DEPARTMENT OF ECOLOGY
Environmental Assessment Program

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SUBJECT: **Technical Memo: Spokane River Toxics Sampling 2012-2013 – Surface Water, CLAM, and Sediment Trap Results**

EA Activity Tracker Code: 12-027

Background

In support of ongoing efforts to address levels of concern for polychlorinated biphenyls (PCBs), dioxins and furans, and other toxics in the Spokane River, the Washington State Department of Ecology (Ecology) conducted a study to evaluate several types of sample collection methods and analytical methods for toxics monitoring in the Spokane River during fall 2012 through spring 2013. Details further explaining the purpose and scope of the Ecology study are outlined in the Quality Assurance Project Plan (QAPP) for the study (Era-Miller, 2013).

The study focused on PCBs, dioxins and furans, polybrominated diphenyl ethers (PBDEs), cadmium, lead, and zinc. Environmental samples included surface water collected by composite hand grabs and 24-hour filtration in the field, and sediments collected by sediment traps deployed for several months at a time.

During fall 2012, Ecology also conducted our most comprehensive fish tissue study to date in the Spokane River. Fish tissue results will not be covered in this technical memo. Fish tissue results from the 2012 effort are summarized in the Freshwater Fish Contaminant Monitoring Program (FFCMP) report (Seiders et al., 2014). Details outlining the FFCMP are available in the project QAPP (Seiders, 2013).

This technical memo presents the results of the 2012-2013 surface water and sediment trap monitoring effort, and provides recommendations for the use of these environmental sample collection and analytical methods to aide in the design of a long-term monitoring program for the Spokane River. The purpose of a long-term monitoring program is to evaluate changes in levels of toxics in the river over time as source control work proceeds in the watershed.

Methods

Surface Water

Surface water was collected both by composite hand grabs and with use of Continuous Low-Level Aqueous Monitoring (CLAM) devices. The CLAM is a pre-concentration collection method for water that allows for lower (up to 100 times lower) detection limits than with direct analysis of surface water samples. This is because the CLAM can filter up to 100 liters of surface water through an EPA approved SPE (solid phase extraction) disk over a 24-hour deployment in a waterbody. Detailed information on CLAM sampling procedures is described in the QAPP for this study (Era-Miller, 2013). More information on CLAM technology can be found at the manufacturer's website: http://www.ciagent-stormwater.com/new-water-monitoring/.

Surface water grab samples were collected by wading into a well-mixed section of the river and using a pole sampler to fill a certified organics-free compositing jar approximately one to two feet below the water surface. Water from the compositing jar was then poured into the sample containers. Half the sample containers were filled on day one and then placed on ice in a cooler overnight. The other half of the sample containers were filled the following day to create a single composite sample for analysis. Where surface water and CLAM sampling overlapped (Upriver Dam and Ninemile Dam in the fall of 2012), a surface water sample was taken during the same 24-hour CLAM deployment period in the same location as the CLAMs so comparisons could be made between the two collection methods.

Surface water was collected by hand composite grabs in both fall 2012 and spring 2013 at five locations. CLAMs were only used in fall 2012 at two locations: Upriver Dam and Ninemile Dam. Table 1 shows the sampling schedule. Appendix A gives detailed information on the monitoring locations including maps.

Table 1. Surface Water Sampling Schedule.

			Season	Fall			Spring	
			Dates	10/23/12 - 10/24/12	10/24/12 - 10/25/12		5/23/13 - 5/24/13	
Location				CLAM		Grab	CLAM	Grab
Stateline				--	--	X	--	X
Upriver Dam				--	X	X	--	X
Above Latah				--	--	X	--	X
Ninemile Dam				X	X	X	--	X
Chamokane				--	--	X	--	X
Analyses	Method	Laboratory						
PCB Aroclors	EPA 8082	MEL		X	--	--	--	--
PCB congeners	EPA 1668c	PRL		X	X	X	--	X
PBDEs	EPA 8027	MEL		X	--	--	--	--
PBDEs	EPA 1614	PRL		X	X	X	--	X
Dioxins/furans	EPA 1613b	PRL		X	X	--	--	--
DOC	SM 5310B	MEL		--	--	X	--	X
TOC	DOC field filtered	MEL		--	--	X	--	X
TSS	SM 2540D	MEL		--	--	X	--	X

X = Samples collected; -- No Samples collected
EPA = Environmental Protection Agency; SM = Standard Methods
MEL = Manchester Environmental Laboratory; PRL = Pacific Rim Laboratories
DOC = dissolved organic carbon; TOC = total organic carbon; TSS = total suspended solids

PCB Aroclors and PBDEs by method EPA 8027 were analyzed at Ecology's Manchester Environmental Laboratory (MEL). The high resolution methods for PCB congeners, PBDEs by method EPA 1614, and dioxins/furans were analyzed at Pacific Rim Laboratories (PRL).

Sediment Traps

Sediment traps were deployed in the reservoirs above Upriver and Ninemile Dams in order to collect suspended particulates over an extended period of time. Total suspended solids (TSS) are generally low in the Spokane River with values below 5 mg/L 90 percent of the time. It was therefore anticipated that a several month deployment would be needed to accumulate enough material for multiple toxics analyses. The monitoring schedule for the sediment traps, analytical methods, and laboratories used are shown in Table 2. Appendix A gives detailed information on the monitoring locations including maps.

Table 2. Sediment Trap Monitoring Schedule.

Location	Deployment Period	Days Deployed	Analyses	Methods	Laboratories
Upriver Dam	10/9/12 – 1/31/13	113	PCB congeners, PBDEs, dioxin/furans, Metals (cadmium, lead and zinc)	EPA 1668c, EPA 1614, EPA 1613b, and EPA 200.8	PRL; MEL for metals
	1/31/13 – 4/9/13	68			
Ninemile Dam	10/10/12 – 2/1/13	113			
	2/1/13 – 6/13/13	132			

A standard sediment trap deployment method for reservoirs and deep water is to suspend a trap in the middle of the water column with an anchor, snag line, and hardball float. This method is described in detail in Norton (1996), and a schematic of the sediment trap design and deployment configuration is displayed in Figure 1. A hard shell float sits six feet below the water surface so that the trap can stay suspended in the water column and so it is not disturbed by vessel traffic or floating debris. The trap is retrieved by dragging a grapple hook across the snag line between the two anchors.

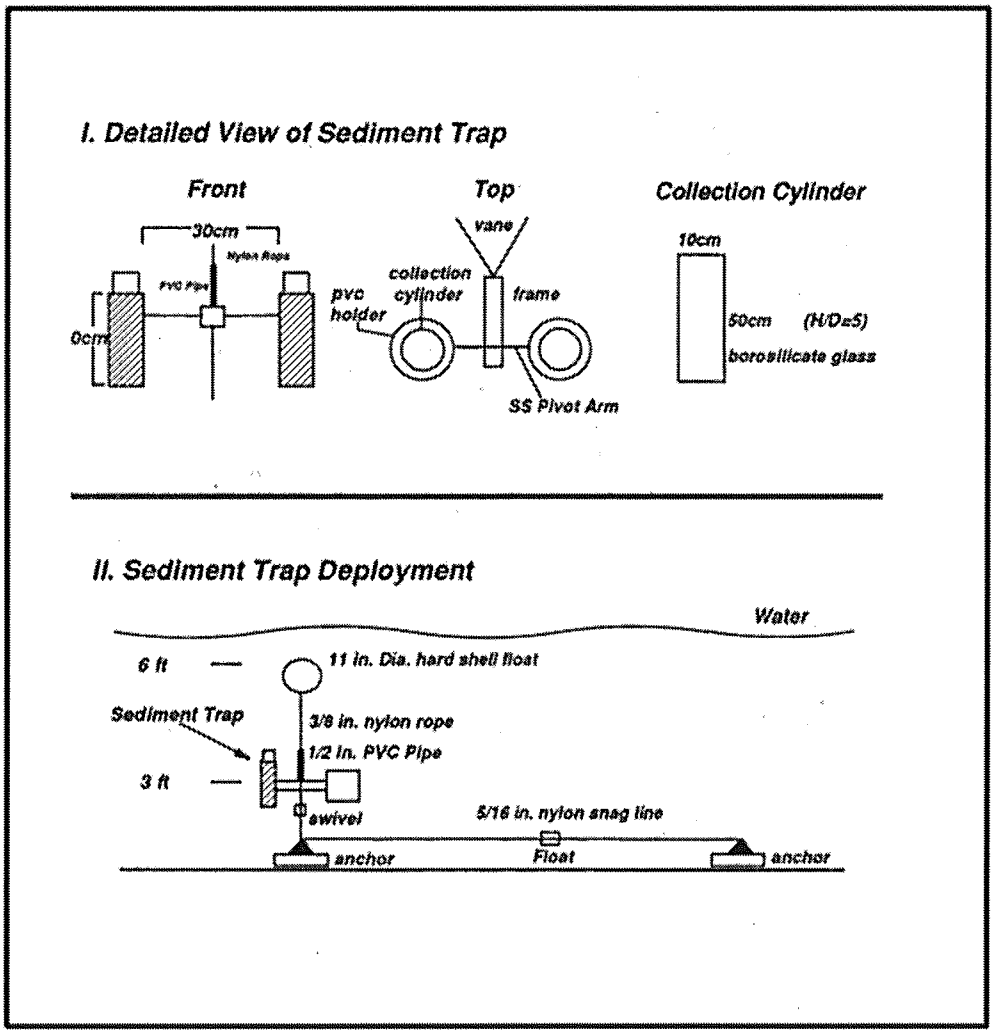

Figure 1. Schematic of Sediment Trap Design and Deployment Configuration (Norton, 1996).

Each sediment trap holds two glass collection cylinders, each with a collection area of 78.5 cm^2 and a

height-to-width ratio of 5. Two traps (each holding two pre-cleaned glass collection cylinders) were deployed in each reservoir, for a total of four cylinders in each reservoir per deployment period.

Before deployment, cylinders were cleaned with Liquinox soap and hot water, followed by 10 percent nitric acid, and then rinsed with deionized water. Cylinders were then rinsed with pesticide-grade acetone and finally hexane. Collection cylinders were then air-dried under a fume hood and capped with aluminum foil until used in the field.

At deployment, the cylinders were partially filled with high salinity water (4 percent sodium chloride – NaCl), which included mercuric chloride (HgCl) as a preservative to reduce microbial degradation of the samples.

For Upriver Dam, one trap was placed closer to the right bank and one was placed closer to the left bank of the reservoir (Appendix A, Figure A-2). For Ninemile Dam, both traps were placed in the main channel roughly 200 yards apart along the left bank, forming an inline transect with the flow (Appendix A, Figure A-3). Several factors supported having two traps at each monitoring site:

- With anticipated low sediment collection rates, the addition of more cylinders allows for a greater collection of material that is needed to run all of the analyses.
- The placement of two traps at each sampling location allowed for a contingency plan in case one of the traps became inoperable.
- To account for any hydrologic differences within the channel of a reservoir, the two traps at each sampling location were placed on opposite sides of the channel of each other.

Sediment trap samples were retrieved after 113 days for the first deployment period from October 2012 to February 2013. In April 2013, the sediment traps were again retrieved after 68 days at Upriver Dam. Due to high river flows, the traps at Ninemile Dam could not be retrieved in April as planned. Flows went down significantly by June. At that time, only one of the traps at Ninemile Dam was found (after 132 days of deployment), but there was enough sediment for analysis. The other trap was lost and never retrieved.

Data Reduction

For the high resolution gas chromatography/mass spectrometry (HR GC/MS) methods (PCB congeners–EPA1668c, PBDEs–EPA1614, and dioxins/furans–EPA 1613b), results were considered to be non-detects ("U") if the congener concentrations were less than five times the concentration of the associated laboratory method blanks. The result values (qualified as non-detects) were then either reported at the estimated quantitation limit (EQL) or at the level of detection, whichever was higher.

Data Qualifier Definitions:

U	The analyte was not detected at or 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.
NJ	The analyte has been "tentatively identified," and the associated numerical value represents its approximate concentration.
ND	Not Detected.

Results for the HR GC/MS methods that did not meet the isotopic abundance ratio and retention time

criteria for positive identification were qualified by MEL with an "NJ" and considered to be tentatively identified. Due to the uncertainly of "NJ" data and because they cannot be used for regulatory purposes, it was decided to report these data as non-detects for the purposes of this technical memo. Qualifiers were changed to "U," and the result values were either reported at the estimated quantitation limit (EQL) or at the level of detection, whichever was higher.

The HR GC/MS data entered into Ecology's Environmental Information Management (EIM) database include the NJ qualified results; however, the data in EIM was censored for potential blank contamination. All the results were changed to non-detects ("U") if the congener concentrations were less than five times the concentration of the associated laboratory method blanks and field transfer blanks. Qualifiers were changed to "U," and the result values were either reported at the estimated quantitation limit (EQL) or at the level of detection, whichever was higher.

For summing of all sample totals (e.g., total PCBs and PCB homologues, total PBDEs, and dioxin TEQs), non-detected results comprising a total value were assigned a value of zero. If only non-detected results comprised a total value, then the final total result was simply reported as "ND." Sample totals were assigned a qualifier of "J" (estimated) only if more than 10percent of the result concentration was comprised of results containing a "J" qualifier. Total values are not entered into EIM.

Because there are numerous ways to conduct data reduction on this dataset as described above, the original data as reported from the laboratories are available from the project manager on request.

EIM can be accessed at: http://www.ecy.wa.gov/eim. The study ID for this project is BERA0009.

Results

Surface Water

Ancillary chemistry samples (Table 3) were collected during the same time period as grab and CLAM samples. Ancillary chemistry parameters included dissolved organic carbon (DOC), total organic carbon (TOC), and total suspended solids (TSS). Temperature, conductivity, pH, and dissolved oxygen were also recorded in the field using a MiniSonde multi-parameter field meter. Field measurement data are shown in Appendix C,
Table C-1.

Table 3. Ancillary Surface Water Chemistry Data (mg/L).

Dates	10/24/13 - 10/25/13					
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05
DOC	**1.1**	1 U	1 U	1 U	1 U	1 U
TOC	**1.3**	**1.3**	1 U	1 U	1 U	1 U
TSS	**1**	1 U	1 U	**4**	**4**	1 U
Dates	5/23/13 - 5/24/13					
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05
DOC	**1.1**	**1.1**	**1.1**	**1.1**	**1.0**	**1.1**
TOC	**1.2**	**1.3**	**1.1**	**1.2**	**1.2**	**1.2**
TSS	**2**	**1**	**1**	**1**	**1**	**2**

Bold values are a visual aid to identify detected values
U = Result is not detected at the value reported

DOC, TOC, and TSS were all very low (near detection limits) for all the monitoring locations during both fall 2012 and spring 2013. One exception was that TSS was comparatively higher at Ninemile Dam during October 24 and 25. This is because the reservoir was drawn-down for a week at this time for dam repairs, causing the reservoir to behave more like a free-flowing river. As a result, the water was more turbid during this time, and TSS values were 4 mg/L as compared to 1 mg/L or less at the other monitoring locations.

The hydrological conditions created by the draw-down may have influenced the surface water and CLAM samples that were analyzed for toxics and, as a result, the October Ninemile Dam samples should not be considered representative of typical seasonal reservoir conditions. Episodic events such as the reservoir draw-down could be important for the transport of contaminants in the river system.

PCBs

PCB congeners were detected in surface water samples collected by composite grabs during both fall 2012 and spring 2013. The concentrations were similar to the transfer and laboratory method blanks as shown in Figure 2, making it difficult to discern a real environmental signal. Total PCBs in the spring did appear slightly higher compared to the fall samples; however, the Above Latah field replicates collected during the spring showed high variability, with an RPD of 97 percent (38 versus 109 pg/L). Individual PCB congeners and homologue totals for the surface water data are tabulated in Appendix C, Tables C-2 and C-3.

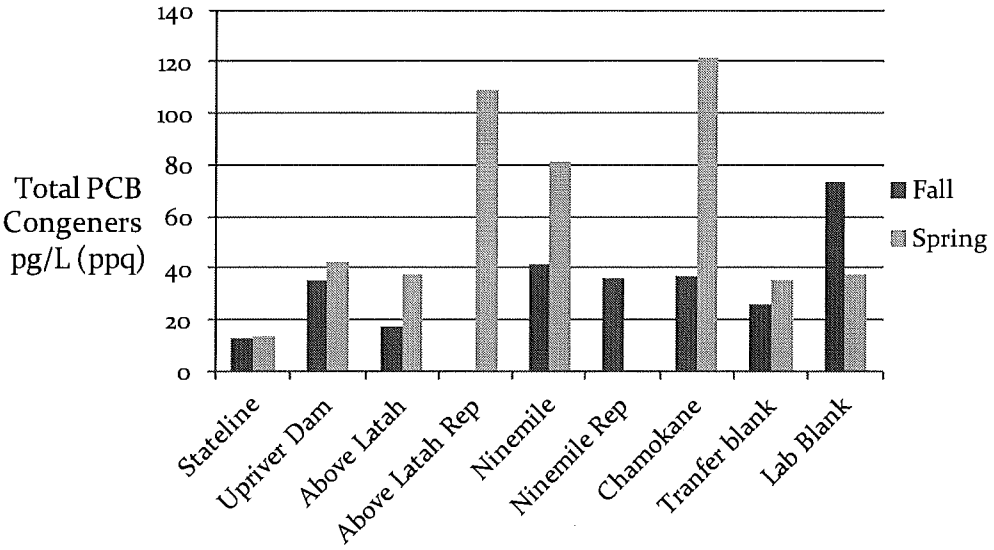

Figure 2. Total PCB Congeners in Surface Water Grab Samples from Fall 2012 and Spring 2013 Monitoring.

PCB congeners in the CLAM samples gave a clear environmental signal with results that were one to two orders of magnitude higher than the laboratory method blank concentration. Detection limits for many of the individual congeners reached down into the sub pg/L (ppq - part per quadrillion) range. Full results, including homologue totals for the CLAM data, are tabulated in Appendix C, Table C-6. Precision of samples deployed in triplicate was excellent with a relative standard deviation of 11 percent for Upriver and 14 percent for Nine Mile. Data quality for the CLAM data is discussed in more detail in Appendix B of this technical memo.

Figure 3 shows results for the CLAM samples compared to applicable water quality standards. Concentrations were within the National Toxics Rule (NTR) water quality criterion of 170 pg/L but exceeded the Spokane Tribal water quality criterion of 1.3 pg/L.

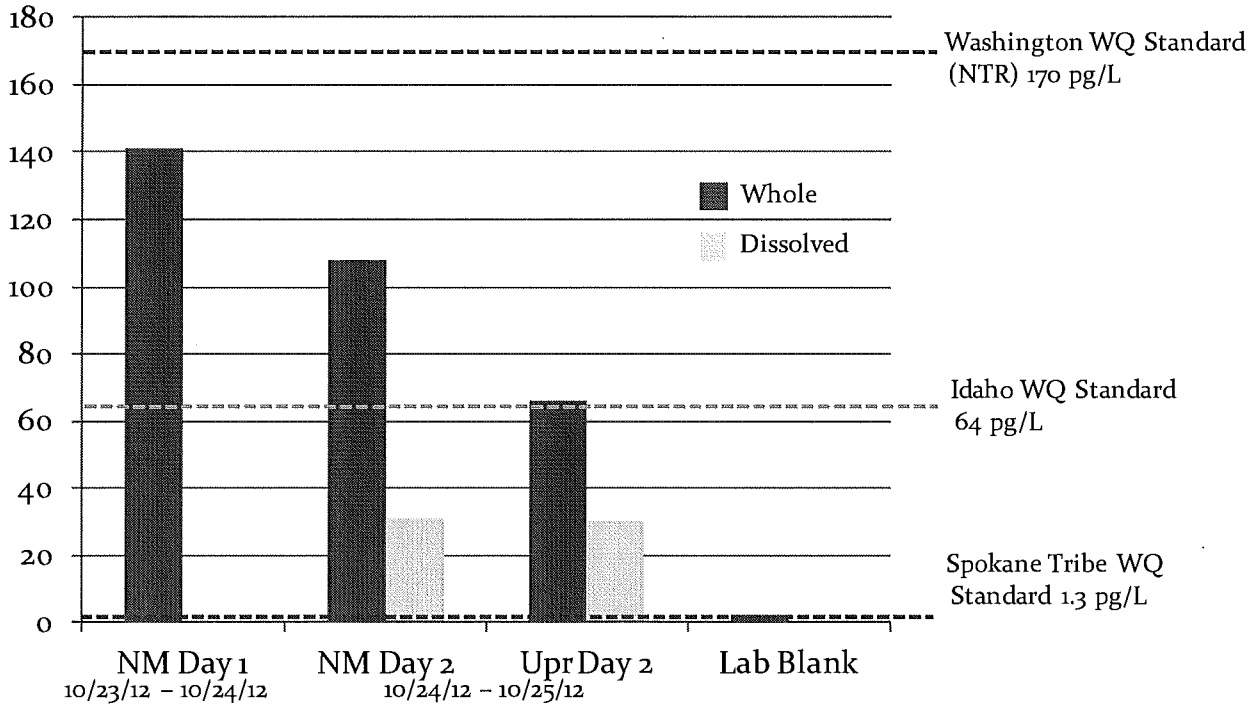

Figure 3. PCB Congener Results for CLAM Samples deployed at Ninemile and Upriver Dams (pg/L, ppq).

On the first deployment day, CLAMs were installed only at Ninemile Dam. On day two, CLAMs were deployed at both Ninemile Dam and Upriver Dam, where pre-filters were added to one sample at both monitoring locations. The pre-filters have a filter size of 1.5 microns. Suspended particulates greater than 1.5 microns are retained on the pre-filter, and anything smaller along with the dissolved fraction can pass through to the SPE disk behind the pre-filter. This was done to gain a general sense of how much of the PCBs in surface water are in the dissolved versus particulate phase.

According to Ecology's PCB Source Assessment (Serdar et al., 2011), approximately 94 percent of the PCBs in Spokane River surface water are in the dissolved phase. This estimate was based on sediment-water partitioning using suspended particulate matter (SPM) data. According to the CLAM results, the dissolved fraction (defined by a <1.5 micron filter size) was 30 percent at Ninemile Dam and 50 percent at Upriver Dam (Figure 3). More research needs to be conducted to understand how accurately the CLAM can define the dissolved fraction, especially since a 1.5 micron filter size could allow some finer clay to pass through.

PCB Aroclors were also analyzed in some of the CLAM samples from Ninemile Dam, but were not detected above the detection limits of 700 – 920 pg/L. Aroclor results are shown in Appendix C, Table C -7.

PBDEs

PBDE congeners analyzed by high resolution method EPA 1614 were detected in most of the surface water grab samples collected during both fall 2012 and spring 2013 (Figure 4). EPA 1614 measures more than twice the number of PBDE congeners compared to EPA method 8270. The only surface water samples that gave a clear environmental signal above the blank sample concentrations were the samples taken at Above Latah and at Ninemile Dam during fall monitoring. The spring samples had high contamination in the laboratory method blank, though the result for Chamokane (640 pg/L) was greater than three times the laboratory blank (198 pg/L), indicating that the result for Chamokane might be a real signal from the environment. Individual PBDE congener data for the surface water are given in Appendix C, Tables C-4 and C-5.

