U
203		252			468	D		506	D		364	D		234	D		0.053	
204		0.427			1.06	D		0.932	K D	J-EMPC	0.54	D		0.491	K D	J-EMPC	0.05	U
205		13.8			22.9	D		28.6	D		19.2	D		13.4	D		0.064	
206		94.4			185	D		171	D		107	D		70.8	D		0.201	U
207		14.9			34.4	D		30.8	D		23.3	D		15.2	D		0.157	U
208		37			65.3	D		73	D		38.9	D		31	D		0.156	U
209		43.1			67.2	D		77.6	D		52.2	D		31.7	D		0.137	K

Notes:

All results are in units of pg/g (picograms/gram)

C = Concentration represents coeluting congeners.

D = (Laboratory Qualifier) Analyte reported from a dilution.

J = The reported concentration is an estimate.

J-EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

K = (Laboratory Qualifier) The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

PCBs = Polychlorinated Biphenyls