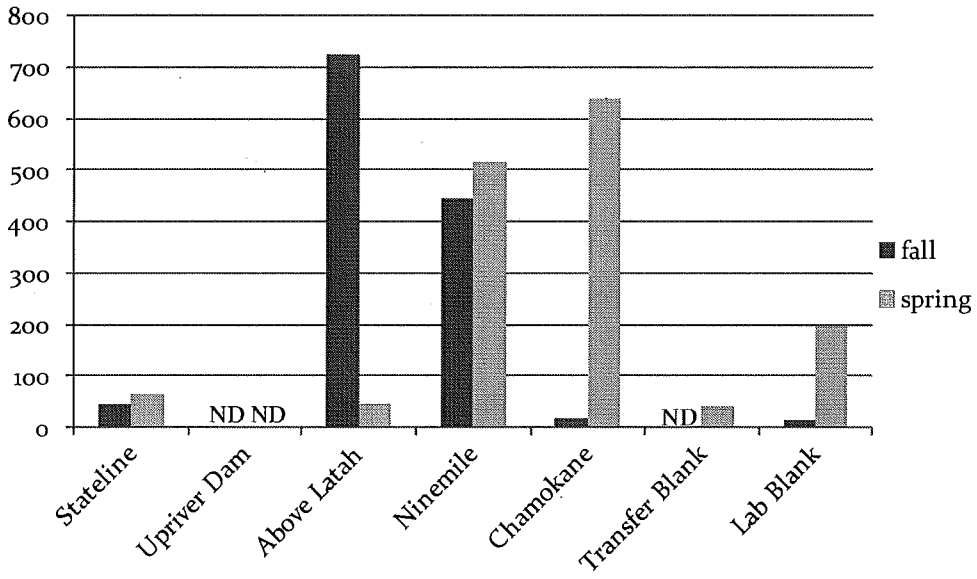

Figure 4. PBDE Results for Surface Water Grab Samples (pg/L, ppq); ND = not detected.

Similar to PCB congeners, PBDEs measured in the CLAM samples by method EPA 1614 gave a clear environmental signal with results that were one to two orders of magnitude higher than the laboratory method blank concentration (Figure 5). PBDEs were not detected in the laboratory method blank for samples analyzed with method EPA 8270. Even though PBDEs measured at Ninemile Dam and Upriver Dam were only 24 hours apart (deployment day one versus day two), concentrations at Ninemile Dam were almost 20 times higher than at Upriver Dam. Individual PBDE congener data for the CLAM samples are presented in Appendix C, Tables C-8 and C-9.

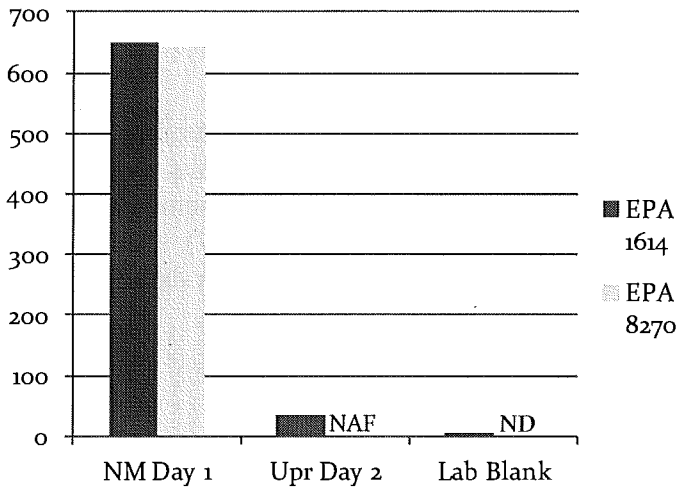

Figure 5. Total PBDE Results for CLAM Samples (pg/L, ppq); NAF = not analyzed for; ND = not detected.

PBDEs were analyzed in the CLAM samples from Ninemile Dam using both EPA methods 1614 and 8270 (see data for 9M Day 1 in Figure 5). The Ninemile CLAM samples were analyzed as field triplicates with excellent precision for both methods ranging from 9 – 19% RSD (see Appendix B for more detail).

Detection limits for many of the individual PBDE congeners reached down into the sub pg/L (ppq - part per quadrillion) range for EPA 1614 and down into the sub ng/L (pptr - part per trillion) range for EPA 8270. Even with this difference in detection levels and the difference in number of congeners analyzed between the two analytical methods, results between the two sets of triplicate data were highly comparable (see Figure 6). This is probably due to the fact the PBDE congeners 47, 99, and 209 make up 80 – 90 percent of the total PBDE concentrations for these samples. EPA 8270 measures only 14 congeners compared to EPA 1614's 38 congeners, but the three most concentrated congeners (47, 99, and 209) are represented in both methods.

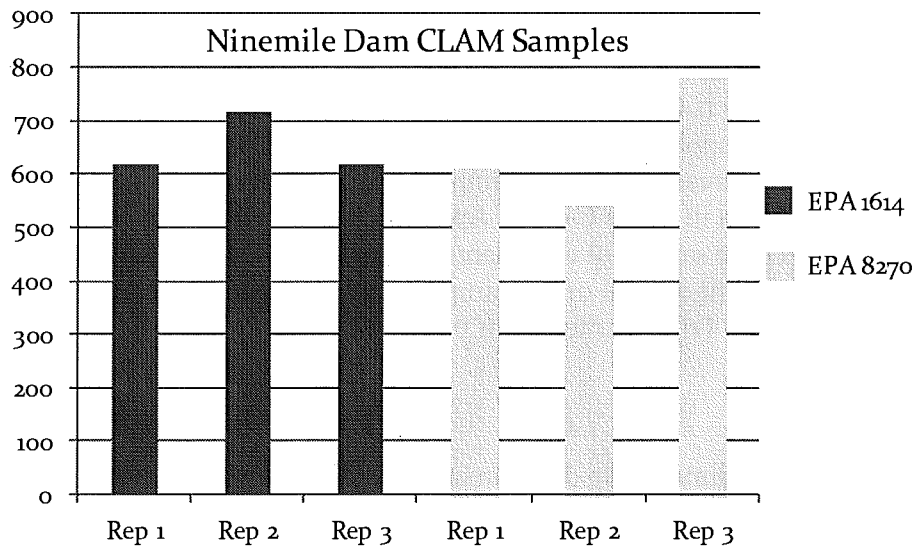

Figure 6. CLAM Field Triplicate Results for Total PBDEs for Two Analytical Methods (pg/L, ppq).

Dioxins and Furans

Dioxins and furans were not analyzed in surface water grab samples due to the unlikely possibility that they would be detected. CLAM samplers were used to concentrate contaminants, but results were not as clear as with the PCBs and PBDEs results. The field samples deployed in triplicate at Ninemile Dam (51% RSD) and in duplicate at Upriver Dam (192% RPD) showed low precision (Figure 7). Data in Figure 7 are presented as dioxin/furan toxic equivalents (TEQs) with the specific congener data for the CLAM samples presented in Appendix C, Table C-10.

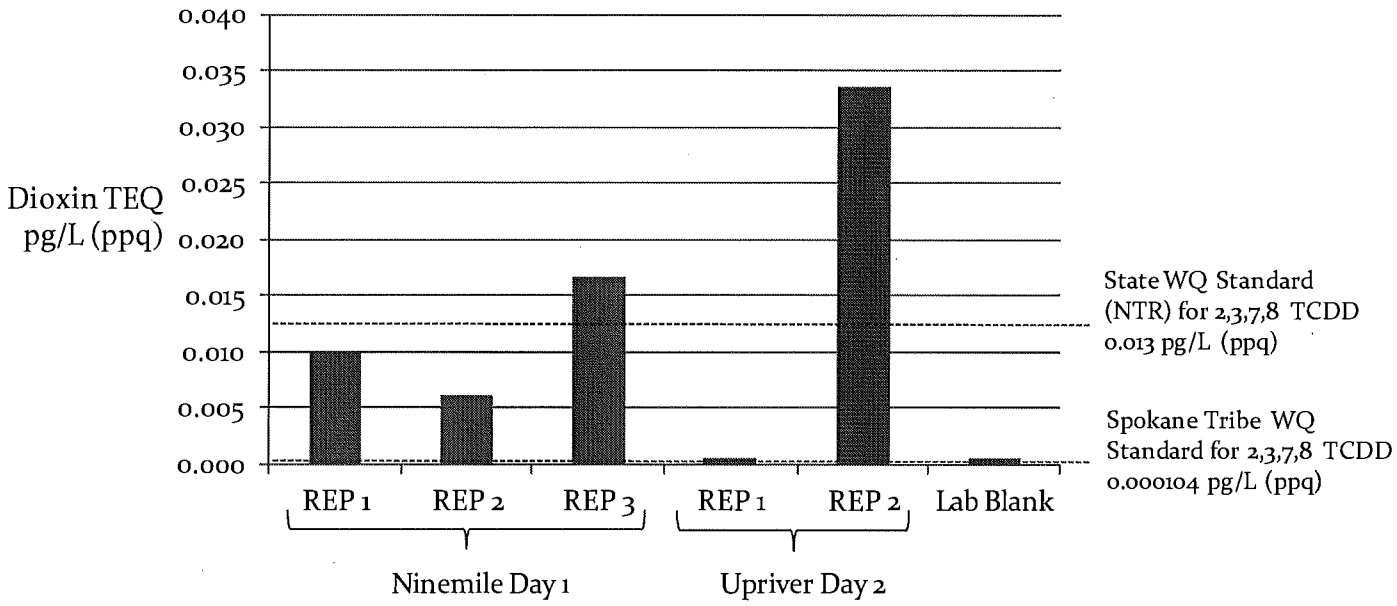

Figure 7. Dioxin/furan TEQ Results for CLAM Samples.

The most toxic congener of dioxin is 2,3,7,8-TCDD. It was not detected in any of the CLAM samples. The Washington State water quality standard (NTR) and Spokane Tribal water quality standard for dioxins and furans are only for congener 2,3,7,8-TCDD. The criteria values are 0.013 and 0.000104 pg/L (ppq), respectively.

Another way to determine a total sample toxicity is to calculate a TEQ value and compare it to the 2,3,7,8-TCDD criteria. TEQs are calculated by applying a toxic equivalency factor (TEF) to each dioxin and furan congener then adding up the TEFs to create an overall sample toxicity equivalent. The TEFs used to calculate the TEQs in Figure 7 are shown in Table C-10 of Appendix C. Based on the TEQ calculations, two of the five CLAM samples (one sample at each dam site) analyzed for dioxins/furans exceed the State water quality criterion of 0.013 pg/L. All of the samples, including the REP1 at Upriver Dam and the lab blank, exceed Spokane Tribe's criterion of 0.000104 pg/L.

Sediment Traps

Sediment flux rate was calculated for all four sediment trap deployments (Table 4). It was found that as the flow of the river increased, a higher corresponding sediment flux rate was observed. There were also large differences in sediment loading between traps at each site. Sediments were combined from the two traps at each site and deployment periods for chemical analysis. An average flux rate was applied to all samples, except for the second deployment at Ninemile Dam where Trap 2 was lost.

Table 4. Sedimentation Rates for Sediment Traps.

Location	Deployment Period	Days Deployed	Average Flow (cfs)	Sediment Flux ($g/cm^2/yr$)		
				Trap 1	Trap 2	Average
Upriver Dam	10/9/12 – 1/31/13	113	4,600[a]	0.3	0.6	0.4
	1/31/13 – 4/9/13	68	7,400[a]	0.5	1.7	1.1
Ninemile Dam	10/10/12 – 2/1/13	113	5,300[b]	2.0	6.0	4
	2/1/13 – 6/13/13	132	10,100[b]	3.7	NC	NC

a = Flow data from USGS gage near Post Falls, Idaho
b = Flow data from Avista
NC = Not calculated due to loss of Trap 2 during second deployment at Ninemile Dam

A summary of the toxics data for the sediment traps is shown in Table 5. Ancillary data included percent solids and percent TOC (total organic carbon). Analytical laboratories use the percent solids data to calculate analyte concentrations. The percent solids data are also used to calculate the sediment flux. TOC was higher at Upriver Dam compared to Ninemile Dam. Detections in the laboratory method blanks were low compared to the sample results for all toxics.

Table 5. Data Summary for the Toxics in Sediment Traps Deployed in the Spokane River.

Location	Ninemile Dam			Upriver Dam		Lab Method Blank
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 - 1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample No.	1304017-01	Replicate	1306061-01	1304017-02	1304017-03	
% Solids	**42.9**	**42.8**	**33.5**	**18.3**	**19.5**	ND
% TOC	**3.9**	**3.8**	**7.4**	**11.0**	**12.9**	ND
Metals (mg/Kg, dry weight) ppm						
Cadmium	**5**	**5**	**8**	**22**	**24**	ND
Lead	**85**	**83**	**213**	**825**	**640**	ND
Zinc	**822**	**777**	**1130**	**2,580**	**2,420**	ND
Organics (dry weight)						
Total PCBs *(ug/Kg) ppb*	**13.7 J**	**13.8 J**	**17.2**	**28.5 J**	**25.4 J**	**0.13 J**
Total PBDEs *(ug/Kg) ppb*	**65.2**	**58.2**	**23.6**	**22.5**	**19.2**	**0.04**
PBDE 47	**11.4**	**8.8**	**6.4**	**2.3 J**	**3.1**	**0.01**
PBDE 99	**15.3**	**11.6**	**6.5**	**2.2**	**3.1**	**0.01**
PBDE 209	**27.0**	**28.6**	**7.2**	**14.4**	**9.8**	**0.02 J**
Dioxin TEQ *(ng/Kg) pptr*	**1.6**	**0.7**	**0.6**	**1.3**	**4.5**	**0.0**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
ND = Not detected
mg/Kg (ppm) = milligram per kilogram (part per million)
ug/Kg (ppb) = microgram per kilogram (part per billion)
ng/Kg (pptr) = nanogram per kilogram (part per trillion)

PCBs

Total PCB congener results were higher at Upriver Dam compared to Ninemile Dam during both sample periods (Figure 8). Full congener results and homologue totals are presented in Appendix C, Table C-11. The Washington State Freshwater Sediment Cleanup Objective (SCO) for Total PCB Aroclors is 110 ug/Kg, dry weight (dw), parts per billion (ppb). The SCO is the Washington State Sediment Management Standards' screening level for no adverse effects to benthic organisms (WAC 173-204-563). None of the sediment trap samples exceeded this PCB criterion. The cleanup level for the Upriver Dam Sediment (Clean-up) site is 48 ppb (Dowling, 2014). Sediment trap concentrations at Upriver Dam did not exceed this clean-up level.

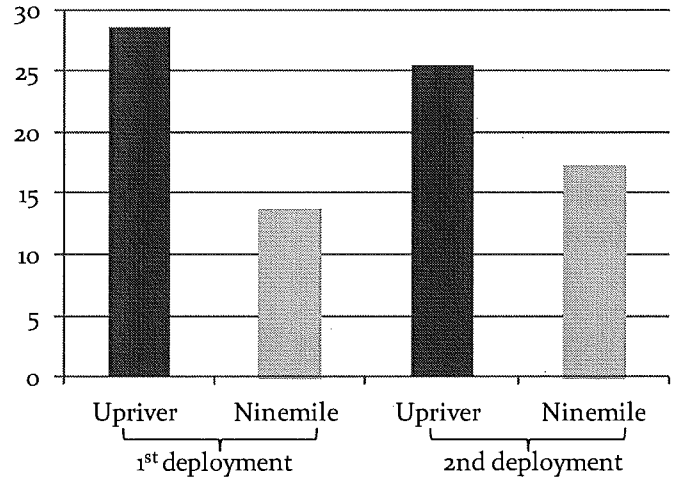

Figure 8. Total PCB Congeners in Sediment Traps (ug/Kg, dw) ppb.

During October to November of 2003, Ecology's Spokane River PCB Source Assessment staff analyzed PCB congeners in suspended particulate matter (SPM) collected over three-day sampling events (Serdar et al., 2011). SPM was collected on three occasions by centrifuge. Although collected at different periods using different methods, the 2003 SPM data and the data from the 2012-2013 sediment traps represent a similar sample matrix. The homologue group totals for these data are compared in Table 6. Data from the first sediment trap deployment were used for comparison (to represent similar conditions). Although total PCB congener concentrations are different between the two collection types at both the Ninemile and Upriver areas, homologue patterns between each deployment period appear to be similar.

Table 6. Total PCBs and Homologue Comparisons between SPM and Sediment Trap Data (ug/Kg, dw) ppb.

Location	Ninemile Area		Upriver Area		
	NM 1st*	Riverside	Upr 1st	Plant Ferry	Harvard
RM	58.1	63.2	80.3	84.8	92.8
Sample Type	Sed Trap	SPM	Sed Trap	SPM	SPM
Collection Dates	10/10/12-2/1/13	11/3/03-11/5/03	10/9/12-1/31/13	10/28/03-10/30/03	10/20/03-10/22/03
Monochlorobiphenyls	ND	ND	ND	ND	ND
Dichlorobiphenyls	**0.23**	**0.39**	**0.65**	**0.09**	**0.11**
Trichlorobiphenyls	**0.86**	**3.71**	**3.78**	**0.41**	**0.51**
Tetrachlorobiphenyls	**2.84**	**12.90**	**9.58**	**1.34**	**0.96**
Pentachlorobiphenyls	**4.43**	**24.60**	**9.25**	**2.49**	**2.91**
Hexachlorobiphenyls	**3.63**	**18.60**	**3.42**	**1.98**	**3.40**
Heptachlorobiphenyls	**1.27**	**6.30**	**1.36**	**0.70**	**1.39**
Octachlorobiphenyls	**0.34**	**1.71**	**0.37**	**0.08**	**0.32**
Nonachlorobiphenyls	**0.10**	**0.39**	**0.08**	ND	ND
Decachlorobiphenyl	**0.04**	**0.15**	**0.04**	ND	ND
Total PCB	**13.7**	**68.8**	**28.5**	**7.1**	**9.6**

* = mean value of replicate samples
ND = Not detected
RM = River mile

PBDEs

Total PBDE concentrations were similar for all deployments with the exception of Ninemile Dam during the first deployment representing the fall-winter low-flow period (10/10/12 through 2/1/13) as shown in Figure 9. Full PBDE congener results are listed in Appendix C, Table C-12. Like the PBDEs in CLAM samples, congeners 47, 99, and 209 were the major components of the total concentrations representing 82–84% of the total.

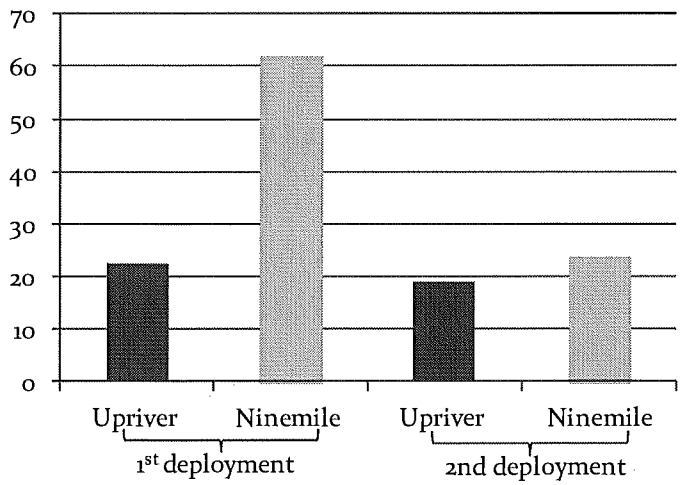

Figure 9. Total PBDEs in Sediment Traps (ug/Kg, dw) ppb.

Dioxins/furans

The most toxic form of dioxin, congener 2,3,7,8-TCDD, was not found in any of the sediment trap samples. This is consistent with the CLAM results. Full dioxin and furan congener results and the TEFs used to calculate TEQs are located in Appendix B, Table B-13. Dioxin/furan TEQ values are shown in Table 5 and Figure 10. TEQ results were similar with the exception of Upriver Dam during the second deployment, representing the winter-spring higher flow period from 1/31/13 through 4/9/13.

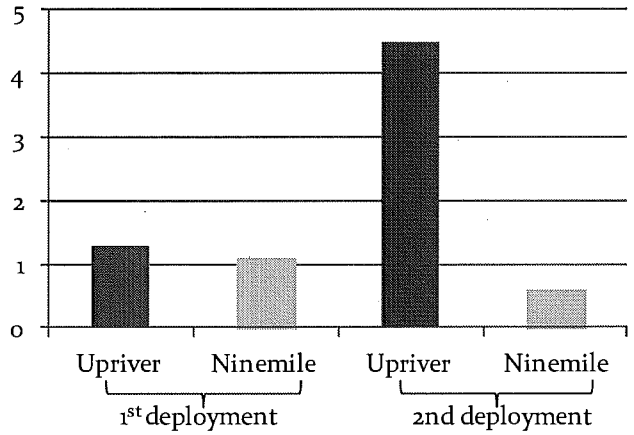

Figure 10. Dioxin/furan TEQs Values for Sediment Traps (ng/Kg, dw) pptr.

There are no Washington State standards for dioxins and furans in freshwater sediments. All sediment trap concentrations were at or below background levels for both Puget Sound sediments (4.0 ng/Kg TEQ – Herrera, 2010) and Statewide Soils (5.21 ng/Kg TEQ – Bradley, 2010).

Metals

Cadmium, lead, and zinc in the sediment traps were higher at Upriver Dam compared to Ninemile Dam for both deployment periods (Figure 11). State Freshwater Sediment Cleanup Objective (SCO) levels are shown in Figure 11. All the cadmium samples for both monitoring locations and lead samples at Upriver Dam exceeded the SCOs. None of the zinc samples exceeded SCOs. SCOs are the no adverse effects level for benthic communities. Chemical concentrations below these levels correspond to sediment quality that results in no adverse effects to the benthic community.

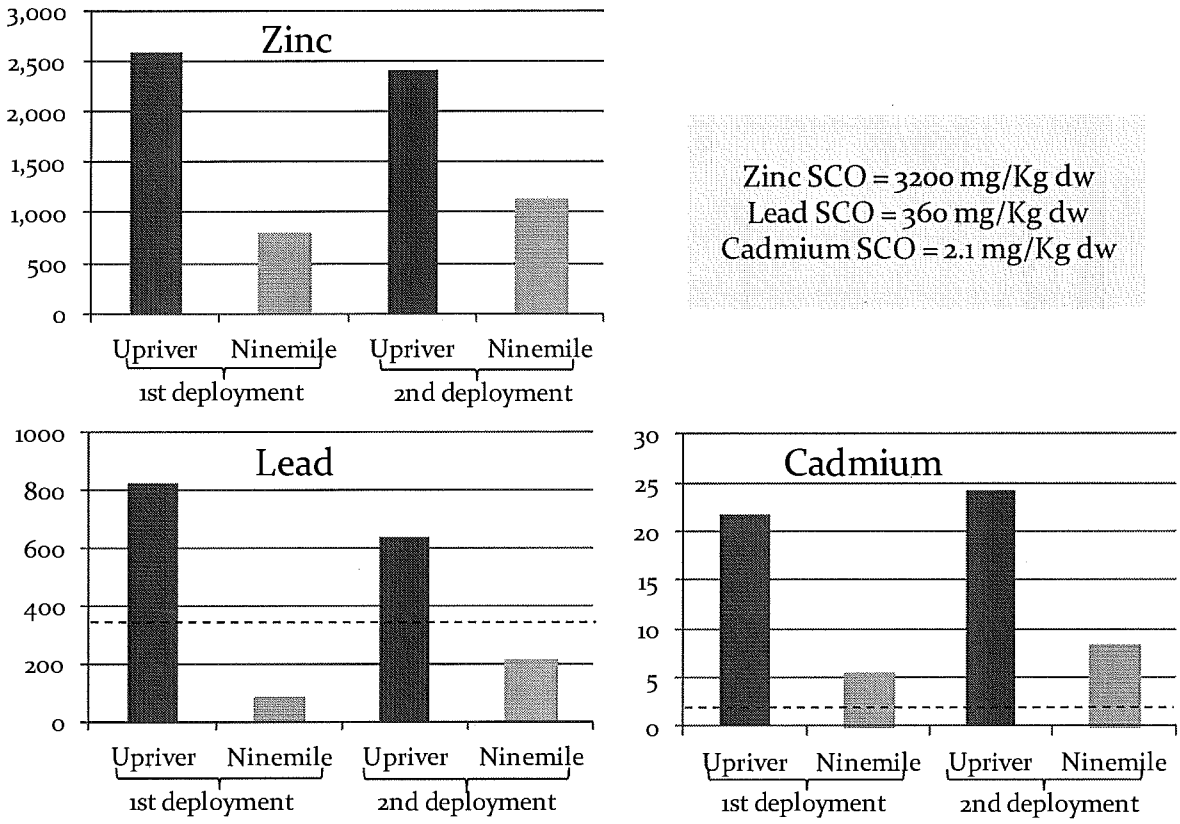

Figure 11. Metals Concentrations in Sediment Traps (mg/Kg, dw) ppm.

The trend of metals being higher at Upriver Dam compared to Ninemile Dam is similar to other studies that have measured metals within the Spokane River. Ecology's (Persistent, Bioaccumulative, and Toxic Chemical) PBT Trend Monitoring Program for Lead in Washington Rivers and Lakes (Mathieu and Friese, 2012) reported higher lead concentrations at Upriver Dam.

The PBT Program monitors for lead in SPM from two sites on the Spokane River each spring and fall: (1) Idaho Stateline and (2) Ninemile Dam. Lead samples are collected by in-line filtration. This sampling technique is different from both sediment trap and centrifuge sampling but represents a similar environmental matrix. Lead results from SPM and sediment traps are compared in Figure 12 showing a decreasing trend in concentrations from the upper Spokane River to Ninemile Dam.

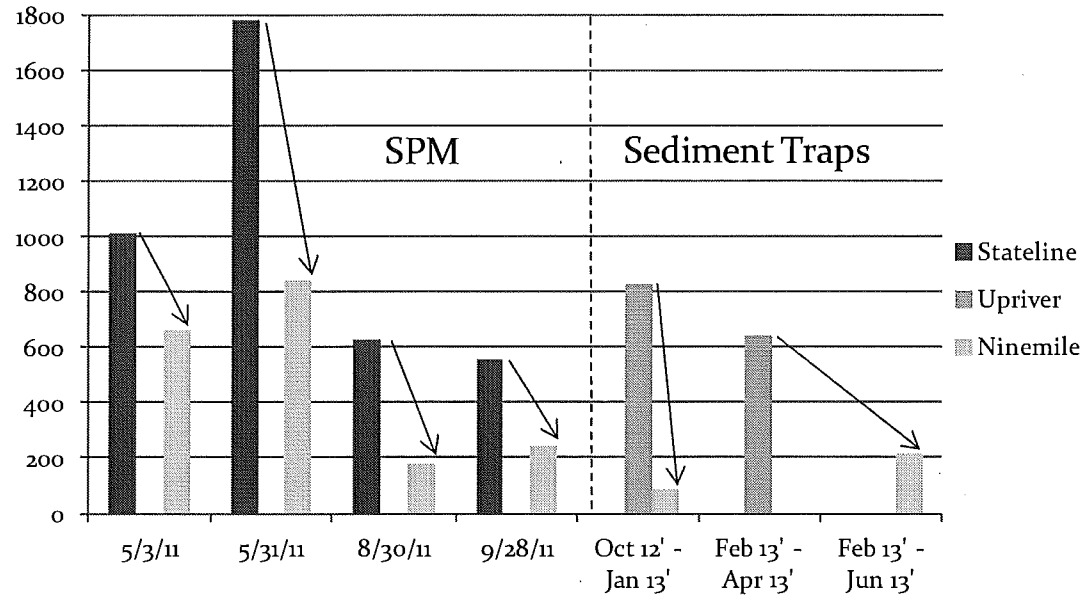

Figure 12. Comparison of Lead Concentrations between the Upper Spokane River and Ninemile Dam Area (mg/Kg, dw) ppm.

Evaluation of Collection and Analytical Methods

The primary objective of the 2012-2013 toxics monitoring study in the Spokane River was to evaluate the usefulness of multiple field collection and analytical methods as they apply to the specific physical and chemical qualities of the Spokane River. This evaluation could then be used in the design of a long-term monitoring program for toxics in the Spokane River. A rating system was developed to assist in the selection process. Figure 13 gives a rating to each collection and analytical method combination that was used in this study. The rating system is based on a yes or no answer to the four following questions:

1. Was there a clear environmental signal above the analytical background noise (this was based on laboratory method blank and transfer blank contamination)?
2. Was the variability of field replicates and split samples of acceptable quality?
3. Is the field collection method easily reproducible on a larger scale?
4. Were detection limits low enough to evaluate State water quality standards? State water quality standards based on Human Health Criteria or Protection of Aquatic Life do not apply to PBDEs or sediment data.

Each collection method/analytical method combination was rated as either good, poor, or okay based on the majority of yes or no answers (excludes the answer of not applicable):

- All Yes = Good
- Majority Yes = OK
- Half or fewer Yes = Poor

Matrix	Parameter & Analytical Method					
	PCB congeners (1668c)	PCB Aroclors (8082)	PBDEs (8270)	PBDEs (1614)	Dioxins & Furans (1613b)	Metals Cd, Pb, Zn (200.8)
Surface Water	1. No 2. No 3. Yes 4. Yes **P**	--	--	1. No 2. No 3. Yes 4. NA **P**	--	--
CLAM	1. Yes 2. Yes 3. Yes 4. Yes **G**	1. No 2. No 3. Yes 4. No **P**	1. Yes 2. Yes 3. Yes 4. NA **G**	1. Yes 2. Yes 3. Yes 4. NA **G**	1. No 2. No 3. Yes 4. Yes **P**	--
Suspended Sedimets	1. Yes 2. Yes 3. Yes 4. NA **G**	--	--	1. Yes 2. Yes 3. Yes 4. NA **G**	1. Yes 2. No 3. Yes 4. NA **OK**	1. Yes 2. Yes 3. Yes 4. NA **G**

P = Poor, **G** = Good, **OK** = okay, and **NA** = not applicable

Figure 13. Evaluation Matrix of Collection and Analytical Methods used for Spokane River Toxics Monitoring.

Surface Water

Analysis of surface water composite grabs samples was not a good monitoring tool for low level organics in the Spokane River. The two analytical methods used (EPA 1668c for PCB congeners and EPA 1614 for PBDEs) are high resolution methods and represent the best analytical methods currently available for low detection limits. The PCB congener sample data in general did not give a clear environmental signal above the analytical background noise. The PBDE congener sample data were slightly better; giving an environmental signal for some of the samples, but laboratory method blank contamination and high variability of field replicate samples was an issue for most of the data.

CLAM

The CLAM collection method for PCB and PBDE congeners in the Spokane River is a good surrogate for grab sampling. PCB and PBDE congeners gave a clear environmental signal and had good precision of field triplicates. PCB Aroclor method EPA 8082 is a poor choice to use with the CLAM samplers due to detection limits above environmental concentrations in the Spokane River. Both PBDE methods, EPA 1614 (measures for 38 congeners) and EPA 8270 (14 congeners), could be used with CLAM samplers because the congeners representing greater than 80 percent of the total PBDE concentrations in the Spokane River (PBDEs 47, 99, and 209) are reported in both analytical methods.

Dioxin/furan results using the CLAM samplers were evaluated as poor because of variability (low precision) between the field replicates and triplicates. It is possible that dioxin/furan concentrations are just too low in surface water for accurate analysis and reporting using CLAM samplers deployed for 24 hours.

CLAMs have the potential to answer the question of how much of the PCBs in Spokane surface water is in the dissolved versus particulate forms. Serdar et al. (2011) suggested that 94 percent of PCBs in

Spokane River surface water can be found in the dissolved phase. This is unusual as PCBs are non-polar chemicals that tend to be associated with particulates. More research in this area could shed light into the fate and transport of PCBs in the Spokane River.

Monitoring with CLAMs has the advantage of representing continuous sampling over a 24-hour period. SPE disks can be swapped out and batteries changed in the CLAM units every 24 hours if multi-day monitoring is desired. With the low TSS and turbidity in the Spokane River, SPE filters are unlikely to get clogged in a given 24-hour period. In addition, CLAMs could possibly be deployed in the river to capture specific events such as storm events.

During the study, 14 CLAM deployments were conducted, with only two equipment failures, where the pump stopped working. CLAMs are moderately easy to deploy. They can be used in both quiescent and flowing water with many possible deployment setups.

A potential issue with the CLAM is accurately determining the total volume of water filtered through the SPE disk during deployment. This total volume is used to calculate the final water concentration for specific analytes such as PCBs. The current method for determining total volume pumped is by taking an average of the pump rates at deployment and retrieval. This method assumes a linear relationship as pumping rate decreases and is based on field studies conducted by the CLAM manufacturer (C.I. Agent). Pumping rate naturally decreases during deployment as the SPE disk becomes filled in with particulates from the water.

Ecology's Environmental Assessment Program (EAP) is planning to develop a Standard Operating Procedure (SOP) for use of the CLAM in Ecology studies. The SOP will address the accuracy of determining the total pumped volume. Until a SOP is published, data produced using the CLAM collection method will not be entered into Ecology's EIM database.

Sediment Traps

Sediment trap sampling was rated "good" for the PCBs and PBDE high resolution methods (EPA 1668c and EPA 1614) and for metals. Results for these analyses gave a clear environmental signal above the analytical background noise. Laboratory duplicates and split samples showed low variability (high precision).

Dioxin and furan results for the sediment traps were rated "okay". Sample results were well above background noise. Laboratory duplicate precision was high, but the split samples had high variability. Similar to the CLAM results, 2,3,7,8-TCDD was not found in any of the samples. Overall TEQ values were relatively low. Since all the sediment trap results were comparable to background levels for both Puget Sound sediments (4.0 ng/Kg TEQ) and Statewide Soils (5.21 ng/Kg TEQ), it is possible that dioxin/furan concentrations in Spokane River suspended sediments are simply too low for accurate monitoring using sediment traps. Dioxin/furan congener patterning could be a valuable exercise to determine if dioxins and furans in the Spokane River suggest background concentrations, mostly of atmospheric deposition, or if there are still sources in the watershed.

Only one of the eight sediment traps deployed during the study was lost. This collection method appeared to work well, although it does have limitations. The biggest challenge was trying to deploy and retrieve traps during high-flow conditions. These sediment traps can only be deployed in deeper (>10 ft), somewhat calm water (depositional areas), not in shallow fast-moving sections of the river.

Other Monitoring Techniques

Several analytical methods and monitoring techniques were evaluated for this study, but it is important to point out that other analytical methods and monitoring techniques may also be useful. For example, XAD resin columns could be useful for monitoring surface water contaminants in the dissolved phase. No one technique is the best for all matrices, so application is still a consideration. The best long-term monitoring program will integrate multiple techniques and analytical methods to achieve study objectives.

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Appendix A. Sampling Location Information

Table A - 1. Monitoring Locations for the 2012 – 2013 Spokane River Toxics Study.

Monitoring Locations	River Mile	Water Depth (ft)	Lattitude North	Longitude West	Location Description
Surface Water and CLAM					
Stateline	96	1-2	47.69733	117.04217	Left bank off boat ramp ~150 ft downstream of I-5 westbound bridge.
Upriver Dam	80.3	1-2	47.68500	117.32833	From metal dock alongside the island boat ramp (between spillways).
Above Latah	72.5	1-2	47.65667	117.45533	Left bank ~150 ft downstream of Sandifer foot bridge.
Ninemile	58.1	1-2	47.77500	117.54483	Ninemile Dam from walkway in front of the Dam buidling (left bank).
Chamokane	33.5	1-2	47.83750	117.84833	Left bank off Long Lake Dam park and upstream of Hwy 230 bridge.
Sediment Traps					
Upriver 1 (right bank)	80.5	23	47.74306	117.45306	Upriver Dam Reservoir - right bank of River in the old river channel.
Upriver 2 (left bank)	80.5	19	47.72972	117.41222	Upriver Dam Reservoir - left bank of River near float plane docks.
UPRD-SEDT*	80.5	NA	47.68625	117.32416	Centroid of location of Upriver 1 & 2 as entered into EIM.
Ninemile 1 (upstream)	58.7	17	47.77222	117.58167	Ninemile Dam Reservoir - left bank of River.
Ninemile 2 (downstream)	58.6	18	47.83111	117.58333	Ninemile Dam Reservoir - left bank in the main river channel.
9MD-SEDT*	58.7	NA	47.76885	117.55234	Centroid of location of Ninemile 1 & 2 as entered into EIM.

NA = not applicable

EIM = Ecology's Environmental Information Management database

* = Centroid locations are for data entry into EIM and do not represent actual monitoring locations

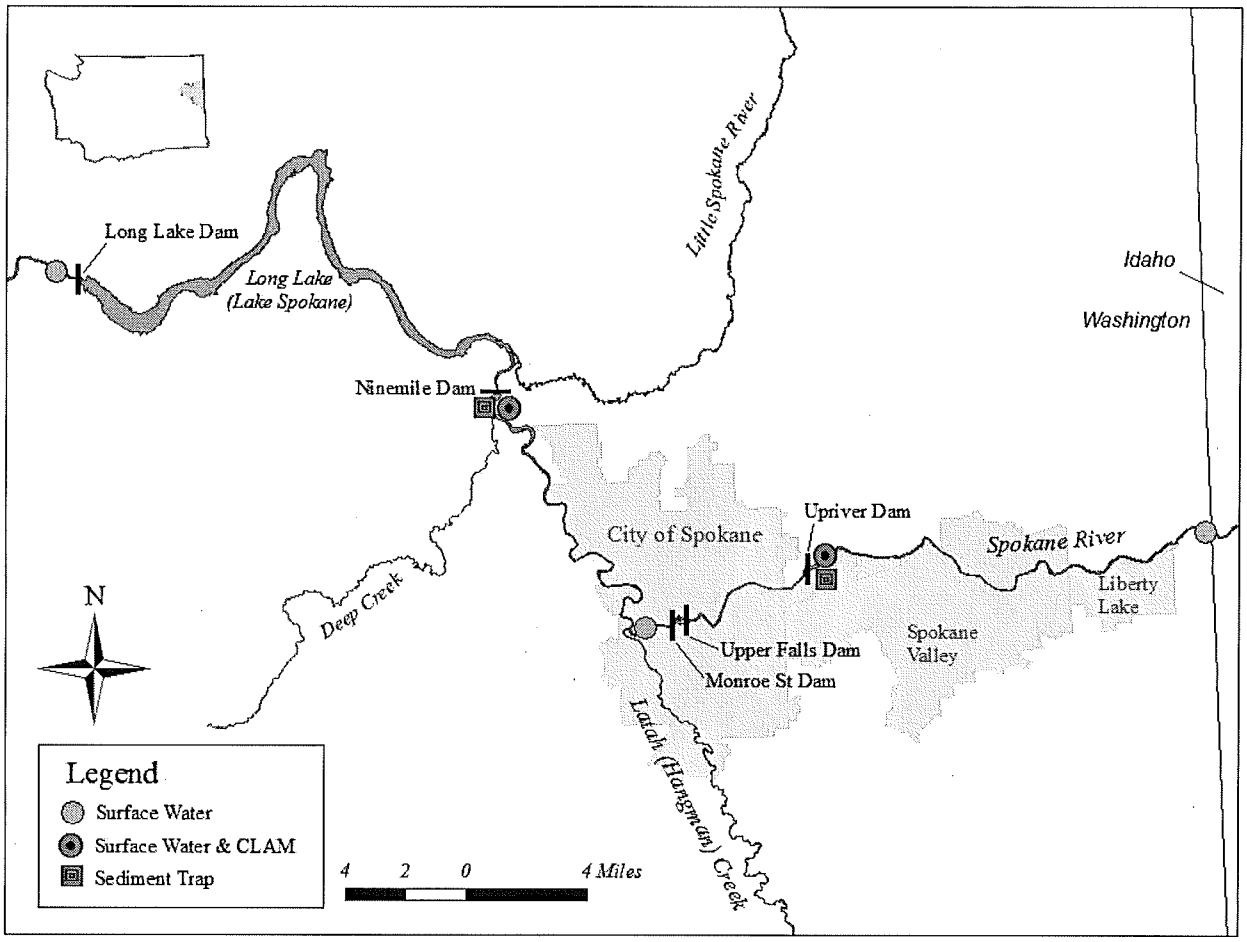

Figure A - 1. Monitoring Locations for the 2012 – 2013 Spokane River Toxics Study.

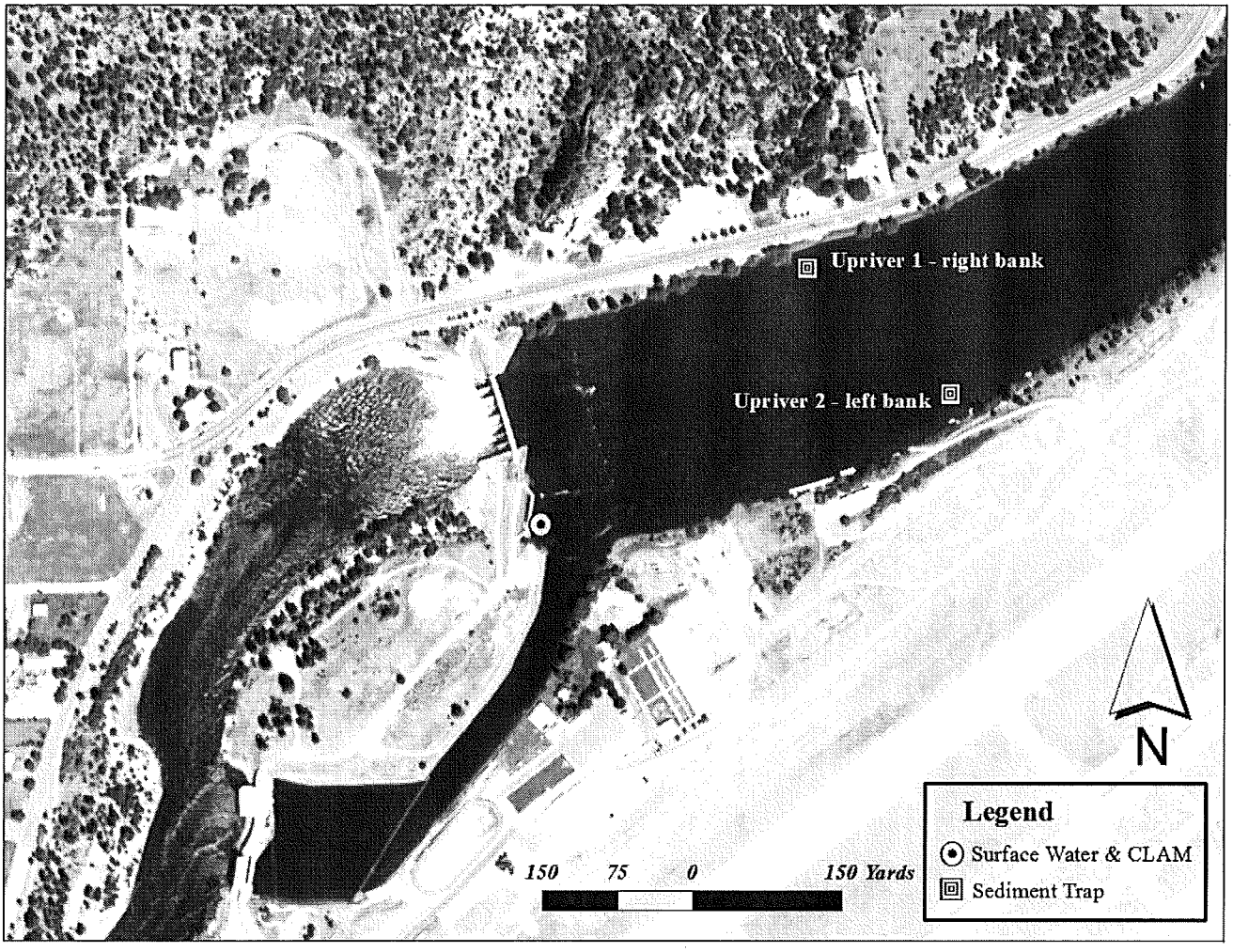

Figure A - 2. Upriver Dam Monitoring Locations.

Figure A - 3. Ninemile Dam Monitoring Locations.

Appendix B. Data Quality

Data Quality

Data were reviewed by the laboratories and the project manager and are deemed useable as qualified and presented in this technical memo. Case narratives are available from the project manager upon request. Karin Feddersen (contract lab manager) and Joel Bird (lab director) from MEL both reviewed the data from PRL. Project data were qualified according to whether or not the data met analytical method quality control/quality (QA/QC) assurance, laboratory QA/QC, and measurement quality objectives (MQOs) as outlined in the QAPP for the study (Era-Miller, 2013). MQOs include recovery of laboratory control samples, laboratory duplicate precision, matrix spike recovery, matrix spike duplicate precision, and surrogate chemical recovery.

For the technical memo, only laboratory duplicate precision, field replicate precision, blank contamination, and data reduction are discussed in detail. Laboratory duplicates give an estimate of precision for the analytical process. Field replicates and split samples not only give an estimate of laboratory precision, but also give an indication of natural variability in the samples, as well as consistency with field collection methods.

Precision of duplicate or replicate samples is expressed as relative percent difference (RPD). Precision of triplicate samples is expressed as relative standard deviation (RSD). Anything below 20% RPD or RSD is generally considered good precision. RPDs and RSDs can be skewed high when concentrations are low or if they are close to the analytical detection limits.

Precision

The RPDs for the surface water sample pairs are shown in Table B-1. With the exception of lab duplicates for PCBs in spring (5% RPD) and the field replicate for PCBs in fall (13% RPD), there was a fair amount of variability among the samples, indicating that the surface water analyses had moderate precision.

CLAM field triplicate sample precision, on the other hand, was excellent for PCB and PBDE congeners, ranging from 9–19% RPD (Table B - 2). PCB Aroclor precision could not be calculated because all Aroclors were non-detects. Dioxin/furan TEQ values had lower triplicate precision (51% RSD).

Table B - 1. Surface Water and Sediment Trap Sample Precision.

Matrix / UOM	Parameter	Location /Season	QC Sample Type	Rep 1	Rep 2	RPD (%)
Water (pg/L)	Total PCBs	Ninemile - fall	Field Replicate	41J	36J	**13**
Water (pg/L)	Total PCBs	Above Latah - spring	Field Replicate	38J	109J	**97**
Water (pg/L)	Total PBDEs	Ninemile - fall	Field Replicate	312J	576J	**59**
Water (pg/L)	Total PBDEs	Above Latah - spring	Field Replicate	45J	ND	NC
Water (pg/L)	Total PCBs	Above Latah - spring	Lab duplicate	38J	36J	**5**
Water (pg/L)	Total PBDEs	Above Latah - spring	Lab duplicate	45J	32J	**35**
Sediment (ug/Kg)	Total PCBs	Ninemile - 1st deploy.	Split Sample	13.7J	13.8J	**1**
Sediment (ug/Kg)	Total PBDEs	Ninemile - 1st deploy.	Split Sample	65	58	**11**
Sediment (ng/Kg)	Dioxin/f TEQs	Ninemile - 1st deploy.	Split Sample	1.6	0.7	**82**
Sediment (ug/Kg)	Total PCBs	Ninemile - 2nd deploy.	Lab duplicate	17.2	17.0	**1**
Sediment (ug/Kg)	Total PBDEs	Ninemile - 2nd deploy.	Lab duplicate	24	21	**12**
Sediment (ng/Kg)	Dioxin/f TEQs	Ninemile - 2nd deploy.	Lab duplicate	0.6	0.6	**0**

RPD = relative percent difference
J = Result value is an estimate
ND = not detected
NC = not calculated

Table B - 2. CLAM Triplicate Sample Precision. (RSD = relative standard deviation).

Parameter (pg/L)	Method	Rep 1	Rep 2	Rep 3	RSD (%)
Total PCBs	EPA 1668c	154	151	119	**14**
Total PCBs	EPA 1668c	62	76	66	**11**
Total PCBs	EPA 8082	ND	ND	ND	NC
Total PBDEs	EPA 1614	617	714	618	**9**
Total PBDEs	EPA 8270	610	540	780	**19**
Dioxin/f TEQs	EPA 1613b	0.010	0.006	0.017	**51**

The RPDs for the sediment trap samples (Table B - 1) indicated good precision for PCB, PBDE, and dioxin/furan congeners (0–12%) with the exception of the split sample for dioxin/furan TEQs. Split samples were created by splitting a sample during sample homogenization and processing and then submitting them to the laboratory in separate jars as separate samples. Low precision may indicate heterogeneity of the sample. RPDs may also be higher due to the low dioxin/furan concentrations found in the samples.

Blank Contamination

Blank contamination was an issue for the surface water grab samples as shown in Table B - 3. Concentrations of the transfer and laboratory method blanks often overlapped with the sample concentrations. This makes it difficult to recognize an environmental signal from background noise. Laboratory method blank contamination for the CLAM and sediments was minimal. In many cases the sample concentrations were orders of magnitude higher than the laboratory method blank concentrations, indicating a clear signal above the background noise.

The reason for the substantially lower blank PCB and PBDE concentrations in the CLAM samples compared to the surface water grab samples can be explained by how each surface water collection method compares sample results to laboratory method blank results. Typical water volumes are one to two liters for surface water samples collected in bottles. Up to 100 liters can be filtered through the CLAM SPE disks in the field, effectively concentrating the analytes in the sample. Both the one- to two-liter surface water samples and the "concentrated" CLAM samples are then compared to the results of the one-liter laboratory method blank sample to determine laboratory contamination.

Table B - 3. Sample Concentrations versus Blank Concentrations.

Matrix	Parameter	Sample Concentration Range	Transfer Blank	Lab Method Blank
Surface Water (pg/L)	tPCB Congeners - fall	13 – 36	26	73
	tPCB Congeners - spring	13 – 122	35	38
	tPBDES - fall	17 – 723	ND	13
	tPBDEs - spring	45 – 640	42	198
CLAM (pg/L)	tPCB Congeners	62 – 154	--	2
	tPBDEs (EPA 1614)	30 – 714	--	3
	tPBDEs (EPA 8270)	540 – 780	--	ND
	Dioxin/furan TEQs	0.001 – 0.034	--	0.001
Sediment Traps (dw)	tPCB Congeners (ug/Kg)	14 – 29	--	0.1
	tPBDEs (ug/Kg)	19 – 65	--	0.04
	Dioxin/furan TEQ (ng/Kg)	0.6 – 4.5	--	ND
	Cadmium (mg/Kg)	5 – 24	--	ND
	Lead (mg/Kg)	83 – 825	--	ND
	Zinc (mg/Kg)	777 – 2,580	--	ND

ND = non-detect t = total

Detection limits

Table B - 4 summarizes the number of detected congeners and the minimum, maximum, and median value for detection limits achieved using high resolution methods for PCB and PBDE congeners. Far fewer congeners were detected in surface water compared to the CLAM and sediment trap matrices for both PCBs and PBDEs.
Minimum, maximum, and median detection limits were one to two orders of magnitude lower with the CLAM compared to surface water for PCBs and PBDEs.

Table B - 4. Summary of Detection Limits Achieved for PCBs and PBDEs using HR/GC-MS Methods.

	PCBs				PBDEs			
Matrix	# Congeners Detected	Min	Max	Median	# Congeners Detected	Min	Max	Median
Surface Water (pg/L, *ppq*)	27	0.7	73.5	10	13	0.3	1720	10
CLAM (pg/L, *ppq*)	138	0.002	3.1	0.03	29	0.028	16.3	0.2
Sediment Traps (ug/Kg, dw) *ppb*	139	0.0006	0.375	0.004	34	0.001	0.12	0.005

ppq = part per quadrillion
ppb = part per billion

Appendix C. Data Tables

Table C - 1. Surface Water Measurement Data for the Spokane River.

Location	**Stateline**		**Upriver Dam**		**Above Latah**		**Ninemile**		**Chamokane**	
Date	10/24/12	10/25/12	10/24/12	10/25/12	10/24/12	10/25/12	10/24/12	10/25/12	10/24/12	10/25/12
Time	0950	0930	1701	1533	1805	1745	1500	1240	1135	1115
Sample No.	1210040-01		1210040-02		1210040-03		1210040-04		1210040-05	
Temperature (Deg. C)	10.46	10.36	9.84	10.04	9.84	9.68	9.46	9.83	12.65	12.58
Conductivity (uS/cm)	44.5	49.0	122.3	133.4	148.2	161.8	178.5	196.2	205	222
pH	7.50	7.47	7.90	7.87	8.18	8.24	7.83	8.00	8.14	8.18
Dissolved Oxygen (mg/L)	10.05	9.8	9.58	9.57	10.74	10.92	10.58	10.25	9.25	9.55
Dissolved Oxygen (% Sat.)	94.8	92.1	88.9	89.3	99.8	101.1	97.4	95.2	91.8	94.5
Date	5/23/13	5/24/13	5/23/13	5/24/13	5/23/13	5/24/13	5/23/13	5/24/13	5/23/13	5/24/13
Time	0935	0855	1031	0939	1145	1040	1323	1146	1440	1252
Sample No.	1305006-01		1305006-02		1305006-03		1305006-04		1305006-05	
Temperature (Deg. C)	12.98	13.27	12.72	12.59	12.88	12.47	13.14	12.71	14.84	14.64
Conductivity (uS/cm)	45.3	45.1	61.6	64.5	71.1	74.9	82.4	88.3	70.5	73.1
pH	7.55	6.98	7.35	7.25	7.55	7.47	7.48	7.55	7.53	7.42
Dissolved Oxygen (mg/L)	10.63	10.65	10.22	10.12	11.60	11.56	11.24	10.89	11.41	11.05
Dissolved Oxygen (% Sat.)	101.6	102.1	97.8	95.9	111.0	108.6	107.8	103.3	113.1	109.3

Deg. C = degrees Celsius
uS/cm = microsiemens per centimeter
mg/L = milligram per liter
% Sat. = percent saturation

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012.

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-001	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-002	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-003	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-004	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-005/008	10UJ	**10.4J**	10UJ	**10.1J**	10UJ	10UJ	**11.3**	10U
PCB-006	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-007	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-009	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-010	10UJ	**24.6**	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-011	40.9U	54U	49.1U	50.7U	44U	48.1U	43.5U	**36.1**
PCB-012/013	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-014	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-015	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-016	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-017	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-018	10UJ	12.9U	12.7U	13.3U	10.8U	13.1U	10.7U	10U
PCB-019	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-020/033	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-021	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-022	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-023	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-024	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-025	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-026	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-027	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-028	12U	13.5U	12U	12U	12U	12U	12U	12U

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-029	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-030	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-031	10UJ	11U	11.6U	11U	10UJ	10UJ	10UJ	10U
PCB-032	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-034	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-035	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-036	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-037	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-038	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-039	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-040	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-041	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-042	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-043	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-044	10UJ	16.2U	13.7U	11U	10.5U	13.5U	10UJ	10U
PCB-045	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-046	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-047/048	10UJ	11U	11.1U	11.2U	11.5U	10UJ	10UJ	10U
PCB-049	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-050	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-051	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-052/069	11.2UJ	11.7UJ	15.9UJ	13.5UJ	12.8UJ	16UJ	10UJ	10UJ
PCB-053	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-054	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-055	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-056	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-057	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-058	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-059	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-060	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-061	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-062	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-063	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-064/072	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-065/075	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-066	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-067	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-068	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-070	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-071	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-073	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-074	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-076	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-077	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-078	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-079	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-080	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-081	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-082	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-083	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-084	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-085	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-086/097/117	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-087/115	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-088	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-089	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-090	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-091/121	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-092	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-093/098/102	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-094	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-095	13UJ	13 UJ	**16.9J**	**13.4J**	**19.9J**	**14.2J**	13UJ	13UJ
PCB-096	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-099	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-100	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-101	15.4U	14.1 U	11.1U	19.6U	10UJ	17.6U	11.1U	10U
PCB-103	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-104	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-105	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-106	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-107/108	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-109	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-110	**13**	10 UJ	11.1U	**17.6**	**15.7**	**22.2**	**14.6**	10U
PCB-111	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-112/119	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-113	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-114	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-116	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-118	19.3U	11 U	11.1U	19U	23.7U	10.6U	15.6U	**11.7**
PCB-120	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-122	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-123	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-124	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-125	10UJ	10 UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-126	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-128/162	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-129	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-130	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-131	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-132	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-133	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-134	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-135	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-136/148	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-137	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-138	13.7U	17.8U	12U	16.9U	11.9U	11.5U	13.9U	**10.4**
PCB-139/149	13UJ	13.4UJ	13UJ	13UJ	13.3UJ	13UJ	13UJ	13UJ
PCB-140	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-141	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-142	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-143	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-144	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-145	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-146	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-147	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-150	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-151	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-152	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-153	18.6U	22.8U	11.1U	24U	18.9U	20.9U	12.9U	**14.8**
PCB-154	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-155	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-156	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-157	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-158	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-159	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-160	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-163/164	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-165	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-166	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-167	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-168	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-169	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-170	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-171	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-172	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-173	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-174	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-175	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-176	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-177	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-178	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-179	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-180	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-181	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-182/187	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-183	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-184	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-185	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-186	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-188	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-189	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-190	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-191	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-192	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-193	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-194	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-195	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-196	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-197	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-198	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-199	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-200	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-201	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
PCB-202	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-203	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-204	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U

Table C - 2. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
PCB-205	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-206	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-207	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-208	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
PCB-209	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U
Monochlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorobiphenyls	ND	**35J**	ND	**10J**	ND	ND	**11**	**36**
Trichlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorobiphenyls	**13**	ND	**17J**	**31J**	**36J**	**36J**	**15**	**12**
Hexachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	**25**
Heptachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Octachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Nonachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Decachlorobiphenyl	ND	ND	ND	ND	ND	ND	ND	ND
Total PCB	**13**	**35J**	**17J**	**41J**	**36J**	**36J**	**26**	**73**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ND = Not detected
pg/L = picogram per liter
ppq = part per quadrillion

Table C - 3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013.

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
PCB-001	**2.42J**	10.6U	1UJ	0.9UJ	0.8UJ	3.6UJ	11.2U	0.9UJ
PCB-002	10.9U	10.6U	1UJ	10.5U	11.2U	3.2UJ	11.2U	0.9UJ
PCB-003	1.6UJ	**3.28J**	10.6U	1.1UJ	11.2U	10.8U	11.2U	1.1UJ
PCB-004	34.8UJ	30.3UJ	21.1UJ	20.6UJ	14.2UJ	46.6UJ	30.4UJ	27.3UJ
PCB-005/008	21.1UJ	18.3UJ	16UJ	14UJ	8.8UJ	27.9UJ	21UJ	18.3UJ
PCB-006	23U	17.8UJ	15.6UJ	13.6UJ	8.6UJ	27.1UJ	20.4UJ	17.8UJ
PCB-007	20.5UJ	17.8UJ	15.5UJ	13.5UJ	8.5UJ	27UJ	23.6U	17.7UJ
PCB-009	19.5UJ	16.9UJ	14.8UJ	12.9UJ	8.1UJ	25.8UJ	19.4UJ	16.9UJ
PCB-010	20.4UJ	17.7UJ	15.4UJ	13.5UJ	8.5UJ	26.9UJ	20.2UJ	17.6UJ
PCB-011	32U	18.9UJ	**34.3**	24.3U	54.3U	**60.4**	**25.6**	35.2U
PCB-012/013	23.4UJ	20.3UJ	17.7UJ	15.5UJ	9.8UJ	30.9UJ	23.2UJ	20.3UJ
PCB-014	19.1UJ	16.6UJ	14.5UJ	12.6UJ	8UJ	25.2UJ	19UJ	16.5UJ
PCB-015	24.7UJ	21.3UJ	22.6UJ	17.7UJ	10.4UJ	32.3UJ	27UJ	23UJ
PCB-016	10.9U	5.3UJ	5.6UJ	3.9UJ	3.3UJ	8.3UJ	6.7UJ	5UJ
PCB-017	8.7UJ	7.7UJ	8UJ	5.6UJ	11.2U	12UJ	9.7UJ	7.2UJ
PCB-018	4.9UJ	10.6U	10.6U	**4.44J**	11.2U	**15.8**	12U	4.1UJ
PCB-019	6UJ	5.5UJ	4.5UJ	3.3UJ	3.2UJ	6.9UJ	5.6UJ	4.5UJ
PCB-020/033	10.9U	3UJ	3.1UJ	10.5U	11.2U	4.7UJ	3.8UJ	2.8UJ
PCB-021	4UJ	3.5UJ	3.7UJ	2.6UJ	2.2UJ	5.5UJ	4.4UJ	3.3UJ
PCB-022	3.7UJ	**5.33J**	3.4UJ	4.84UJ	**5.42J**	5.1UJ	4.1UJ	3.1UJ
PCB-023	1.8UJ	**1.88J**	1.6UJ	10.5U	1UJ	14.1U	2UJ	1.5UJ
PCB-024	6.6UJ	5.8UJ	6UJ	4.2UJ	3.6UJ	9UJ	7.3UJ	5.4UJ
PCB-025	2UJ	1.7UJ	10.6U	1.3UJ	1.1UJ	2.7UJ	11.2U	10U
PCB-026	1.5UJ	1.4UJ	1.4UJ	10.5U	0.9UJ	2.1UJ	11.2U	1.3UJ
PCB-027	3.2UJ	10.6U	2.9UJ	2.1UJ	**2.48J**	4.3UJ	**9.57J**	2.6UJ
PCB-028	10.9U	**7.07J**	10.6U	10.5U	**7.63J**	**19.1J**	11.2U	10U

Table C -3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
PCB-029	1.8UJ	1.6UJ	1.6UJ	1.2UJ	11.2U	2.4UJ	2UJ	1.5UJ
PCB-030	5.5UJ	4.9UJ	5.1UJ	3.6UJ	3.1UJ	7.6UJ	6.1UJ	4.6UJ
PCB-031	1.6UJ	**7.44J**	1.5UJ	10.5U	**6.83J**	14.5U	11.2U	10U
PCB-032	6.3UJ	5.5UJ	5.8UJ	4UJ	3.5UJ	8.6UJ	7UJ	5.2UJ
PCB-034	3.1UJ	2.7UJ	2.8UJ	2UJ	1.7UJ	4.2UJ	3.4UJ	2.5UJ
PCB-035	3.7UJ	3.3UJ	3.4UJ	10.5U	2.1UJ	5.2UJ	4.2UJ	3.1UJ
PCB-036	10.9U	2.4UJ	10.6U	1.7UJ	1.5UJ	3.7UJ	3UJ	2.3UJ
PCB-037	10.9U	5.1UJ	6.9UJ	4.5UJ	3.4UJ	9.8UJ	7.8UJ	5.5UJ
PCB-038	3.7UJ	3.2UJ	3.4UJ	10.5U	2UJ	10.8U	4.1UJ	3UJ
PCB-039	3.4UJ	3UJ	3.1UJ	2.2UJ	1.9UJ	4.7UJ	3.8UJ	2.8UJ
PCB-040/057	3.8UJ	3.2UJ	3.4UJ	2.5UJ	11.2U	5.3UJ	3.9UJ	3.5UJ
PCB-041	4.5UJ	3.8UJ	4.1UJ	3UJ	2.4UJ	6.3UJ	4.6UJ	4.1UJ
PCB-042	4.7UJ	4UJ	4.2UJ	3UJ	2.5UJ	6.5UJ	4.7UJ	4.3UJ
PCB-043/049	3.7UJ	3.2UJ	3.4UJ	10.5U	11.2U	12.8U	3.8UJ	10U
PCB-044	10.9U	10.6U	4.4UJ	**7.34J**	**11.2**	6.7UJ	4.9UJ	10U
PCB-045	10.9U	3.3UJ	3.5UJ	2.5UJ	2.1UJ	5.4UJ	4UJ	3.6UJ
PCB-046	4.7UJ	4UJ	4.3UJ	3.1UJ	2.5UJ	6.6UJ	4.8UJ	4.3UJ
PCB-047/048	3.6UJ	**4.84J**	3.2UJ	2.4UJ	11.2U	5UJ	3.7UJ	3.3UJ
PCB-050	3.4UJ	2.9UJ	3.1UJ	2.3UJ	1.8UJ	4.8UJ	3.5UJ	3.2UJ
PCB-051	3.8UJ	3.2UJ	3.4UJ	2.5UJ	2UJ	5.3UJ	3.8UJ	3.4UJ
PCB-052/069	10.9UJ	10.6UJ	16.1UJ	10.6U	16.5U	18.7U	11.2UJ	**10.8**
PCB-053	3.8UJ	3.2UJ	3.4UJ	2.5UJ	2UJ	5.3UJ	3.9UJ	3.5UJ
PCB-054	2.2UJ	1.9UJ	1.6UJ	1.2UJ	1.1UJ	2.6UJ	1.9UJ	10U
PCB-055/080	2.8UJ	2.4UJ	10.6U	1.9UJ	1.5UJ	4UJ	2.9UJ	2.6UJ
PCB-056	3.5UJ	2.9UJ	3.1UJ	2.3UJ	1.8UJ	4.8UJ	3.5UJ	3.2UJ
PCB-058	2.7UJ	2.3UJ	2.5UJ	1.8UJ	1.5UJ	3.8UJ	2.8UJ	2.5UJ

Table C - 3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
PCB-059	3.1UJ	2.7UJ	2.8UJ	2.1UJ	1.7UJ	4.4UJ	3.2UJ	2.9UJ
PCB-060	3.5UJ	3UJ	3.2UJ	2.3UJ	1.9UJ	4.9UJ	3.6UJ	3.2UJ
PCB-061	3.2UJ	2.7UJ	2.9UJ	2.1UJ	1.7UJ	4.5UJ	3.3UJ	2.9UJ
PCB-062	3UJ	2.5UJ	2.7UJ	1.9UJ	1.6UJ	4.2UJ	3UJ	2.7UJ
PCB-063	2.7UJ	2.3UJ	2.5UJ	1.8UJ	1.5UJ	3.8UJ	2.8UJ	2.5UJ
PCB-064/072	2.7UJ	10.6U	2.4UJ	1.7UJ	11.2U	**4.51J**	11.2U	2.4UJ
PCB-065/075	2.6UJ	2.2UJ	2.3UJ	1.7UJ	1.4UJ	3.6UJ	2.6UJ	2.4UJ
PCB-066	2.9UJ	2.5UJ	2.6UJ	1.9UJ	11.2U	4.1UJ	3UJ	2.7UJ
PCB-067	2.9UJ	2.5UJ	2.6UJ	1.9UJ	11.2U	4.1UJ	3UJ	2.7UJ
PCB-068	2.6UJ	2.2UJ	2.4UJ	1.7UJ	1.4UJ	3.7UJ	2.7UJ	2.4UJ
PCB-070	10.9U	10.6U	3UJ	10.5U	1.8UJ	4.7UJ	3.4UJ	3UJ
PCB-071	2.7UJ	2.3UJ	2.4UJ	1.8UJ	1.4UJ	3.8UJ	2.8UJ	2.5UJ
PCB-073	2.8UJ	2.3UJ	2.5UJ	1.8UJ	1.5UJ	3.9UJ	2.8UJ	2.5UJ
PCB-074	2.9UJ	2.5UJ	2.6UJ	1.9UJ	11.2U	4.1UJ	3UJ	2.7UJ
PCB-076	3.3UJ	2.8UJ	3UJ	2.2UJ	1.8UJ	4.6UJ	3.4UJ	3UJ
PCB-077	4.2UJ	3.4UJ	5.2UJ	3.3UJ	2.6UJ	7.2UJ	11.2U	4.3UJ
PCB-078	3.1UJ	2.7UJ	2.8UJ	2.1UJ	1.7UJ	4.4UJ	3.2UJ	2.9UJ
PCB-079	2.9UJ	2.5UJ	2.6UJ	1.9UJ	1.5UJ	4UJ	2.9UJ	2.6UJ
PCB-081	4.2UJ	3.6UJ	5.3UJ	3.3UJ	2.5UJ	7.8UJ	5.4UJ	4.5UJ
PCB-082	30.6UJ	27.3UJ	54.5U	24.4UJ	20UJ	64.5UJ	50.4UJ	30.3UJ
PCB-083/109	22.4UJ	20UJ	32.6UJ	17.9UJ	14.7UJ	47.3UJ	36.9UJ	22.2UJ
PCB-084	23.5UJ	21UJ	50.9U	18.8UJ	15.4UJ	49.7UJ	38.8UJ	23.3UJ
PCB-085	24.4UJ	21.8UJ	35.6UJ	19.5UJ	16UJ	51.5UJ	40.3UJ	24.2UJ
PCB-086/117	21.3UJ	19UJ	31UJ	17UJ	13.9UJ	44.9UJ	35.1UJ	21UJ
PCB-087/115	22.3UJ	19.9UJ	32.4UJ	25.5U	14.6UJ	47UJ	36.7UJ	22UJ
PCB-088	24.2UJ	21.5UJ	35.2UJ	19.3UJ	15.8UJ	51UJ	39.9UJ	23.9UJ

Table C -3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
PCB-089	30.1UJ	26.8UJ	43.8UJ	24UJ	19.7UJ	63.6UJ	49.7UJ	29.8UJ
PCB-090	21.5UJ	19.1UJ	31.3UJ	17.1UJ	14.1UJ	45.3UJ	35.4UJ	21.3UJ
PCB-091/121	19.7UJ	17.6UJ	28.7UJ	19.5U	12.9UJ	41.6UJ	52.4U	19.5UJ
PCB-092	29.2UJ	26UJ	42.5UJ	26.3U	19.1UJ	61.6UJ	48.2UJ	28.9UJ
PCB-093/098/102	23.8UJ	21.2UJ	34.6UJ	19UJ	15.6UJ	50.2UJ	39.2UJ	23.5UJ
PCB-094	25.9UJ	23.1UJ	37.7UJ	20.7UJ	17UJ	54.7UJ	42.7UJ	25.6UJ
PCB-095	26.2U	25.5U	30.9UJ	**58.9**	21.8U	44.8UJ	35UJ	21UJ
PCB-096	16UJ	14.3UJ	23.3UJ	12.8UJ	10.5UJ	33.8UJ	26.4UJ	15.8UJ
PCB-097/116	23.5UJ	21UJ	34.3UJ	18.8UJ	15.4UJ	49.7UJ	38.8UJ	23.3UJ
PCB-099	20.4UJ	18.2UJ	29.7UJ	16.3UJ	**24.8**	43.1UJ	33.7UJ	20.2UJ
PCB-100	21.3UJ	19UJ	31UJ	17UJ	14UJ	45UJ	35.2UJ	21.1UJ
PCB-101	20.4UJ	18.2UJ	29.7UJ	16.3UJ	13.4UJ	43.1UJ	33.7UJ	20.2UJ
PCB-103	17.8UJ	15.8UJ	25.9UJ	16U	11.6UJ	37.5UJ	29.3UJ	17.6UJ
PCB-104	10.9U	10.6U	9.3UJ	5.6UJ	4.7UJ	15.2UJ	10.4UJ	7.1UJ
PCB-105/127	8.8UJ	7.8UJ	14.2UJ	7.5UJ	11.2U	18.7UJ	16.2UJ	9.1UJ
PCB-106	7.3UJ	6.5UJ	10.6UJ	5.8UJ	4.8UJ	15.3UJ	12UJ	7.2UJ
PCB-107/108	7.5UJ	6.7UJ	10.9UJ	6UJ	4.9UJ	15.8UJ	12.3UJ	7.4UJ
PCB-110	19.1UJ	17UJ	27.8UJ	**33.2J**	38.9UJ	40.3UJ	31.5UJ	18.9UJ
PCB-111	17.1UJ	15.2UJ	24.9UJ	32.7U	11.2UJ	36UJ	28.2UJ	16.9UJ
PCB-112/119	16.9UJ	15.1UJ	24.6UJ	13.5UJ	11.1UJ	35.7UJ	27.9UJ	16.7UJ
PCB-113	18UJ	16UJ	26.2UJ	14.3UJ	11.8UJ	38UJ	29.7UJ	17.8UJ
PCB-114	12.4U	8.8UJ	15.8UJ	8UJ	6.9UJ	22.9UJ	18.1UJ	12.6U
PCB-118	**10.8J**	7.9UJ	14.1UJ	7.5UJ	**11.4**	19.1UJ	15.2UJ	9.2UJ
PCB-120	16.7UJ	14.9UJ	24.3UJ	13.3UJ	10.9UJ	35.2UJ	27.5UJ	16.5UJ
PCB-122	8.2UJ	7.3UJ	12UJ	6.6UJ	5.4UJ	17.4UJ	13.6UJ	8.1UJ
PCB-123	8.7UJ	7.9UJ	13.4UJ	7.3UJ	6.2UJ	19.7UJ	15.8UJ	8.9UJ

Table C -3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
PCB-124	5.8UJ	5UJ	9.5UJ	4.5UJ	3.4UJ	13.4UJ	11.4UJ	6.1UJ
PCB-125	19.1UJ	17.1UJ	73.5U	15.3UJ	12.5UJ	40.4UJ	31.6UJ	19UJ
PCB-126	12.2UJ	10.9UJ	20.7UJ	9.7UJ	7.5UJ	29.6UJ	25.9UJ	13.3UJ
PCB-128/162	2.4UJ	1.6UJ	2.5UJ	1.5UJ	**2.59J**	3.8UJ	2.6UJ	10U
PCB-129	3.2UJ	2.2UJ	3.3UJ	2UJ	1.6UJ	4.9UJ	3.4UJ	**4.52J**
PCB-130	2.9UJ	2UJ	3UJ	1.8UJ	1.5UJ	4.5UJ	3.1UJ	2.9UJ
PCB-131	2.9UJ	2UJ	3UJ	1.8UJ	1.5UJ	4.6UJ	3.1UJ	2.9UJ
PCB-132/161	2.2UJ	**5.58J**	2.3UJ	**3.29J**	11.2U	3.4UJ	2.4UJ	2.2UJ
PCB-133	2.3UJ	1.6UJ	2.4UJ	1.4UJ	1.2UJ	3.6UJ	2.5UJ	2.3UJ
PCB-134	3.2UJ	2.2UJ	3.3UJ	2UJ	1.6UJ	5UJ	3.4UJ	3.2UJ
PCB-135	7.1UJ	4.8UJ	7.2UJ	4.4UJ	3.6UJ	11UJ	7.5UJ	7UJ
PCB-136/148	5.4UJ	3.6UJ	5.5UJ	3.3UJ	2.7UJ	8.3UJ	5.7UJ	5.3UJ
PCB-137	2.6UJ	1.8UJ	2.7UJ	1.6UJ	1.3UJ	4.1UJ	2.8UJ	2.6UJ
PCB-138/160	2.4UJ	10.6U	10.7U	10.5U	**5.37J**	3.7UJ	2.6UJ	10U
PCB-139/149	6.6UJ	10.6UJ	6.8UJ	20.1UJ	13.1UJ	10.3UJ	7.1UJ	**10.3J**
PCB-140	2.4UJ	1.6UJ	2.5UJ	1.5UJ	1.2UJ	3.8UJ	2.6UJ	2.4UJ
PCB-141	2.5UJ	1.7UJ	**3.55J**	10.5U	1.3UJ	3.9UJ	11.2U	2.5UJ
PCB-142	2.7UJ	1.8UJ	2.7UJ	1.7UJ	1.4UJ	4.2UJ	2.8UJ	2.6UJ
PCB-143	2.5UJ	1.7UJ	2.5UJ	1.5UJ	1.3UJ	3.9UJ	2.6UJ	2.5UJ
PCB-144	6.4UJ	4.3UJ	6.5UJ	4UJ	3.3UJ	9.9UJ	6.8UJ	6.3UJ
PCB-145	5.1UJ	3.5UJ	5.3UJ	3.2UJ	2.6UJ	8UJ	5.5UJ	5.1UJ
PCB-146	2.3UJ	1.5UJ	2.3UJ	1.4UJ	1.2UJ	3.5UJ	2.4UJ	2.3UJ
PCB-147	6.6UJ	4.5UJ	6.8UJ	4.1UJ	3.4UJ	10.3UJ	7UJ	6.6UJ
PCB-150	4.9UJ	3.3UJ	5UJ	3UJ	2.5UJ	7.6UJ	5.2UJ	4.9UJ
PCB-151	6.7UJ	4.5UJ	6.9UJ	4.1UJ	3.4UJ	**21.7**	7.1UJ	6.6UJ
PCB-152	4.7UJ	3.2UJ	4.8UJ	2.9UJ	2.4UJ	7.3UJ	5UJ	4.7UJ

Table C -3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
PCB-153	10.9UJ	10.6UJ	10.6UJ	14.7U	11.2UJ	10.8UJ	11.2UJ	**12.2**
PCB-154	5.8UJ	3.9UJ	5.9UJ	3.6UJ	2.9UJ	9UJ	6.1UJ	5.7UJ
PCB-155	3.1UJ	2UJ	2.1UJ	1.8UJ	1.5UJ	3.9UJ	2.2UJ	2.6UJ
PCB-156	2.2UJ	1.6UJ	2.7UJ	1.4UJ	1.1UJ	3.9UJ	2.7UJ	2.4UJ
PCB-157	2.4UJ	1.6UJ	2.7UJ	1.5UJ	1.2UJ	3.8UJ	2.9UJ	2.4UJ
PCB-158	1.7UJ	1.2UJ	1.8UJ	1.1UJ	0.9UJ	2.7UJ	1.9UJ	1.7UJ
PCB-159	1.7UJ	1.2UJ	1.8UJ	1.1UJ	11.2U	2.7UJ	1.8UJ	1.7UJ
PCB-163/164	2UJ	10.6U	10.6U	10.5U	**3.5J**	3.1UJ	11.2U	2UJ
PCB-165	2.1UJ	1.4UJ	2.1UJ	1.3UJ	1.1UJ	3.2UJ	2.2UJ	2.1UJ
PCB-166	1.9UJ	1.3UJ	1.9UJ	1.1UJ	0.9UJ	2.9UJ	2UJ	1.8UJ
PCB-167	2.2UJ	1.5UJ	2.4UJ	1.4UJ	1.2UJ	10.8U	2.4UJ	2.2UJ
PCB-168	2UJ	1.4UJ	2.1UJ	**2.23J**	1UJ	3.1UJ	2.1UJ	2UJ
PCB-169	3.7UJ	2.5UJ	10.6U	2.2UJ	1.8UJ	6.1UJ	4.7UJ	3.9UJ
PCB-170	5.4UJ	4.1UJ	6UJ	3.5UJ	2.9UJ	9.4UJ	6.8UJ	6.2UJ
PCB-171	4.7UJ	3.5UJ	5.2UJ	3UJ	2.5UJ	8.1UJ	5.9UJ	5.4UJ
PCB-172	5.1UJ	3.8UJ	5.6UJ	3.3UJ	2.7UJ	8.7UJ	6.4UJ	5.8UJ
PCB-173	6.4UJ	4.8UJ	7UJ	4.1UJ	3.4UJ	11UJ	8UJ	7.3UJ
PCB-174	5UJ	3.8UJ	5.5UJ	3.2UJ	2.6UJ	8.7UJ	6.3UJ	5.7UJ
PCB-175	4.4UJ	3.3UJ	4.8UJ	2.8UJ	2.3UJ	7.5UJ	5.5UJ	5UJ
PCB-176	3.4UJ	2.5UJ	3.7UJ	2.2UJ	1.8UJ	5.8UJ	4.3UJ	3.8UJ
PCB-177	4.8UJ	3.6UJ	5.2UJ	3.1UJ	2.5UJ	8.2UJ	6UJ	5.4UJ
PCB-178	4.6UJ	3.4UJ	5UJ	3UJ	2.4UJ	7.9UJ	5.8UJ	5.2UJ
PCB-179	3.3UJ	**3.63J**	3.6UJ	2.1UJ	1.7UJ	5.6UJ	4.1UJ	3.7UJ
PCB-180	5.3UJ	4UJ	5.8UJ	11.8U	2.8UJ	9.2UJ	11.2U	6UJ
PCB-181	5.1UJ	3.8UJ	5.6UJ	3.3UJ	2.7UJ	8.8UJ	6.4UJ	5.8UJ
PCB-182/187	4.4UJ	3.3UJ	4.9UJ	2.9UJ	11.2U	7.7UJ	5.6UJ	5UJ

Table C -3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
PCB-183	3.9UJ	2.9UJ	4.3UJ	2.5UJ	2.1UJ	6.8UJ	4.9UJ	4.4UJ
PCB-184	3.1UJ	2.3UJ	3.4UJ	2UJ	1.6UJ	5.3UJ	3.9UJ	3.5UJ
PCB-185	5.2UJ	3.9UJ	5.7UJ	3.3UJ	2.7UJ	8.9UJ	6.5UJ	5.9UJ
PCB-186	3.6UJ	2.7UJ	3.9UJ	2.3UJ	1.9UJ	6.2UJ	4.5UJ	4.1UJ
PCB-188	3.4UJ	**3.12J**	3.1UJ	2.1UJ	2UJ	5UJ	3.6UJ	3.6UJ
PCB-189	2.9UJ	2.2UJ	3.9UJ	1.9UJ	1.4UJ	6UJ	4.4UJ	3.6UJ
PCB-190	3.4UJ	2.6UJ	3.8UJ	2.2UJ	1.8UJ	6UJ	4.3UJ	3.9UJ
PCB-191	3.8UJ	2.8UJ	4.1UJ	2.4UJ	2UJ	6.5UJ	4.7UJ	4.3UJ
PCB-192	4.3UJ	3.2UJ	4.7UJ	2.8UJ	2.3UJ	7.4UJ	5.4UJ	4.9UJ
PCB-193	3.9UJ	2.9UJ	4.3UJ	2.5UJ	2UJ	6.7UJ	4.9UJ	4.4UJ
PCB-194	1.7UJ	1.4UJ	1.8UJ	10.5U	11.2U	2.8UJ	2.6UJ	2UJ
PCB-195	1.9UJ	1.5UJ	2UJ	1.2UJ	11.2U	3.2UJ	2.9UJ	2.3UJ
PCB-196	2.4UJ	2UJ	2.6UJ	1.5UJ	1.3UJ	4.1UJ	3.7UJ	2.9UJ
PCB-197	1.7UJ	1.4UJ	1.8UJ	1.1UJ	0.9UJ	2.9UJ	2.6UJ	2.1UJ
PCB-198	2.5UJ	2UJ	2.7UJ	1.5UJ	1.3UJ	4.2UJ	3.8UJ	3UJ
PCB-199	2.7UJ	2.2UJ	2.9UJ	1.7UJ	1.4UJ	4.6UJ	4.2UJ	10U
PCB-200	10.9U	1.5UJ	2UJ	1.1UJ	1UJ	3.1UJ	2.8UJ	2.2UJ
PCB-201	1.6UJ	1.3UJ	1.8UJ	1UJ	0.9UJ	2.8UJ	2.5UJ	2UJ
PCB-202	1.9UJ	1.6UJ	2UJ	1.3UJ	1.2UJ	3UJ	2.5UJ	2.3UJ
PCB-203	2.2UJ	1.8UJ	2.4UJ	1.4UJ	1.2UJ	3.8UJ	3.5UJ	4.94UJ
PCB-204	1.6UJ	1.3UJ	1.7UJ	1UJ	0.8UJ	2.7UJ	2.4UJ	1.9UJ
PCB-205	1.4UJ	1.1UJ	1.6UJ	10.5U	0.7UJ	2.6UJ	2.6UJ	1.8UJ
PCB-206	19.1UJ	17.7UJ	24.6UJ	11.5UJ	9.3UJ	36.8UJ	33.2UJ	21.9UJ
PCB-207	17.1UJ	15UJ	20.2UJ	10.7UJ	8.3UJ	30.4UJ	25.4UJ	18.8UJ
PCB-208	20.5UJ	17.1UJ	22.4UJ	13.5UJ	9.8UJ	33.9UJ	26.7UJ	21.6UJ
PCB-209	4.3UJ	3.9UJ	5.4UJ	2.4UJ	1.9UJ	6.8UJ	6.4UJ	4.9UJ

Table C -3. PCB Congeners in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
Monochlorobiphenyls	**2J**	**3J**	ND	ND	ND	ND	ND	ND
Dichlorobiphenyls	ND	ND	**34**	ND	ND	**60**	**26**	ND
Trichlorobiphenyls	ND	**22J**	ND	**4J**	**22J**	**35J**	**10J**	ND
Tetrachlorobiphenyls	ND	**5J**	ND	**7J**	**11**	**5J**	ND	**11**
Pentachlorobiphenyls	**11J**	ND	ND	**92J**	**36**	ND	ND	ND
Hexachlorobiphenyls	ND	**6J**	**4J**	**6J**	**11J**	**22**	ND	**27J**
Heptachlorobiphenyls	ND	**7J**	ND	ND	ND	ND	ND	ND
Octachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Nonachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Decachlorobiphenyl	ND	ND	ND	ND	ND	ND	ND	ND
Total PCB	**13J**	**42J**	**38J**	**109J**	**81J**	**122J**	**35J**	**38J**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ND = Not detected
pg/L = picogram per liter
ppq = part per quadrillion

Table C - 4. PBDEs in Surface Water Samples (pg/L) ppq, Collected in Fall 2012.

Dates	10/24/12 - 10/25/12							
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane	Tranfer Blank	Lab Method Blank
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
BDE007	97UJ	8UJ	28.5UJ	5UJ	5UJ	5UJ	19UJ	5UJ
BDE010	1720U	149U	422U	5UJ	5UJ	6UJ	21UJ	5UJ
BDE015	54UJ	5UJ	15.9UJ	5UJ	5UJ	5UJ	11UJ	5UJ
BDE017	5UJ	5UJ	5UJ	5UJ	5UJ	13U	5UJ	5UJ
BDE028	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ
BDE030	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ
BDE047	39U	41U	29.5U	**136**	**137**	47U	27U	**13J**
BDE049	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE066	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE071	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE077	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE085	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE099	**34.6J**	10UJ	15U	**134J**	**121J**	**17J**	10UJ	10UJ
BDE100	10UJ	10UJ	10UJ	**22J**	**27**	10UJ	10UJ	10UJ
BDE119	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE126	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE138	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE139	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE140	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE153	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE154	**11.5J**	10UJ	10UJ	**21J**	10UJ	10UJ	10UJ	10UJ
BDE156/169	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ
BDE171	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE180	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE183	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE184	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ

Table C -4. PBDEs in Surface Water Samples (pg/L) ppq, Collected in Fall 2012. (continued)

Dates	10/24/12 - 10/25/12						Tranfer Blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Ninemile	Ninemile Rep	Chamokane		
Sample No.	1210040-01	1210040-02	1210040-03	1210040-04	1210040-06	1210040-05	1210040-07	
BDE191	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE196	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE197/204	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE201	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE203	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE205	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ	20UJ
BDE206	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ
BDE207	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ
BDE208	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ	50UJ
BDE209	250U	250U	**723**	250U	**291**	250U	250U	250U
Total PBDEs	**46J**	ND	**723**	**312J**	**576J**	**17J**	ND	**13J**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ND = Not detected
pg/L = picogram per liter
ppq = part per quadrillion

Table C -5. PBDEs in Surface Water Samples (pg/L) ppq, Collected in Spring 2013.

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
BDE007	0.8UJ	13.3U	13.3U	1.1UJ	1.3UJ	13.4U	14U	12.5U
BDE010	0.9UJ	1.2UJ	0.7UJ	13.2U	1.4UJ	0.8UJ	1.7UJ	12.5U
BDE015	13.6U	0.6UJ	0.3UJ	0.6UJ	14U	13.4U	14U	12.5U
BDE017	2.21UJ	3.13UJ	2.58UJ	4.06UJ	3.87UJ	**3.41J**	4.88UJ	1.2UJ
BDE028	2.2UJ	3.1UJ	2.5UJ	4UJ	3.8UJ	13.4U	4.8UJ	1.2UJ
BDE030	3.1UJ	4.4UJ	3.6UJ	5.7UJ	5.4UJ	2.5UJ	6.8UJ	1.7UJ
BDE047	158U	128U	90.7U	88.5U	123U	92.9U	95.4U	**53.4**
BDE049	2.8UJ	26.6U	1.9UJ	26.3U	3.8UJ	**9.19J**	28.1U	1.2UJ
BDE066	**7.47J**	3.4UJ	2UJ	3.4UJ	28.1U	26.9U	4.2UJ	1.3UJ
BDE071	2.9UJ	3.3UJ	1.9UJ	3.2UJ	3.9UJ	2.5UJ	28.1U	1.3UJ
BDE077	1.7UJ	2UJ	1.2UJ	2UJ	2.5UJ	1.5UJ	2.5UJ	0.8UJ
BDE085	27.2U	4UJ	2.3UJ	26.3U	5.4UJ	2.7UJ	28.1U	25U
BDE099	117U	98U	82.1U	82.6U	103U	50.8U	54.4U	**32.9**
BDE100	27.2U	26.6U	26.6U	26.3U	28.1U	26.9U	28.1U	**5.74J**
BDE119	3.2UJ	26.6U	2.2UJ	4.1UJ	5.2UJ	2.6UJ	5.8UJ	1.8UJ
BDE126	27.2U	2.8UJ	1.7UJ	26.3U	4.1UJ	1.9UJ	4.4UJ	1.2UJ
BDE138	6.6UJ	26.6U	26.6U	10.3UJ	14.3UJ	5.9UJ	**21.1J**	25U
BDE139	5.2UJ	6.6UJ	4.7UJ	8.1UJ	11.3UJ	4.7UJ	11.1UJ	**10.1J**
BDE140	27.2U	7UJ	4.9UJ	8.6UJ	11.9UJ	4.9UJ	11.6UJ	3.7UJ
BDE153	6.2UJ	8.1UJ	**25.1J**	26.3U	14.1UJ	5.6UJ	14.1UJ	25U
BDE154	27.2U	4.7UJ	**7.03J**	5.5UJ	7.7UJ	3.5UJ	28.1U	2.7UJ
BDE156/169	6.6UJ	53.2U	6.5UJ	52.6U	15UJ	5.7UJ	14.7UJ	4.2UJ
BDE171	2.1UJ	53.2U	53.2U	4.3UJ	4.8UJ	1.8UJ	56.2U	1.6UJ
BDE180	2.5UJ	3.4UJ	2.8UJ	5.1UJ	5.8UJ	2.1UJ	6UJ	1.9UJ
BDE183	1.5UJ	2.1UJ	53.2U	3.1UJ	3.5UJ	1.3UJ	3.7UJ	1.1UJ
BDE184	1.4UJ	2UJ	1.6UJ	2.9UJ	3.3UJ	1.2UJ	3.4UJ	50U

Table C – 5. PBDEs in Surface Water Samples (pg/L) ppq, Collected in Spring 2013. (continued)

Dates	5/23/13 - 5/24/13						Tranfer blank	Lab Method Blank
Location	Stateline	Upriver Dam	Above Latah	Latah Rep	Ninemile	Chamokane		
Sample No.	1305006-01	1305006-02	1305006-03	1305006-06	1305006-04	1305006-05	1305006-07	
BDE191	2.7UJ	3.7UJ	3UJ	5.5UJ	6.2UJ	2.3UJ	6.5UJ	**7.82J**
BDE196	54.3U	3.5UJ	53.2U	6.2UJ	5.8UJ	53.8U	6.1UJ	1.8UJ
BDE197	2UJ	2.7UJ	2.5UJ	4.8UJ	4.5UJ	53.8U	4.8UJ	50U
BDE201	3.1UJ	4.2UJ	3.9UJ	7.4UJ	6.9UJ	2.4UJ	**20.6J**	2.1UJ
BDE203	54.3U	3.6UJ	3.4UJ	6.4UJ	6UJ	2.1UJ	6.4UJ	50U
BDE204	2.6UJ	53.2U	3.3UJ	6.3UJ	5.9UJ	53.8U	6.2UJ	1.8UJ
BDE205	4.3UJ	5.8UJ	6.1UJ	10.4UJ	9.9UJ	3.5UJ	9.7UJ	3UJ
BDE206	**38.9J**	133U	**13.1J**	131.6U	140.4U	**48.8J**	11UJ	125U
BDE207	135.9U	4.4UJ	133U	7.3UJ	140.4U	134.4U	140.4U	**14.9J**
BDE208	**19.6J**	5.6UJ	5.2UJ	9.2UJ	140.4U	**22.8J**	140.4U	125U
BDE209	179U	73.2UJ	123UJ	201U	**516**	**556**	76.2UJ	**73.2J**
Total PBDEs	**66J**	ND	**45J**	ND	**516**	**640J**	**42J**	**198J**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ND = Not detected
pg/L = picogram per liter
ppq = part per quadrillion

Table C -6. PCB Congeners in CLAM Samples (pg/L) ppq.

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-001	**0.271**	**0.359**	**0.275**	**0.331**	**0.196**	**0.492**	**0.602**	**0.456**	**0.414**	0.0175UJ
PCB-002	0.0585UJ	**0.127J**	**0.147J**	**0.161J**	**0.0931J**	**0.161**	**0.287**	**0.179**	0.101UJ	0.014UJ
PCB-003	**0.242**	0.133UJ	**0.233**	**0.295**	**0.19**	**0.383**	**0.441**	**0.367**	**0.289**	0.0188UJ
PCB-004	**1.55**	**1.69**	**1.39**	**1.65**	**1.16**	**2.75**	**2.97**	**2.26**	**2.29**	0.1733U
PCB-005/008	**1.78**	**2.29**	**1.91**	**1.96**	**1.3**	**2.92**	**3.78**	**3.14**	**2.1**	0.0871UJ
PCB-006	0.1435UJ	0.219UJ	**0.447**	0.0593UJ	**0.353**	**0.877**	**0.895**	**0.609**	**0.568**	0.0901UJ
PCB-007	**32.3**	**23.5**	**6.81**	**2.59**	**4.49**	**1.79**	**2.07**	**2.5**	**2.26**	0.0816UJ
PCB-009	0.1423UJ	0.2172U	0.2149UJ	0.0588UJ	0.0469UJ	0.1105UJ	**0.303**	**0.306**	0.0698UJ	0.0894UJ
PCB-010	0.1436UJ	0.2192U	0.2168UJ	**0.0915J**	0.182U	0.1115UJ	0.1671U	0.0769UJ	0.0704UJ	0.0902UJ
PCB-011	2.99U	3.05U	2.81U	2.82U	1.26U	1.81U	2.55U	1.96U	1.26U	**0.698**
PCB-012/013	0.0732UJ	0.1117UJ	0.1105UJ	0.0302UJ	0.0241UJ	0.137U	0.0852UJ	0.0392UJ	0.0359UJ	0.046UJ
PCB-014	0.1482UJ	0.2262U	0.2238UJ	0.0612UJ	0.0488UJ	0.1151U	0.1724U	0.0794UJ	0.0727UJ	0.093UJ
PCB-015	**1.66**	2.63U	**2.07**	**1.54**	**1.09**	**2.63**	**3.14**	**2.49**	**1.16**	0.1348UJ
PCB-016	**1.48**	**1.44**	**1.83**	**1.72**	**1.05**	**2.08**	**2.85**	**2.19**	**1.29**	0.0218UJ
PCB-017	**1.15**	**1.23**	**1.28**	**0.835**	**0.414**	**1.08**	**1.15**	**0.893**	**0.54**	0.167U
PCB-018	**2.37J**	**3.02J**	**2.67J**	**1.96J**	**0.96J**	**2.6J**	**2.82J**	**2.09J**	**1.42J**	**0.057J**
PCB-019	**0.552**	0.578U	**0.744**	**0.615**	**0.411**	**0.819**	**1.07**	**0.776**	**0.648**	**0.021J**
PCB-020/033	**1.76**	**1.7**	**2.25**	**1.98**	**0.999**	**2.11**	**2.72**	**2.41**	**1.21**	0.012UJ
PCB-021	0.0228UJ	0.031UJ	0.0297UJ	0.0109UJ	0.0084UJ	0.0205UJ	0.0271UJ	0.0125UJ	0.0097UJ	0.0081UJ
PCB-022	**1.18**	**1.32**	**1.46**	**1.59**	**0.653**	**1.75**	**2.41**	**1.92**	**0.925**	0.167U
PCB-023	0.0253UJ	0.0339UJ	0.0327UJ	0.0117UJ	0.0097UJ	0.0237UJ	0.0306UJ	0.014UJ	0.0118UJ	0.006UJ
PCB-024	0.0194UJ	**0.051J**	0.0253UJ	**0.0449J**	**0.0165J**	**0.0659J**	**0.0624J**	**0.0453J**	**0.0284J**	0.0069UJ
PCB-025	**0.146J**	0.17U	0.021UJ	**0.195**	**0.0898J**	**0.216**	**0.292**	**0.214**	**0.0841J**	0.0039UJ
PCB-026	**0.456**	**0.648**	**0.641**	**0.636**	**0.227**	**0.686**	**1.06**	**0.873**	**0.358**	0.0057UJ
PCB-027	**0.204**	**0.241**	**0.238**	**0.175**	**0.0875J**	**0.237**	**0.265**	**0.195**	**0.116J**	0.0038UJ

Table C -6. PCB Congeners in CLAM Samples (pg/L) ppq. (continued)

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-054	0.0642UJ	0.0853UJ	0.0787UJ	0.0349UJ	0.0205UJ	0.0403UJ	0.0556UJ	0.0349UJ	0.0218UJ	0.008UJ
PCB-055	0.0674UJ	0.168U	0.0789UJ	0.0311UJ	0.0164UJ	0.0432UJ	0.0563UJ	0.0321UJ	0.0186UJ	0.0081UJ
PCB-056	**1.66**	**2.02**	**2.01**	**1.99**	**0.186**	**1.08**	**1.42**	**1.13**	**0.259**	0.0092UJ
PCB-057	0.0601UJ	0.0751UJ	0.0703UJ	0.0277UJ	0.0146UJ	0.0385UJ	0.0502UJ	0.0286UJ	0.0165UJ	0.0072UJ
PCB-058	0.0516UJ	0.0645UJ	0.0603UJ	0.0238UJ	0.0125UJ	0.0331UJ	0.0431UJ	0.0246UJ	0.0142UJ	0.0062UJ
PCB-059	0.249U	**0.377**	**0.387**	**0.252**	0.182U	**0.287**	0.282UJ	**0.208**	**0.073J**	0.0077UJ
PCB-060	**0.496**	0.902UJ	**0.623**	**0.663**	**0.0895J**	**0.331**	**0.368**	**0.376**	**0.114J**	0.007UJ
PCB-061	0.064UJ	0.0801UJ	0.0749UJ	0.0296UJ	0.0156UJ	0.0411UJ	0.0535UJ	0.0305UJ	0.0176UJ	0.0077UJ
PCB-062	0.0576UJ	0.0721UJ	0.0674UJ	0.0266UJ	0.014UJ	0.037UJ	0.0481UJ	0.0275UJ	0.0159UJ	0.0069UJ
PCB-063	0.0585UJ	0.0732UJ	0.0685UJ	0.135UJ	0.0142UJ	0.0376UJ	0.12UJ	0.0279UJ	0.0161UJ	0.007UJ
PCB-064/072	**1.23**	**1.54**	**1.31**	**1.28**	**0.238**	**1.12**	**1.17**	**1**	**0.343**	0.005UJ
PCB-065/075	0.0579UJ	0.0725UJ	0.0678UJ	0.0268UJ	0.0141UJ	0.0372UJ	0.0484UJ	0.0276UJ	0.016UJ	0.0069UJ
PCB-066	**3.3**	**3.68**	**3.55**	**3.26**	**0.379**	**1.85**	**2.23**	**1.92**	**0.431**	0.167U
PCB-067	0.0652UJ	0.0815UJ	0.0763UJ	0.171U	0.0158UJ	0.114U	0.0545UJ	0.0311UJ	0.0179UJ	0.0078UJ
PCB-068	**4.63**	**2.92**	**0.944**	**0.57**	**0.841**	**0.397**	**0.413**	**0.516**	**0.563**	0.0059UJ
PCB-070	**2.29J**	**2.65J**	**2.26J**	**2.37J**	**0.294J**	**1.26J**	**1.57J**	**1.22J**	**0.328J**	0.167U
PCB-071	**0.709**	**0.802**	**0.695**	**0.648**	**0.142J**	**0.479**	**0.569**	**0.418**	**0.208**	**0.016J**
PCB-073	0.0502UJ	0.0628UJ	0.0587UJ	0.0232UJ	0.0122UJ	0.0322UJ	0.0419UJ	0.0239UJ	0.0138UJ	0.006UJ
PCB-074	**1.76**	**2.06**	**2.17**	**1.82**	**0.219**	**1.17**	**1.17**	**1.14**	**0.285**	0.0079UJ
PCB-076	0.0594UJ	0.0744UJ	0.0696UJ	0.171U	0.0145UJ	0.0381UJ	0.0497UJ	0.0283UJ	0.0164UJ	0.0071UJ
PCB-077	**0.566**	**0.597**	0.371U	**0.522**	0.182U	0.204U	**0.291**	**0.219**	**0.059J**	0.0106UJ
PCB-078	0.0688UJ	0.086UJ	0.0805UJ	0.0317UJ	0.0167UJ	0.0441UJ	0.0575UJ	0.0328UJ	0.0189UJ	0.0082UJ
PCB-079	0.0612UJ	0.0765UJ	0.0716UJ	0.0283UJ	0.0149UJ	0.0392UJ	0.0511UJ	0.0292UJ	0.0168UJ	0.0073UJ
PCB-080	0.0584UJ	0.0731UJ	0.0683UJ	0.027UJ	0.0142UJ	0.0375UJ	0.0488UJ	0.0278UJ	0.0161UJ	0.007UJ
PCB-081	0.1018UJ	0.121UJ	0.1152UJ	0.0421UJ	0.0211UJ	0.0674UJ	0.0835UJ	0.0443UJ	0.0252UJ	0.0122UJ

Table C -6. PCB Congeners in CLAM Samples (pg/L) ppq. (continued)

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-028	**2.97**	**3.71**	**3.39**	**4.03**	**1.57**	**4.17**	5.64	**4.69**	**2.16**	**0.066J**
PCB-029	0.0278UJ	0.0372UJ	0.0359UJ	**0.0285J**	0.0107UJ	**0.0442J**	0.0336UJ	0.13U	0.013UJ	0.0066UJ
PCB-030	0.0204UJ	0.0276UJ	0.0265UJ	0.0097UJ	0.0075UJ	0.0183UJ	0.0242UJ	0.0111UJ	0.0087UJ	0.0072UJ
PCB-031	**2.96**	**3.7**	**3.69**	**3.86**	**1.49**	**4.31**	**5.47**	**4.59**	**2.01**	**0.076J**
PCB-032	**0.635**	**0.772**	**0.658**	**0.735**	**0.565**	**1.15**	**1.64**	**1.47**	**0.569**	0.0071UJ
PCB-034	**0.0459J**	0.0418UJ	0.0401UJ	0.0147UJ	0.0114UJ	0.0277UJ	0.0366UJ	0.0169UJ	0.0131UJ	0.01UJ
PCB-035	0.0359UJ	0.0488UJ	0.0468UJ	**0.13J**	0.0133UJ	0.0324UJ	0.139UJ	0.13U	0.0153UJ	0.0128UJ
PCB-036	0.0316UJ	0.043UJ	0.0412UJ	0.0151UJ	0.0117UJ	0.0285UJ	0.0376UJ	0.0173UJ	0.0135UJ	0.0112UJ
PCB-037	**1.49**	**1.97**	1.61U	**1.8**	**0.511**	**1.55**	**2.1**	**1.56**	**0.434**	0.0216UJ
PCB-038	0.0385UJ	0.0522UJ	0.0501UJ	0.0184UJ	0.0142UJ	0.0346UJ	0.0457UJ	0.021UJ	0.148U	0.0137UJ
PCB-039	0.0291UJ	0.0396UJ	0.0379UJ	0.0139UJ	0.0108UJ	0.0262UJ	0.0346UJ	0.0159UJ	0.0124UJ	0.0104UJ
PCB-040	**0.722**	0.232U	**1.02**	**0.643**	**0.127J**	**0.457**	**0.532**	**0.439**	**0.184**	0.0132UJ
PCB-041	0.0934UJ	**0.379**	**0.387**	**0.268**	**0.0589J**	0.114U	0.155U	0.227UJ	0.148U	0.0112UJ
PCB-042	**0.612**	0.656U	**0.702**	**0.523**	**0.1J**	**0.418**	**0.595**	**0.42**	**0.16**	0.006UJ
PCB-043	0.0956UJ	0.1197UJ	0.1119UJ	0.0442UJ	0.0233UJ	0.0614UJ	0.0799UJ	0.0456UJ	0.0263UJ	0.0115UJ
PCB-044	**3.87**	**4.54**	**3.99**	**3.71**	**0.859**	**2.78**	**3.72**	**2.67**	**1.03**	**0.1J**
PCB-045	**0.643**	**0.832**	0.621U	**0.598**	**0.168J**	**0.73**	**0.885**	**0.644**	**0.3**	0.01UJ
PCB-046	**0.297**	**0.254**	**0.252**	**0.217**	**0.0544J**	**0.176**	0.296UJ	**0.182**	0.148U	0.0115UJ
PCB-047/048	**7.13**	**5.05**	**2.45**	**1.77**	**1.13**	**1.29**	**1.45**	**1.26**	**0.864**	0.167U
PCB-049	**2.58**	**3.08**	**2.94**	**2.44**	**0.586**	**1.75**	**2.35**	**1.87**	**0.774**	0.167U
PCB-050	0.0712UJ	0.0891UJ	0.0834UJ	0.0329UJ	0.0173UJ	0.0457UJ	0.0595UJ	0.034UJ	0.0196UJ	0.0085UJ
PCB-051	**2.55**	**1.66**	**0.484**	**0.378**	**0.367**	**0.31**	**0.319**	**0.279**	**0.261**	0.0078UJ
PCB-052/069	**2.84J**	**3.14J**	**3.08J**	**2.84J**	**0.761J**	**2.08J**	**2.51J**	**2.02J**	**0.83J**	**0.084J**
PCB-053	**0.409**	**0.651**	**0.385**	**0.401**	**0.106J**	**0.439**	**0.486**	**0.394**	**0.173**	0.167U

Table C -6. PCB Congeners in CLAM Samples (pg/L) ppq. (continued)

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-082	**0.7**	**0.878**	0.683UJ	**0.473**	0.182U	**0.15**	**0.138J**	**0.124J**	0.0204UJ	0.0316UJ
PCB-083	0.186U	**0.361**	0.0836UJ	**0.298**	0.0167UJ	0.0517UJ	**0.0821J**	0.0255UJ	0.0231UJ	0.0358UJ
PCB-084	**0.797**	**1.1**	0.619U	**0.498**	0.182U	0.114U	0.154U	**0.0691J**	0.148U	0.0248UJ
PCB-085	**1.26**	0.984U	**1.14**	**0.669**	**0.0522J**	0.275U	0.286UJ	**0.233**	0.0166UJ	0.0257UJ
PCB-086/097/117	**1.38**	0.0508UJ	0.0448UJ	0.0195UJ	0.0089UJ	0.0277UJ	0.0302UJ	**0.191**	0.0124UJ	0.0192UJ
PCB-087/115	**1.43J**	**1.52J**	**1.5J**	**0.933J**	**0.112J**	**0.332J**	**0.288J**	**0.233J**	**0.113J**	0.0171UJ
PCB-088	0.0564UJ	0.0688UJ	0.0606UJ	0.0264UJ	0.0121UJ	0.0375UJ	0.0408UJ	0.0185UJ	0.0167UJ	0.0259UJ
PCB-089	0.057UJ	0.0695UJ	0.0612UJ	0.0267UJ	0.0122UJ	0.0379UJ	0.0413UJ	0.0187UJ	0.0169UJ	0.0262UJ
PCB-090	0.0513UJ	**0.183**	0.0552UJ	0.024UJ	0.011UJ	0.0341UJ	0.0372UJ	0.0168UJ	0.0153UJ	0.0236UJ
PCB-091/121	**0.485**	0.592U	0.0429UJ	**0.333**	**0.0322J**	0.114U	**0.0558J**	**0.159**	0.0119UJ	0.0184UJ
PCB-092	**1.37**	**1.42**	1.53UJ	**0.829**	0.182U	0.28U	**0.291**	**0.256**	0.148U	0.0301UJ
PCB-093/098/102	0.0463UJ	0.0565UJ	0.0498UJ	0.0217UJ	0.0099UJ	0.114U	0.0335UJ	0.0152UJ	0.0138UJ	0.0213UJ
PCB-094	0.0518UJ	0.0632UJ	0.0557UJ	0.0243UJ	0.0111UJ	0.0344UJ	0.0375UJ	0.017UJ	0.0154UJ	0.0238UJ
PCB-095	**3.18J**	**3.67J**	**3.18J**	**2.06J**	0.411J	**0.7J**	**0.685J**	**0.649J**	0.355UJ	**0.102J**
PCB-096	0.0383UJ	0.0468UJ	0.0412UJ	0.0179UJ	0.0082UJ	0.0255UJ	0.0278UJ	0.0126UJ	0.0114UJ	0.0176UJ
PCB-099	**2.02J**	**2.58J**	**2.02 J**	**1.28J**	**0.111J**	**0.417J**	0.42U	**0.321J**	0.148U	0.0205UJ
PCB-100	0.0443UJ	0.054UJ	0.0476UJ	0.0207UJ	0.0095UJ	0.0294UJ	0.0321UJ	0.0145UJ	0.0132UJ	0.0204UJ
PCB-101	**4.8**	**5.55**	**4.69**	**3.23**	**0.517**	**0.817**	**0.818**	**0.684**	0.318U	**0.09J**
PCB-103	0.0457UJ	0.0558UJ	0.0491UJ	0.0214UJ	0.0098UJ	0.0304UJ	0.0331UJ	0.015UJ	0.0136UJ	0.021UJ
PCB-104	0.0428UJ	0.0541UJ	0.0489UJ	0.0327UJ	0.0199UJ	0.0404UJ	0.0574UJ	0.0282UJ	0.026UJ	0.0308UJ
PCB-105	**2.36**	**2.86**	**2.67**	**2.36**	**0.171J**	**0.836**	**0.817**	**0.802**	0.148U	0.0323UJ
PCB-106	0.0618UJ	0.0754UJ	0.0664UJ	0.0289UJ	0.0132UJ	0.041UJ	0.0447UJ	0.0202UJ	0.0184UJ	0.0284UJ
PCB-107/108	**0.264**	**0.304**	0.155U	**0.34**	0.0124UJ	0.0383UJ	0.0418UJ	**0.0759J**	0.0171UJ	0.0265UJ
PCB-109	0.0387UJ	0.0473UJ	0.0416UJ	0.0181UJ	0.0083UJ	0.0257UJ	0.0281UJ	0.0127UJ	0.0115UJ	0.0178UJ
PCB-110	**6.28**	**7.21**	**6.57**	**3.99**	**0.485**	**1.21**	**1.08**	**1.05**	**0.365**	0.162UJ
PCB-111	0.0386UJ	0.0471UJ	0.0415UJ	0.0181UJ	0.0083UJ	0.0257UJ	0.028UJ	0.0127UJ	0.0115UJ	0.0178UJ

Table C -6. PCB Congeners in CLAM Samples (pg/L) ppq. (continued)

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-112/119	**0.0583J**	0.0521UJ	0.0459UJ	0.171U	0.0092UJ	0.0284UJ	0.031UJ	0.014UJ	0.0127UJ	0.0197UJ
PCB-113	0.0429UJ	0.0524UJ	0.0461UJ	0.0201UJ	0.0092UJ	0.0285UJ	0.0311UJ	0.0141UJ	0.0128UJ	0.0198UJ
PCB-114	0.0964UJ	0.1252UJ	0.1007UJ	**0.162J**	0.0181UJ	0.0588UJ	0.0631UJ	0.13U	0.0243UJ	0.0422UJ
PCB-116	0.0538UJ	0.0656UJ	0.0578UJ	0.0252UJ	0.0115UJ	0.0357UJ	0.039UJ	0.0176UJ	0.016UJ	0.0247UJ
PCB-118	**5.32**	**6.09**	**5.81**	**5.47**	**0.536**	**1.45**	**1.7**	**1.53**	**0.375**	0.0383UJ
PCB-120	0.0443UJ	0.0541UJ	0.0476UJ	0.0207UJ	0.0095UJ	0.0294UJ	0.0321UJ	0.0145UJ	0.0132UJ	0.0204UJ
PCB-122	0.0686UJ	0.0837UJ	0.0737UJ	0.0321UJ	0.0147UJ	0.0456UJ	0.0497UJ	0.0225UJ	0.0204UJ	0.0316UJ
PCB-123	0.0979UJ	0.1167UJ	0.1027UJ	**0.0765J**	0.017UJ	0.0583UJ	0.057UJ	0.13U	0.0245UJ	0.0397UJ
PCB-124	0.168U	0.0647UJ	0.155U	**0.25**	0.0132UJ	0.0332UJ	0.0434UJ	0.13U	0.017UJ	0.0225UJ
PCB-125	0.0602UJ	0.0735UJ	0.0647UJ	0.0282UJ	0.0129UJ	0.04UJ	0.0436UJ	0.0197UJ	0.0179UJ	0.0277UJ
PCB-126	0.0854UJ	0.0997UJ	0.09UJ	0.0356UJ	0.0151UJ	0.0482UJ	0.049UJ	0.0237UJ	0.0199UJ	0.0322UJ
PCB-128/162	**0.598**	**0.651**	**0.605**	**0.586**	**0.0765J**	**0.0998 J**	**0.177**	**0.134**	**0.0389 J**	0.167U
PCB-129	0.0299UJ	0.0361UJ	**0.193**	**0.214**	**0.0126J**	0.0093UJ	0.0114UJ	**0.0467J**	0.0046UJ	0.0046UJ
PCB-130	**0.271**	**0.29**	**0.1J**	**0.276**	**0.0382J**	0.0411UJ	**0.0363J**	0.13U	0.0047UJ	0.0047UJ
PCB-131	0.0164UJ	0.168U	0.0184UJ	**0.0237J**	0.0028UJ	0.0051UJ	0.0063UJ	0.004UJ	0.0025UJ	0.0026UJ
PCB-132	**1.03**	1.1U	**1.01**	**1.08**	**0.214**	0.114U	**0.202**	**0.256**	**0.148J**	**0.025J**
PCB-133	**0.078J**	**0.0327J**	**0.0504J**	**0.045J**	0.0045UJ	0.0081UJ	0.01UJ	**0.0232J**	**0.005J**	0.0041UJ
PCB-134	**0.0939J**	0.168U	0.155U	**0.106J**	**0.0319J**	0.114U	0.154U	0.13U	**0.0154J**	0.0028UJ
PCB-135	**0.526**	0.552UJ	**0.497**	**0.673**	**0.114J**	0.114U	0.0136UJ	**0.0903J**	**0.0494J**	0.0055UJ
PCB-136/148	**0.871**	**1.03**	**1.11**	**0.774**	**0.168J**	**0.0984J**	0.154U	**0.142**	**0.107J**	0.0049UJ
PCB-137	**0.201**	0.168U	**0.164**	**0.141J**	**0.02J**	0.114U	0.0426UJ	**0.0403J**	0.148U	0.0038UJ
PCB-138	**3.4**	**3.89**	**3.2**	**3.09**	**0.551**	**0.518**	**0.749**	**0.641**	0.334U	**0.077J**
PCB-139/149	**5.07**	**5.92**	**5.88**	**4.04**	**0.706**	0.534U	**0.581**	**0.683**	0.447U	**0.11J**
PCB-140	0.026UJ	0.0314UJ	0.0291UJ	0.0117UJ	0.0045UJ	0.0081UJ	0.0099UJ	0.0063UJ	0.004UJ	0.004UJ
PCB-141	**0.971**	**0.975**	**0.869**	**0.742**	**0.201**	0.114U	**0.121J**	**0.177**	**0.0849J**	0.167U
PCB-142	0.0289UJ	0.0349UJ	0.0324UJ	0.0131UJ	0.005UJ	0.009UJ	0.0111UJ	0.007UJ	0.0045UJ	0.0045UJ

Table C – 6. PCB Congeners in CLAM Samples (pg/L) ppq. (continued)

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-143	0.0251UJ	0.0304UJ	0.0282UJ	0.0114UJ	0.0043UJ	0.0078UJ	0.0096UJ	0.0061UJ	0.0039UJ	0.0039UJ
PCB-144	**0.266**	**0.412**	0.0404UJ	**0.221**	0.0767UJ	**0.0294J**	0.0138UJ	0.0087UJ	**0.0136J**	0.0056UJ
PCB-145	0.0259UJ	0.0313UJ	0.029UJ	0.0117UJ	0.0045UJ	0.008UJ	0.0099UJ	0.0062UJ	0.004UJ	0.004UJ
PCB-146	**0.556**	**0.813**	**0.694**	**0.498**	**0.067J**	**0.0766J**	**0.0966J**	**0.134**	0.0037UJ	0.167U
PCB-147	0.099UJ	0.0505UJ	0.0469UJ	**0.0574J**	0.0072UJ	0.013UJ	0.016UJ	0.0101UJ	0.0065UJ	0.0065UJ
PCB-150	0.0238UJ	0.0288UJ	0.0268UJ	0.0162UJ	0.0041UJ	0.0074UJ	0.0091UJ	0.0058UJ	0.0037UJ	0.0037UJ
PCB-151	1.35U	**1.79**	**1.72**	**1.25**	**0.259**	0.114U	**0.141J**	**0.191**	**0.136J**	0.167U
PCB-152	0.0274UJ	0.0332UJ	0.0308UJ	0.0124UJ	0.0047UJ	0.0085UJ	0.0105UJ	0.0066UJ	0.0042UJ	0.0043UJ
PCB-153	**3.72**	**4.44**	**3.72**	**3.37**	**0.659**	**0.592**	**0.757**	**0.674**	0.302U	**0.11J**
PCB-154	0.0347UJ	0.042UJ	0.0389UJ	**0.0352J**	0.006UJ	0.0108UJ	**0.0186J**	0.0084UJ	0.0054UJ	0.0054UJ
PCB-155	0.0362UJ	0.0387UJ	0.0319UJ	**0.0319J**	0.0076UJ	0.0116UJ	0.0185UJ	0.011UJ	0.0064UJ	0.0064UJ
PCB-156	0.597U	**0.771**	**0.767**	**0.593**	**0.0775J**	**0.125**	0.154U	**0.117J**	**0.0415J**	0.0048UJ
PCB-157	0.031UJ	**0.185**	0.155U	**0.134J**	0.182U	**0.0336J**	0.0115UJ	**0.0327J**	0.0046UJ	0.005UJ
PCB-158	**0.385**	**0.433**	0.185U	**0.385**	**0.087J**	**0.0525J**	**0.0654J**	**0.0549J**	**0.0486J**	0.167U
PCB-159	0.0205UJ	0.0248UJ	0.023UJ	0.0093UJ	0.0035UJ	0.0064UJ	0.0079UJ	0.0049UJ	0.0032UJ	0.0032UJ
PCB-160	0.0226UJ	0.0273UJ	0.0254UJ	0.0102UJ	0.0039UJ	0.007UJ	0.0087UJ	0.0055UJ	0.0035UJ	0.0035UJ
PCB-163/164	**0.855**	**1.07**	**0.928**	**0.865**	**0.163J**	**0.152**	**0.206**	**0.191**	**0.0937J**	0.167U
PCB-165	0.0191UJ	0.0232UJ	0.0215UJ	0.0087UJ	0.0033UJ	0.0059UJ	0.0073UJ	0.0046UJ	0.003UJ	0.003UJ
PCB-166	0.0213UJ	0.0258UJ	0.0239UJ	0.0096UJ	0.0037UJ	0.0066UJ	0.0081UJ	0.0051UJ	0.0033UJ	0.0033UJ
PCB-167	**0.277**	0.298U	0.155U	**0.262**	0.182U	0.114U	0.154U	0.13U	0.148U	0.0049UJ
PCB-168	0.0177UJ	0.0214UJ	0.0198UJ	0.008UJ	0.003UJ	0.0055UJ	0.0068UJ	0.0043UJ	0.0027UJ	0.0028UJ
PCB-169	0.168U	0.0393UJ	0.038UJ	0.015UJ	0.182U	0.0091UJ	0.0108UJ	0.0072UJ	0.0048UJ	0.0044UJ
PCB-170	**1.02**	**1.18**	**0.93**	**0.798**	**0.109J**	0.121U	**0.0927J**	**0.138**	**0.0631J**	0.167U
PCB-171	0.361U	**0.218**	0.155U	**0.22**	0.182U	0.009UJ	**0.0307J**	**0.0181J**	0.0044UJ	0.0059UJ
PCB-172	**0.149J**	0.221U	0.155U	**0.151J**	0.0049UJ	0.0299UJ	**0.0307J**	0.0159UJ	0.148U	0.006UJ
PCB-173	0.035UJ	0.0428UJ	0.155U	0.017UJ	**0.0064J**	0.0114UJ	0.015UJ	0.0084UJ	0.0056UJ	0.0075UJ

Table C - 6. PCB Congeners in CLAM Samples (pg/L) ppq. (continued)

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-174	**1.21**	**1.18**	**1.13**	**0.956**	0.182U	**0.107J**	**0.104J**	**0.158**	**0.0868J**	0.167U
PCB-175	0.0247UJ	0.0302UJ	0.0315UJ	**0.0252J**	0.0043UJ	0.0081UJ	0.0105UJ	0.0059UJ	0.004UJ	0.0053UJ
PCB-176	0.168U	0.168U	0.155U	**0.106J**	0.182U	**0.0141J**	0.154 U	**0.0121J**	**0.0073J**	0.004UJ
PCB-177	**0.547**	0.45U	**0.617**	**0.556**	**0.0869J**	**0.0678J**	0.154 U	**0.0882J**	0.148U	0.0059UJ
PCB-178	**0.229**	0.262U	**0.255**	**0.23**	**0.0288J**	0.0084UJ	**0.0295 J**	**0.0319J**	0.0041UJ	0.0055UJ
PCB-179	**0.444**	**0.507**	0.324U	**0.414**	**0.049J**	0.114U	**0.0202 J**	0.0547UJ	**0.0404J**	0.167U
PCB-180	**1.5J**	**1.69J**	**1.46J**	**1.23J**	**0.123J**	**0.153J**	**0.195 J**	**0.178J**	0.148UJ	**0.021J**
PCB-181	0.024UJ	0.0294UJ	0.0306UJ	0.0117UJ	0.0042UJ	0.0078UJ	0.0103 UJ	0.0057UJ	0.0039UJ	0.0051UJ
PCB-182/187	**1.48J**	**1.57J**	**1.32J**	**1.16J**	0.182U	**0.226J**	**0.208 J**	**0.189J**	**0.0534J**	0.005UJ
PCB-183	**0.669**	0.603U	**0.552**	**0.461**	**0.0581J**	0.114U	**0.0717 J**	**0.0815J**	0.148U	0.0051UJ
PCB-184	0.168U	0.0186UJ	0.155U	0.171U	0.0027UJ	0.005UJ	0.0065 UJ	0.13U	0.0024UJ	0.0033UJ
PCB-185	0.0238UJ	0.0291UJ	0.155U	**0.108J**	0.182U	0.0078UJ	0.0102 UJ	0.13U	0.148U	0.0051UJ
PCB-186	0.017UJ	0.0208UJ	0.0217UJ	0.0083UJ	0.003UJ	0.0056UJ	0.0073 UJ	0.0041UJ	0.0027UJ	0.0037UJ
PCB-188	0.0323UJ	0.0387UJ	0.0397UJ	0.0167UJ	0.0066UJ	0.0141UJ	0.0172 UJ	0.0093UJ	0.0061UJ	**0.015J**
PCB-189	0.0291UJ	0.0362UJ	0.155U	0.171U	0.182U	0.0078UJ	0.0106 UJ	0.006UJ	0.148U	0.0051UJ
PCB-190	0.169U	**0.257**	**0.202**	**0.181**	0.182U	0.114U	0.154 U	0.13U	0.148U	0.0047UJ
PCB-191	0.0224UJ	0.168U	0.0285UJ	0.171U	0.0039UJ	0.0073UJ	0.0096 UJ	0.0053UJ	0.0036UJ	0.0048UJ
PCB-192	0.0213UJ	0.0261UJ	0.0272UJ	0.0104UJ	0.0038UJ	0.007UJ	0.0091 UJ	0.0051UJ	0.0034UJ	0.0046UJ
PCB-193	0.0234UJ	0.0286UJ	0.0298UJ	0.0114UJ	0.0041UJ	0.0076UJ	0.01 UJ	0.0056UJ	0.0038UJ	0.005UJ
PCB-194	**0.435**	**0.497**	0.383U	**0.393**	0.182U	**0.0976J**	**0.111 J**	0.13U	0.148U	0.167U
PCB-195	0.168U	**0.214**	0.0131UJ	**0.135J**	0.182U	0.114U	0.0057 UJ	0.13U	0.0022UJ	0.0028UJ
PCB-196	0.168U	0.38U	0.196U	**0.192**	0.182U	0.114U	0.154 U	0.13U	0.0025UJ	0.0032UJ
PCB-197	0.0083UJ	0.0121UJ	0.155U	0.171U	0.0016UJ	0.0036UJ	0.0047 UJ	0.0026UJ	0.0018UJ	0.0023UJ
PCB-198	0.0132UJ	0.0192UJ	0.0174UJ	0.0074UJ	0.0025UJ	0.0057UJ	0.0075 UJ	0.0041UJ	0.0029UJ	0.0037UJ
PCB-199	0.622U	**0.911**	**1.12**	**0.563**	**0.0635J**	**0.0714J**	**0.17**	**0.0981J**	**0.0364J**	0.0035UJ
PCB-200	0.168U	**0.112J**	0.155U	**0.087J**	0.0018UJ	0.114U	0.154U	0.003UJ	0.148U	0.0027 UJ

Table C -6. PCB Congeners in CLAM Samples (pg/L) ppq. (continued)

Location	Ninemile Dam					Upriver Dam				
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		10/24/12 -10/25/12				
Treatment	None				Pre-filter	None			Pre-filter	Lab Method Blank
Sample ID	9M PRL03	9M PRL04	9M PRL05	9M PRL07	9M PRL06	UP PRL010	UP PRL011	UP PRL012	UP PRL013	
PCB-201	0.168U	0.168U	0.155U	0.171U	**0.0109J**	**0.0121J**	0.154U	0.0029UJ	0.002UJ	0.0025UJ
PCB-202	**0.354**	**0.313**	**0.235**	**0.176**	0.0207UJ	0.114U	0.154U	**0.0579J**	**0.0138J**	0.0043UJ
PCB-203	**0.629**	**0.484**	**0.558**	**0.447**	0.182U	**0.0374J**	**0.0626J**	**0.0675J**	0.148U	0.0031UJ
PCB-204	0.009UJ	0.013UJ	0.0118UJ	0.005UJ	0.0017UJ	0.0039UJ	0.0051UJ	0.0028UJ	0.0019UJ	0.0025UJ
PCB-205	0.0106UJ	0.168U	0.0157UJ	**0.025J**	0.182U	0.0039UJ	0.0055UJ	0.0032UJ	0.0022UJ	0.0026UJ
PCB-206	**0.534**	**0.852**	0.242U	**0.438**	0.0339UJ	0.0554UJ	0.0935UJ	0.0391UJ	0.041UJ	0.0483UJ
PCB-207	0.0353UJ	0.0462UJ	0.042UJ	0.03UJ	0.0217UJ	0.0389UJ	0.059UJ	0.0239UJ	0.0263UJ	0.0322UJ
PCB-208	**0.345**	0.168U	0.155U	0.171U	0.0383UJ	0.0765UJ	0.1026UJ	0.0403UJ	0.0465UJ	0.0594UJ
PCB-209	**0.31**	**0.434**	0.266U	**0.533**	0.182U	0.119U	0.154U	0.13U	0.148U	**0.056J**
Monochlorobiphenyls	**0.5**	**0.5J**	**0.7J**	**0.8J**	**0.5J**	**1**	**1**	**1**	**0.7**	0.02UJ
Dichlorobiphenyls	**37**	**27**	**13**	**8**	**8**	**11**	**13**	**11**	**8**	**0.7**
Trichlorobiphenyls	**17J**	**20J**	**19J**	**20J**	**9J**	**23J**	**30**	**24**	**12J**	**0.2J**
Tetrachlorobiphenyls	**38J**	**36J**	**30J**	**27J**	**7J**	**18J**	**22J**	**18J**	**7J**	**0.2J**
Pentachlorobiphenyls	**32J**	**34J**	**28J**	**23J**	**2J**	**6J**	**6J**	**6J**	**0.9J**	**0.2J**
Hexachlorobiphenyls	**19**	**23**	**22**	**19**	**3J**	**2J**	**3J**	**4J**	**0.8J**	**0.3J**
Heptachlorobiphenyls	**7J**	**7J**	**6J**	**7J**	**0.5J**	**0.6J**	**0.8J**	**0.9J**	**0.3J**	**0.04J**
Octachlorobiphenyls	**1**	**3**	**2**	**2J**	**0.1J**	**0.2J**	**0.3J**	**0.2J**	**0.1J**	ND
Nonachlorobiphenyls	**0.9**	**0.9**	ND	**0.4**	ND	ND	ND	ND	ND	ND
Decachlorobiphenyl	**0.3**	**0.4**	ND	**0.5**	ND	ND	ND	ND	ND	**0.06J**
Total PCB	**154J**	**151J**	**119J**	**108J**	**31J**	**62J**	**76J**	**66J**	**30J**	**1.7J**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ND = Not detected
pg/L = picogram per liter
ppq = part per quadrillion

Table C -7. PCB Aroclors in CLAM Samples (pg/L) ppq.

Location	Ninemile Dam		
Dates	10/23/12 - 10/24/12		
Sample ID	9M MEL-20	9M MEL-21	9M MEL-22
PCB 1016	920U	700U	700U
PCB 1221	920U	700U	700U
PCB 1232	920U	700U	700U
PCB 1242	920U	700U	700U
PCB 1248	920U	700U	700U
PCB 1254	920U	700U	700U
PCB 1260	920U	700U	700U
PCB 1268	920U	700U	700U

U = Result is not detected at the value reported
pg/L = picogram per liter
ppq = part per quadrillion

Table C -8. PBDEs in CLAM Samples Analyzed by Method EPA1614, (pg/L) ppq.

Location	Ninemile Dam			Upriver Dam		Lab Method Blank
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		
Sample ID	9M PRL03	9M PRL04	9M PRL05	UP PRL010	UP PRL011	
BDE007	**0.20J**	**0.29**	**0.23**	0.28U	0.27U	0.021UJ
BDE010	0.04UJ	0.04UJ	0.03 UJ	0.1UJ	0.08UJ	0.023UJ
BDE015	**0.49**	**0.56**	**0.58**	**0.14J**	0.2U	0.012UJ
BDE017	**1.27**	**1.84**	**1.4**	0.17UJ	**1.02**	0.034UJ
BDE028	**2.48**	**3.13**	**2.36**	0.17UJ	0.18UJ	0.033UJ
BDE030	0.09UJ	0.08UJ	0.06 UJ	0.22UJ	0.25UJ	0.045UJ
BDE047	**137**	**159**	**138**	**16.6**	**15.8**	**0.75**
BDE049	**6.33**	**7.24**	**6.53**	0.33UJ	0.30UJ	0.052UJ
BDE066	**2.98**	**2.82**	**2.64**	0.38UJ	0.35UJ	0.060UJ
BDE071	0.13UJ	0.16UJ	0.12 UJ	0.27UJ	0.25UJ	0.042UJ
BDE077	0.11UJ	0.16UJ	0.10 UJ	0.30UJ	0.25UJ	0.042UJ
BDE085	**4.72**	**5.45**	**4.52**	**1.09**	0.29UJ	0.05UJ
BDE099	**139**	**154**	**129**	**8.19**	**9.04**	0.4U
BDE100	**26.6**	**28.8**	**25.7**	**2.4**	**2.38**	**0.08J**
BDE119	**0.62**	0.16UJ	**0.76**	0.29UJ	0.25UJ	0.043UJ
BDE126	0.11UJ	0.15UJ	0.09 UJ	0.30UJ	0.27UJ	0.035UJ
BDE138	**1.21**	**1.29**	**1.12**	0.49UJ	0.41UJ	0.107UJ
BDE139	**1.34**	**1.46**	**1.54**	0.44UJ	0.37UJ	0.096UJ
BDE140	**0.41J**	**0.67**	**0.39**	0.40UJ	0.34UJ	0.088UJ
BDE153	**12.4**	**15.7**	**12.8**	**1.59**	0.54UJ	0.108UJ
BDE154	**11.5**	**12.9**	**10.7**	**0.962**	**1.22**	0.070UJ
BDE156/169	0.10UJ	0.15UJ	0.074 UJ	0.52UJ	0.38UJ	0.102UJ
BDE171	0.09UJ	0.10UJ	0.064 UJ	0.17UJ	0.17UJ	0.031UJ
BDE180	0.10UJ	**0.36J**	**0.18 J**	0.19UJ	0.8U	0.033UJ
BDE183	**1.62**	**1.81**	**1.8**	**1.28**	0.12UJ	0.022UJ
BDE184	0.8U	**0.20J**	**0.18 J**	**0.25J**	**0.122J**	0.019UJ
BDE191	0.8U	0.11UJ	0.08 UJ	0.20UJ	0.2UJ	0.036UJ
BDE196	**1.24**	**1.40**	**1.13**	0.11UJ	0.09UJ	0.017UJ
BDE197/204	**1.70**	**1.94**	**1.72**	**0.874**	**0.477J**	0.016UJ
BDE201	**1.18**	**1.56**	**1.12**	0.13UJ	0.11UJ	0.021UJ
BDE203	**1.71**	**2.08**	**1.98**	0.6U	0.11UJ	0.020UJ
BDE205	0.18UJ	**0.26J**	**0.24 J**	0.18UJ	0.8U	0.032UJ
BDE206	**15.5**	**17.5**	**12**	**1.71**	0.31UJ	0.058UJ

Location	Ninemile Dam			Upriver Dam		Lab Method Blank
Dates	10/23/12 - 10/24/12			10/24/12 -10/25/12		
Sample ID	9M PRL03	9M PRL04	9M PRL05	UP PRL010	UP PRL011	
BDE207	**12.1**	**12.7**	**9.52**	**0.36J**	1.9U	2.1U
BDE208	**11.7**	**11.9**	**9.57**	**1.85**	0.28UJ	2.1U
BDE209	**222**	**267**	**240**	10.9U	16.3U	**2.45**
Total PBDEs	**617**	**714**	**618**	**37**	**30**	**3.3J**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
pg/L = picogram per liter
ppq = part per quadrillion

Table C -9. PBDEs in CLAM Samples Analyzed by Method EPA 8270, (pg/L) ppq.

Location	Nimemile Dam		
Dates	10/23/12 - 10/24/12		
Sample ID	9M MEL-20	9M MEL-21	9M MEL-22
PBDE - 047	**150**	**130**	**160**
PBDE - 049	74U	56U	56U
PBDE - 066	74U	56U	56U
PBDE - 071	74U	56U	56U
PBDE - 099	**170**	**140**	**180**
PBDE - 100	**39J**	**31J**	**41J**
PBDE - 138	150U	110U	110U
PBDE - 153	**23J**	**18J**	**26J**
PBDE - 154	**19J**	**12**	**15**
PBDE - 183	150U	110U	110U
PBDE - 184	150UJ	110UJ	110UJ
PBDE - 191	150U	110U	110U
PBDE - 209	**200J**	**220J**	**350**
Total PBDEs	**610J**	**540J**	**780J**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
pg/L = picogram per liter
ppq = part per quadrillion

Table C -10. Dioxins and Furans in CLAM Samples (pg/L) ppq.

Location		Ninemile Dam			Upriver Dam		Lab Method Blank
Dates		10/23/12 - 10/24/12			10/24/12 -10/25/12		
Sample ID	TEF	9M PRL03	9M PRL04	9M PRL05	UP PRL010	UP PRL011	
2,3,7,8-TCDD	1	0.008U	0.0065UJ	0.0046UJ	0.0026UJ	0.0035UJ	0.0041UJ
1,2,3,7,8-PeCDD	1	0.0168U	0.168U	**0.0097J**	0.0114U	0.0457U	0.0167U
1,2,3,4,7,8-HxCDD	0.1	**0.008J**	**0.0109J**	0.0036UJ	0.0028UJ	**0.0295**	0.0167U
1,2,3,6,7,8-HxCDD	0.1	**0.026**	**0.0198**	**0.0184**	0.0028UJ	**0.0326**	0.0167U
1,2,3,7,8,9-HxCDD	0.1	**0.0252**	0.006UJ	**0.0127J**	0.0114U	**0.074**	0.0041UJ
1,2,3,4,6,7,8-HpCDD	0.01	**0.233**	0.17U	**0.17**	**0.0654**	**0.123**	0.0095UJ
OCDD	0.0003	**1.74**	**1.67**	**1.54**	0.354U	**0.598**	0.0066UJ
2,3,7,8-TCDF	0.1	0.0062U	0.0046UJ	0.0043U	0.0024UJ	**0.0125**	0.0037UJ
1,2,3,7,8-PeCDF	0.03	0.0168U	0.004UJ	0.0155U	0.0114U	**0.0319**	0.0167U
2,3,4,7,8-PeCDF	0.3	0.0168U	0.168U	0.0155U	0.0114U	**0.023**	0.0035UJ
1,2,3,4,7,8-HxCDF	0.1	0.0168U	**0.0121J**	**0.0097J**	0.0027UJ	0.0311U	0.0167U
1,2,3,6,7,8-HxCDF	0.1	0.0168U	0.0054UJ	0.0155U	0.0114U	0.0223U	**0.0058J**
2,3,4,6,7,8-HxCDF	0.1	0.0168U	**0.0102J**	0.0155U	0.0114U	**0.0308**	0.0046UJ
1,2,3,7,8,9-HxCDF	0.1	**0.0127J**	0.168U	0.0155U	0.0048UJ	**0.0583**	0.0085UJ
1,2,3,4,6,7,8-HpCDF	0.01	0.0663U	0.0605U	**0.0706**	0.0196U	0.0394U	**0.0054J**
1,2,3,4,7,8,9-HpCDF	0.01	0.0168U	**0.0323**	0.0095UJ	0.0049UJ	**0.049**	0.0057UJ
OCDF	0.0003	**0.167**	0.0502U	0.098U	**0.0637**	**0.0982**	0.0067UJ
TEQ (ND = 0)		**0.010**	**0.006**	**0.017**	**0.001**	**0.034**	**0.001**

TEF = Toxic Equivalency Factor
TEQ = Toxic Equivalency, calculated with Van den Berg et. al. (2005) TEFs. Non-detects assigned a value of zero
Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
pg/L = picogram per liter
ppq = part per quadrillion

Table C -11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	Blank
PCB-025	**0.0107**	**0.0118**	**0.0154**	**0.0548**	0.0019UJ	0.0002UJ
PCB-026	**0.0195**	**0.0235**	**0.0216**	**0.0923**	**0.0789**	**0.0017**
PCB-027	**0.0061**	**0.0061**	**0.0159**	**0.0238**	**0.0194**	0.0003UJ
PCB-028	**0.187**	**0.218**	**0.278**	**1.06**	**0.862**	**0.0051**
PCB-029	0.0006UJ	0.0007UJ	0.0011UJ	0.0016UJ	0.0017UJ	0.0002UJ
PCB-030	0.0014UJ	0.0017UJ	0.0024UJ	0.0039UJ	0.0039UJ	0.0006UJ
PCB-031	**0.142**	**0.174**	**0.207**	**0.766**	**0.719**	**0.0042**
PCB-032	**0.0485**	**0.0614**	**0.086**	**0.182**	**0.124**	0.0007UJ
PCB-034	0.0008UJ	0.0009UJ	0.0013UJ	0.0022UJ	0.0021UJ	0.0003UJ
PCB-035	0.0034U	0.0011UJ	0.0016UJ	0.0153U	0.0109U	0.0004UJ
PCB-036	0.0007UJ	0.0008UJ	**0.011**	0.0019UJ	0.0019UJ	0.0003UJ
PCB-037	**0.0906**	**0.1**	**0.149**	**0.504**	**0.416**	**0.0011**
PCB-038	0.0009UJ	0.0011UJ	0.0016UJ	0.0026UJ	0.0026UJ	0.0004UJ
PCB-039	0.0009UJ	0.001UJ	**0.0016J**	0.0024UJ	0.0024UJ	0.0004UJ
PCB-040/057	**0.033J**	**0.0309J**	**0.046**	**0.0796J**	**0.0728J**	**0.0009J**
PCB-041	**0.0224**	**0.0191**	**0.0257**	**0.0433**	**0.0505**	0.0005UJ
PCB-042	**0.105**	**0.102**	**0.148**	**0.285**	**0.263**	**0.0009J**
PCB-043/049	**0.242**	**0.23**	**0.275**	**0.732**	**0.667**	0.0017U
PCB-044	**0.276**	**0.294**	**0.453**	**0.742**	**0.699**	**0.0039**
PCB-045	**0.031**	**0.0314**	**0.0423**	**0.0748**	0.0659U	0.0004UJ
PCB-046	**0.0122**	0.0077U	**0.0244**	**0.0242**	0.0091UJ	0.0005UJ
PCB-047/048	**0.157**	**0.151**	**0.182**	**0.485**	**0.399**	**0.003**
PCB-050	0.0025UJ	0.0029UJ	0.0037UJ	0.006UJ	0.0066UJ	0.0004UJ

Table C -11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb.

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-001	REJ	REJ	0.0057U	REJ	REJ	REJ
PCB-002	REJ	REJ	0.0065U	REJ	REJ	REJ
PCB-003	REJ	REJ	**0.004J**	REJ	REJ	REJ
PCB-004	0.0323U	0.0599UJ	0.0135U	0.1246UJ	0.3749UJ	0.0088UJ
PCB-005/008	**0.0347**	**0.0483**	**0.0753**	**0.158**	**0.102**	0.0068U
PCB-006	0.0026UJ	0.0034UJ	**0.0221**	**0.024**	0.0079UJ	0.0023UJ
PCB-007	0.0026UJ	0.0034UJ	0.007U	0.0074UJ	0.0079UJ	0.0023UJ
PCB-009	0.0024UJ	0.0032UJ	0.0066U	0.0071UJ	0.0075UJ	0.0022UJ
PCB-010	0.0026UJ	0.0033UJ	0.0069U	0.0074UJ	0.0078UJ	0.0022UJ
PCB-011	**0.134**	**0.148**	0.101U	**0.222**	**0.296**	**0.0161**
PCB-012/013	0.0031U	0.0038UJ	0.008U	0.0203U	0.009UJ	0.0026UJ
PCB-014	0.0024UJ	0.0031UJ	0.0065U	0.0069UJ	0.0073UJ	0.0021UJ
PCB-015	**0.0454**	**0.0506**	**0.0632**	**0.246**	**0.224**	0.002UJ
PCB-016	**0.0175**	**0.0218**	**0.0489**	**0.0564**	0.0296U	0.0021U
PCB-017	**0.041**	**0.0457**	**0.0924**	**0.145**	**0.106**	**0.0022**
PCB-018	**0.0948**	**0.102**	**0.2**	**0.339**	**0.288**	**0.006**
PCB-019	**0.0061**	**0.0071**	**0.0177**	0.0198U	0.0168U	0.0007UJ
PCB-020/033	**0.0694**	**0.0797**	**0.098**	**0.301**	**0.213**	**0.0034**
PCB-021	0.001UJ	0.0012UJ	0.0017UJ	0.0028UJ	0.0028UJ	0.001U
PCB-022	**0.0589**	**0.0677**	**0.092**	**0.259**	**0.248**	0.0023U
PCB-023	0.0006UJ	0.0007UJ	0.0011UJ	0.0016UJ	0.0017UJ	0.0002UJ
PCB-024	0.0016UJ	0.002UJ	0.0028UJ	0.0047UJ	0.0046UJ	0.0007UJ

Table C -11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-051	**0.0103**	**0.0087**	**0.0162**	**0.0188**	**0.0145**	0.0004UJ
PCB-052/069	**0.312**	**0.282**	**0.343**	**0.787**	**0.713**	**0.0064**
PCB-053	**0.0302**	**0.0307**	**0.0509**	**0.083**	**0.0671**	0.001U
PCB-054	0.0016UJ	0.002UJ	0.0031UJ	0.0044UJ	0.0045UJ	0.0002UJ
PCB-055/080	0.0021UJ	0.0024UJ	0.0031UJ	0.005UJ	0.0055UJ	0.0003UJ
PCB-056	**0.151**	**0.147**	**0.233**	**0.643**	**0.531**	0.0013U
PCB-058	**0.0062**	**0.0058**	0.0029UJ	0.0047UJ	0.0053UJ	0.0003UJ
PCB-059	**0.0156**	0.0026UJ	**0.0141**	**0.0516**	**0.0409**	0.0003UJ
PCB-060	**0.101**	**0.123**	**0.213**	**0.348**	**0.543**	0.0012U
PCB-061	0.0023UJ	0.0027UJ	**0.0712**	0.0056UJ	**0.124**	0.0003UJ
PCB-062	0.0021UJ	0.0025UJ	0.0032UJ	0.0052UJ	0.0057UJ	0.0003UJ
PCB-063	**0.0104**	**0.007**	0.0029UJ	**0.0395**	0.0411U	0.0003UJ
PCB-064/072	**0.149**	**0.148**	**0.221**	**0.479**	**0.503**	**0.0016**
PCB-065/075	0.0019UJ	0.0021UJ	0.0028UJ	0.0045UJ	0.005UJ	0.0003UJ
PCB-066	**0.415**	**0.417**	**0.589**	**1.76**	**1.77**	**0.002**
PCB-067	0.0025U	**0.0038**	0.0031UJ	**0.0305**	**0.018**	0.0003UJ
PCB-068	0.0019UJ	0.0022UJ	0.0028UJ	0.0046UJ	0.0051UJ	0.0003UJ
PCB-070	**0.509**	**0.521**	**0.711**	**1.79**	**1.81**	**0.0045**
PCB-071	**0.0544**	**0.0591**	**0.0982**	**0.211**	**0.146**	**0.0011**
PCB-073	0.002UJ	0.0023UJ	0.003UJ	0.0048UJ	0.0053UJ	0.0003UJ
PCB-074	**0.164**	**0.173**	**0.159**	**0.657**	**0.541**	0.0014U
PCB-076	0.0059U	0.0027UJ	0.0035UJ	0.0057UJ	0.0064UJ	0.0003UJ

Table C – 11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-077	**0.0319**	**0.0429**	**0.0796**	**0.211**	**0.182**	0.0004UJ
PCB-078	0.0023UJ	0.0026UJ	0.0034UJ	0.0055UJ	0.006UJ	0.0003UJ
PCB-079	0.0021UJ	0.0024UJ	0.0031UJ	0.005UJ	0.0056UJ	0.0003UJ
PCB-081	0.0034U	**0.0048**	0.0039UJ	0.0146U	**0.0105**	0.0004UJ
PCB-082	**0.113**	**0.0916**	**0.248**	**0.238**	**0.226**	0.0027UJ
PCB-083/109	0.0057UJ	0.0059UJ	0.0173U	**0.069**	0.0098UJ	0.002UJ
PCB-084	**0.135**	**0.122**	0.0182U	**0.2**	**0.188**	0.0021UJ
PCB-085	**0.185**	**0.146**	**0.505**	**0.506**	**0.427**	0.0022UJ
PCB-086/117	**0.22**	**0.226**	**0.447**	0.0095UJ	0.0093UJ	0.0019UJ
PCB-087/115	**0.338**	**0.313**	**0.623**	**0.587**	**0.432**	0.0041U
PCB-088	0.0061UJ	0.0064UJ	0.0187U	0.0108UJ	**0.03**	0.0022UJ
PCB-089	0.0076UJ	0.008UJ	0.0233U	0.0157U	0.0132UJ	0.0027UJ
PCB-090	0.0054UJ	0.0057UJ	0.0166U	0.0096UJ	0.0094UJ	0.0019UJ
PCB-091/121	**0.0833**	**0.09**	**0.105**	**0.172**	**0.152**	0.0018U
PCB-092	**0.168**	**0.165**	**0.307**	**0.293**	**0.214**	0.0026UJ
PCB-093/098/102	0.006UJ	0.0063UJ	0.0184U	0.0107UJ	0.0104UJ	0.0021UJ
PCB-094	0.0066UJ	0.0069UJ	0.0201U	0.0116UJ	0.0113UJ	0.0023UJ
PCB-095	**0.516**	**0.447**	**0.761**	**0.723**	**0.66**	**0.0103**
PCB-096	0.004UJ	0.0042UJ	0.0124U	0.0072UJ	**0.0145**	0.0014UJ
PCB-097/116	0.006UJ	0.0062UJ	0.0182U	**0.512**	0.0103UJ	0.0021UJ
PCB-099	**0.357**	**0.372**	**0.492**	**0.779**	**0.595**	0.0018UJ
PCB-100	0.0054UJ	0.0056UJ	0.0165U	0.0096UJ	0.0093UJ	0.0019UJ

Table C -11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-101	**0.683**	**0.667**	**0.827**	**1.16**	**1.03**	**0.0104**
PCB-103	0.0045UJ	0.0047UJ	0.0138U	0.008UJ	0.0078UJ	0.0016UJ
PCB-104	0.0022UJ	0.0026UJ	0.0103U	0.0052UJ	0.0048UJ	0.001UJ
PCB-105/127	**0.233**	**0.218**	**0.393**	**0.648**	**0.652**	**0.0022**
PCB-106	0.0018UJ	0.0019UJ	0.0056U	0.0033UJ	0.0032UJ	0.0006UJ
PCB-107/108	**0.0252**	**0.0321**	0.0058U	**0.093**	**0.0741**	0.001U
PCB-110	**0.895J**	**0.944J**	**1.77**	**1.81J**	**1.47J**	0.0085U
PCB-111	0.0043UJ	0.0045UJ	0.0132U	0.0077UJ	0.0075UJ	0.0015UJ
PCB-112/119	0.0051UJ	**0.012**	0.0131U	0.0357U	**0.0222**	0.0015UJ
PCB-113	0.0045UJ	0.0048UJ	0.0139U	0.0081UJ	0.0079UJ	0.0016UJ
PCB-114	**0.012**	**0.0156**	0.0061U	**0.044**	**0.0345**	0.0008UJ
PCB-118	**0.49**	**0.497**	**0.774**	**1.33**	**1.14**	**0.0053**
PCB-120	0.0042UJ	0.0044UJ	0.0129U	0.0075UJ	0.0073UJ	0.0015UJ
PCB-122	0.0083U	0.0042U	0.0064U	**0.0192**	**0.0168**	0.0007UJ
PCB-123	**0.0086**	**0.0109**	0.0073U	**0.0283**	**0.0198**	0.0008UJ
PCB-124	**0.0182**	**0.0122**	0.0035UJ	**0.0395**	**0.031**	0.0004UJ
PCB-125	0.0048UJ	0.0051UJ	0.0148U	0.0086UJ	0.0084UJ	0.0017UJ
PCB-126	0.0027UJ	0.0031UJ	0.0477U	0.0047UJ	0.0043UJ	0.0009UJ
PCB-128/162	**0.11**	**0.106**	**0.136**	**0.156**	**0.151**	0.001U
PCB-129	**0.0345**	**0.0279**	**0.023**	**0.0463**	**0.029**	0.0003UJ
PCB-130	**0.0392**	**0.0327**	**0.0283**	**0.0611**	**0.0352**	0.0002UJ
PCB-131	0.0038U	**0.008**	0.0045U	**0.0083**	**0.0104**	0.0002UJ

Table C -11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-132/161	**0.147**	**0.146**	**0.167**	**0.175**	**0.141**	**0.0039**
PCB-133	**0.0031**	**0.0081**	0.0021UJ	**0.0113**	**0.0061**	0.0002UJ
PCB-134	0.0022UJ	**0.04**	**0.0211**	**0.0316**	**0.0308**	0.0004UJ
PCB-135	**0.107**	**0.104**	**0.0913**	**0.0994**	**0.0923**	0.0006UJ
PCB-136/148	**0.118**	**0.115**	**0.107**	**0.0881**	**0.0753**	0.0019U
PCB-137	**0.0295**	**0.026**	**0.0252**	**0.0435**	**0.0385**	0.0002UJ
PCB-138/160	**0.419**	**0.413**	**0.449**	**0.631**	**0.527**	**0.0062**
PCB-139/149	**1.31**	**1.38**	**0.671**	**0.641**	**0.721**	0.0108U
PCB-140	0.0017UJ	0.0019UJ	0.0022UJ	**0.0046**	0.0033UJ	0.0002UJ
PCB-141	**0.0985**	**0.0948**	**0.0841**	**0.106**	**0.121**	**0.0014**
PCB-142	0.0021U	0.0021UJ	0.0024UJ	0.0023UJ	0.0026UJ	0.0002UJ
PCB-143	**0.0058**	0.002UJ	**0.0041J**	0.0022UJ	0.0067U	0.0002UJ
PCB-144	0.0259UJ	**0.0322**	0.0177U	0.0375U	0.0347U	0.0005UJ
PCB-145	0.0035UJ	0.0041UJ	0.0046U	0.0045UJ	0.0049UJ	0.0004UJ
PCB-146	**0.106**	**0.106**	**0.0542**	**0.106**	**0.104**	0.0002UJ
PCB-147	0.0382UJ	0.0053UJ	0.0059U	0.0058UJ	0.0063UJ	0.0005UJ
PCB-150	0.0034UJ	0.0039UJ	0.0044UJ	0.0043UJ	0.0047UJ	0.0004UJ
PCB-151	**0.182**	**0.19**	**0.13**	**0.154**	**0.185**	**0.0036**
PCB-152	0.0032UJ	0.0037UJ	0.0042UJ	0.0041UJ	0.0045UJ	0.0004UJ
PCB-153	**0.498**	**0.493**	**0.349**	**0.593**	**0.582**	**0.0042**
PCB-154	0.0039UJ	0.0075U	0.0052U	0.005UJ	**0.0084**	0.0005UJ
PCB-155	0.0021UJ	0.0024UJ	0.0055U	0.0031UJ	0.0032UJ	0.0003UJ

Table C – 11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-156	**0.0632**	**0.0555**	**0.0834**	**0.114**	**0.0882**	0.001U
PCB-157	**0.0115**	**0.0136**	**0.0182**	0.0248U	**0.0204**	0.0002UJ
PCB-158	**0.0503**	**0.0518**	**0.0533**	**0.0849**	**0.0609**	0.001U
PCB-159	0.0012UJ	0.0014UJ	0.0015UJ	0.0015UJ	0.0017UJ	0.0001UJ
PCB-163/164	**0.224**	**0.223**	**0.149**	**0.222**	**0.263**	**0.0027**
PCB-165	0.0014UJ	0.0017UJ	0.0019UJ	0.0018UJ	0.002UJ	0.0002UJ
PCB-166	0.0013UJ	0.0015UJ	0.0017UJ	0.0035U	0.0018UJ	0.0001UJ
PCB-167	**0.0234**	**0.0187**	**0.0331**	**0.0444**	**0.0302**	0.0002UJ
PCB-168	0.0014UJ	0.0016UJ	0.0018UJ	0.0017UJ	0.0019UJ	0.0002UJ
PCB-169	0.0026UJ	0.0029UJ	0.002UJ	0.0032UJ	0.0034UJ	0.0003UJ
PCB-170	**0.115**	**0.117**	**0.272**	**0.15**	**0.121**	0.001U
PCB-171	**0.0325**	**0.0381**	**0.0356**	**0.0421**	**0.0365**	0.0003UJ
PCB-172	**0.0236**	**0.0172**	**0.0246**	**0.031**	**0.0196**	0.0003UJ
PCB-173	0.0032UJ	0.0037UJ	0.005U	0.0046UJ	0.0049UJ	0.0004UJ
PCB-174	**0.168**	**0.17**	**0.191**	**0.174**	**0.185**	0.0014U
PCB-175	0.0022UJ	0.0025UJ	0.0034UJ	0.0067U	0.0033UJ	0.0003UJ
PCB-176	**0.0214**	**0.0229**	0.0098U	**0.0185**	**0.0173**	0.0002UJ
PCB-177	**0.0832**	**0.0898**	**0.0988**	**0.0927**	**0.0819**	**0.0013**
PCB-178	**0.0354**	**0.0348**	**0.0234**	**0.0278**	**0.0357**	0.0003UJ
PCB-179	**0.0809**	**0.0798**	**0.0787**	**0.0676**	**0.0695**	**0.0007J**
PCB-180	**0.359**	**0.345**	**0.447**	**0.38**	**0.397**	**0.0029**
PCB-181	0.0026UJ	0.0029UJ	0.004UJ	0.0037UJ	0.0039UJ	0.0003UJ

Table C -11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-182/187	**0.224**	**0.219**	**0.185**	**0.243**	**0.263**	**0.0009J**
PCB-183	**0.0747**	**0.0894**	**0.0392**	**0.0815**	**0.0745**	0.001U
PCB-184	**0.0076**	0.0061U	0.0024UJ	0.0022UJ	0.0023UJ	0.0002UJ
PCB-185	**0.0148**	**0.0192**	**0.0175**	**0.0215**	0.0192U	0.0004UJ
PCB-186	0.0018UJ	0.0021UJ	0.0028UJ	0.0026UJ	0.0027UJ	0.0002UJ
PCB-188	0.0016UJ	0.0018UJ	0.0036UJ	0.0025UJ	0.0025UJ	0.0003UJ
PCB-189	0.005U	**0.0063**	0.0078U	0.0048UJ	**0.0036**	0.0002UJ
PCB-190	**0.0191**	**0.0227**	**0.0482**	**0.0271**	**0.0314**	0.0002UJ
PCB-191	0.0021U	0.0022UJ	0.003UJ	0.003U	**0.0052**	0.0003UJ
PCB-192	0.0022UJ	0.0025UJ	0.0034UJ	0.0031UJ	0.0033UJ	0.0003UJ
PCB-193	0.002UJ	0.0022UJ	0.0031UJ	0.0028UJ	0.003UJ	0.0003UJ
PCB-194	**0.0527**	**0.0484**	**0.0735**	**0.0711**	**0.0586**	0.001U
PCB-195	**0.018**	**0.0209**	0.0278U	0.0265U	**0.0243**	0.0001UJ
PCB-196	**0.0417**	**0.0471**	0.0435U	**0.047**	**0.0545**	0.0002UJ
PCB-197	**0.0031**	0.002U	0.0012UJ	**0.0039**	**0.0029**	0.0001UJ
PCB-198	0.0013UJ	0.0013UJ	**0.0231**	0.0019UJ	0.0021UJ	0.0002UJ
PCB-199	**0.117**	**0.121**	**0.0961**	**0.136**	**0.135**	0.0002UJ
PCB-200	**0.0161**	**0.0159**	0.0114U	**0.0164**	**0.01**	0.0001UJ
PCB-201	**0.0118**	**0.0147**	0.0045U	**0.0131**	**0.0154**	0.0001UJ
PCB-202	**0.0251**	**0.0194**	0.0188U	**0.0209**	**0.0202**	0.0002UJ
PCB-203	**0.0557**	**0.0576**	**0.0607**	**0.0595**	**0.0714**	0.0002UJ
PCB-204	0.0008UJ	0.0009UJ	0.0011UJ	0.0012UJ	0.0014UJ	0.0001UJ

Table C -11. PCB Congeners in Sediment Trap Samples (ug/Kg, dw) ppb. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
PCB-205	0.0015U	0.0028U	0.0008UJ	0.0036U	0.003U	0.0001UJ
PCB-206	**0.0976**	**0.0551**	0.063U	**0.0496**	**0.0454**	0.0015UJ
PCB-207	0.0045UJ	0.005UJ	0.0128U	0.0068UJ	0.0081UJ	0.0014UJ
PCB-208	**0.0271**	**0.0139**	0.0155U	**0.0271**	**0.0232**	0.0016UJ
PCB-209	**0.0509**	**0.034**	**0.0432**	**0.0413**	**0.0282**	0.0003UJ
Monochlorobiphenyls	REJ	REJ	**0.004J**	REJ	REJ	REJ
Dichlorobiphenyls	**0.21**	**0.25**	**0.16**	**0.65**	**0.62**	**0.02J**
Trichlorobiphenyls	**0.79**	**0.92**	**1.33**	**3.78**	**3.07**	**0.02**
Tetrachlorobiphenyls	**2.84**	**2.83**	**4.00**	**9.58**	**9.17**	**0.02**
Pentachlorobiphenyls	**4.48J**	**4.38J**	**7.25**	**9.25J**	**7.43J**	**0.03**
Hexachlorobiphenyls	**3.58**	**3.69**	**2.68**	**3.42**	**3.32**	**0.02**
Heptachlorobiphenyls	**1.26**	**1.27**	**1.46**	**1.36**	**1.34**	**0.01J**
Octachlorobiphenyls	**0.34**	**0.35**	**0.25**	**0.37**	**0.39**	ND
Nonachlorobiphenyls	**0.12**	**0.07**	ND	**0.08**	**0.07**	ND
Decachlorobiphenyl	**0.05**	**0.03**	**0.04**	**0.04**	**0.03**	ND
Total PCB	**13.7J**	**13.8 J**	**17.2**	**28.5 J**	**25.4 J**	**0.12 J**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ND = Not detected
ug/Kg = microgram per kilogram
ppb = part per billion

Table C -12. PBDEs in Sediment Trap Samples (ng/Kg, dw) pptr.

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 - 1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
BDE007	2.62U	**0.97J**	0.3UJ	**7.42J**	4.6U	0.36UJ
BDE010	1.5UJ	1UJ	0.34UJ	**5J**	1.8UJ	0.41UJ
BDE015	**11.9**	**5.45**	**13J**	**16J**	**22**	2.5U
BDE017	**46.9J**	**30.2J**	**17.6J**	**22.2J**	**31.8J**	0.86UJ
BDE028	**112**	**86.6**	**82.4J**	**46.7J**	**77.1**	0.85UJ
BDE030	2.7UJ	2.1UJ	0.44UJ	5.4UJ	3.2UJ	1.2UJ
BDE047	**11400**	**8820**	**6370**	**2340J**	**3080**	**12.3**
BDE049	**378**	**250**	**141**	**101J**	**130**	5U
BDE066	**250**	**213**	**111**	**73.4J**	**91.4**	0.41UJ
BDE071	5.3UJ	**17.7**	0.5UJ	**19.8J**	**14.8**	5U
BDE077	**4.7J**	2.6UJ	0.28UJ	**9.08J**	1.9UJ	5U
BDE085	**377**	**232**	**137**	**43.6**	**74.9**	5U
BDE099	**15300**	**11600**	**6500**	**2160**	**3080**	**5.32**
BDE100	**3090**	**2300**	**1270**	**522**	**693**	5U
BDE119	**46.7**	**29.8**	0.32UJ	**11.7**	**25.7**	0.42UJ
BDE126	3.3UJ	**4.33**	0.21UJ	**6.03J**	2.1UJ	0.26UJ
BDE138	120U	**88.2**	**29.9**	8.8UJ	24.6U	5U
BDE139	**136**	**116**	**55.2**	**19.9**	**23.4**	0.84UJ
BDE140	**41.7**	**36.6**	**16.5**	**8.06J**	5.6UJ	0.88UJ
BDE153	**1600**	**1260**	**504**	**213**	**311**	5U
BDE154	**1470**	**1090**	**492**	**258**	**299**	5U
BDE156/169	7.6UJ	4.5UJ	0.88UJ	6.7UJ	18.5U	0.91UJ
BDE171	12.6U	**11.1**	0.59UJ	**18J**	3.5UJ	10U
BDE180	6.6UJ	12.8U	**9.31J**	5.6UJ	4.1UJ	0.58UJ
BDE183	**192**	**154**	**64.4**	**102**	**56.4**	10U
BDE184	**33.6**	**24.9**	**10.9**	**17.7J**	**10.2J**	10U
BDE191	7.2UJ	8.6U	10.6U	6.1UJ	4.5UJ	0.62UJ
BDE196	**108**	**71.6**	**24.9J**	**40.1**	**33.1**	0.38UJ
BDE197	**158**	**132**	**43.9**	**60.2**	**39.1**	0.29UJ
BDE201	**118**	**103**	**38.9J**	**48.6**	**48.8**	0.46UJ
BDE203	**149**	**90.3**	**19.3J**	**65.4**	**41.2**	10U
BDE204	**19.9**	3.9UJ	0.54UJ	**16.5J**	**5J**	0.38UJ
BDE205	**21.1**	**11.5**	1.39UJ	9.5UJ	6.4UJ	0.83UJ

Table C -12. PBDEs in Sediment Trap Samples (ng/Kg, dw) pptr. (continued)

Location	Ninemile Dam			Upriver Dam		
Dates	10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 - 1/31/13	1/31/13 - 4/9/13	
Deployment Period	113 days		132 days	113 days	68 days	
Sample ID	9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
BDE206	**1210**	**940**	**147**	**590**	**427**	25 U
BDE207	**968**	**976**	**249**	**591**	**421**	25 U
BDE208	**983**	**921**	**107**	**645**	**372**	25 U
BDE209	**27000**	**28600**	**7150**	**14400**	**9830**	**19.4 J**
Total PBDEs	**65226**	**58216**	**23604**	**22477**	**19238**	**37**

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ng/Kg = nanograms per kilogram
pptr = part per trillion

Table C -13. Dioxins and Furans in Sediment Trap Samples (ng/Kg, dw) pptr.

Location		Ninemile Dam			Upriver Dam		
Dates		10/10/12 - 2/1/13		2/1/13 - 6/13/13	10/9/12 -1/31/13	1/31/13 - 4/9/13	
Deployment Period		113 days		132 days	113 days	68 days	
Sample ID		9M 1D	9M 1D Rep	9M 2D	UPR 1D	UPR 2D	Lab Method Blank
Sample No.	TEF	1304017-01	1304017-04	1306061-01	1304017-02	1304017-03	
2,3,7,8-TCDD	1	0.178U	0.149UJ	0.061UJ	0.288UJ	0.095UJ	0.2U
1,2,3,7,8-PeCDD	1	**0.413J**	0.083UJ	1.127U	1.9685U	**1.65J**	0.013UJ
1,2,3,4,7,8-HxCDD	0.1	**0.552J**	**0.567J**	**0.255J**	0.804UJ	**9.43**	0.032UJ
1,2,3,6,7,8-HxCDD	0.1	**2.29**	**1.44**	**1.19**	**4.97**	**6.67**	0.032UJ
1,2,3,7,8,9-HxCDD	0.1	**1.75**	**1.18**	**0.675J**	3.86U	**4.97**	1U
1,2,3,4,6,7,8-HpCDD	0.01	**40**	**21**	**17**	**46.8**	**49.6**	0.098UJ
OCDD	0.0003	**340**	**191**	**148**	**292**	**411**	2U
2,3,7,8-TCDF	0.1	**0.252**	0.22U	0.23U	1.085U	0.542U	0.156UJ
1,2,3,7,8-PeCDF	0.03	0.111UJ	0.154UJ	1.127U	0.518UJ	1.845U	0.048UJ
2,3,4,7,8-PeCDF	0.3	0.889U	0.8613U	1.127U	1.9685U	1.845U	1U
1,2,3,4,7,8-HxCDF	0.1	**0.634J**	0.8613U	**0.458J**	**0.896J**	1.845U	1U
1,2,3,6,7,8-HxCDF	0.1	0.889U	**0.215J**	**0.423J**	0.528UJ	1.845U	0.049UJ
2,3,4,6,7,8-HxCDF	0.1	0.18UJ	0.8613U	**0.631J**	1.9685U	1.845U	1U
1,2,3,7,8,9-HxCDF	0.1	0.254UJ	0.266UJ	**0.272J**	0.933UJ	0.346UJ	1U
1,2,3,4,6,7,8-HpCDF	0.01	**12.6**	**5.46**	0.264UJ	**15.7**	**15.8**	1U
1,2,3,4,7,8,9-HpCDF	0.01	1.02U	0.352UJ	0.486UJ	1.41UJ	0.336UJ	1U
OCDF	0.0003	**31.3**	**16**	**10.8**	**14**	**19.8**	0.02UJ
TEQ (ND = 0)		**1.6**	**0.7**	**0.6**	**1.3**	**4.5**	0

TEF = Toxic Equivalency Factor
TEQ = Toxic Equivalency, calculated with Van den Berg et. al. (2005)
TEFs and non-detects assigned a value of zero

Bold values are a visual aid to identify detected values
J = Result value is an estimate
U = Result is not detected at the value reported
UJ = Result is not detected at the estimated value reported
ng/Kg = nanogram per kilogram
pptr = part per trillion