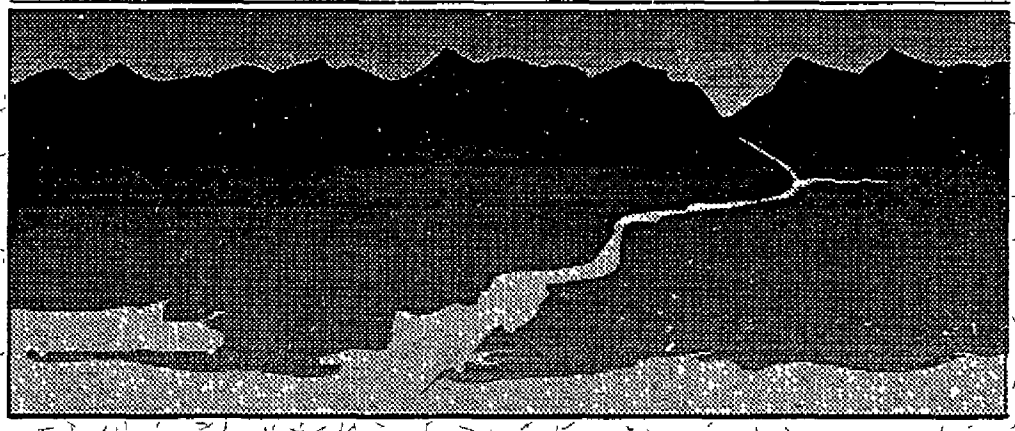
FINAL REPORT
VOLUME II: APPENDICES

LOWER COLUMBIA RIVER



BI-STATE PROGRAM

RECONNAISSANCE SURVEY OF THE LOWER COLUMBIA RIVER

TASK 1: SUMMARY OF EXISTING DATA AND PRELIMINARY IDENTIFICATION OF PROBLEM AREAS AND DATA GAPS

MAY 13, 1992

Prepared By:

TETRA TECH

In Association With:

DAVID EVANS AND ASSOCIATES
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TASK 1: SUMMARY OF EXISTING DATA AND PRELIMINARY IDENTIFICATION OF PROBLEM AREAS AND DATA GAPS

MAY 13, 1992

Prepared For:

The Lower Columbia River
Bi-State Water Quality Program

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APPENDIX A

SELECTED WATER COLUMN DATA

APPENDIX A

TABLE A1. WATER QUALITY PARAMETERS MEASURED IN THE LOWER COLUMBIA RIVER

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS

TABLE A4. LOWER COLUMBIA RIVER WATER QUALITY DATA - ORGANIC POLLUTANTS

TABLE A1. WATER QUALITY PARAMETERS MEASURED IN THE LOWER COLUMBIA RIVER

	Study Reference[a]
Conventionals:	
Flow	145, 149, 150
Temperature	145, 158, 148, 149
Turbidity	145, 158, 148, 149
Color	145, 158
Conductivity	145, 150
Conductivity (at 25°C)	145, 46, 43, 148, 149, 150
DO	145, 148, 149, 150
DO (Saturation)	145, 150
BOD	145
COD	145, 148, 149
pH	145, 46, 158, 148, 150, 149
Total Alkalinity (Field)	145, 150
Tot. Alkalinity (CaCO3)	145, 148, 149, 150
Nitrogen, total	145, 148, 149, 150
Nitrogen, dissolved	145, 149, 150
Organic N, tot.	145, 148, 149, 150
Organic N, diss.	145, 46, 149, 150
NH4 - ammonia, tot.	145, 148, 149, 150
NH4 - ammonia, diss.	145, 46, 43, 135, 149, 150
NH4 + organic, total	46, 43, 148, 149, 150
NH4 + organic, diss.	149, 150
NH4 + organic, susp.	149, 150
NH3 + NH4-, total	149
NH3 + NH4-, diss.	145, 149
Un-ionized NH3-N	145
Un-ionized NH3-NH3	145
Kjeldahl N, diss.	145
Kjeldahl N, susp.	145
TKN	145
NO2-N, diss.	145, 150
NO2-N, total	145, 150
NO3-N, total	145, 148, 149, 150
NO2 + NO3, diss.	145, 149, 148, 150
NO2 + NO3, total	145, 148, 149, 150
Phosphorus, diss.	145, 46, 43, 149, 150
Phosphorus, total	145, 148, 149, 150
Orthophosphate, diss.	145, 46, 149, 150
Orthophosphate, tot.	145, 149, 150
Organic Carbon, diss.	145, 46, 43, 149, 150
Organic Carbon, susp.	145, 149, 150
Organic Carbon, total	145, 43, 158, 148, 149, 150
Carbon dioxide, diss.	148, 149
Carbonate, diss.	145, 148, 149, 150
Bicarbonate, diss.	145, 148, 149, 150
Fecal Coliform	145, 148, 149, 150
Fecal Streptococci	145, 148, 149, 150
Enterococci	145
Calcium Hardness(CaMg)	145
NonCarb. Hardness-(CaCO3)	145, 148, 149, 150

TABLE A1. (Continued)

	Study Reference[a]
Tot. Hardness (CaCO3)	145, 148, 149, 150
Chl. a – phytoplankton	148, 149
Chl. b – phytoplankton	148, 149
Chl. a – periphyton	149, 148
Chl. b – periphyton	149, 148
Algae, total	145
Phytoplankton, Type I	150
Phytoplankton, total	148, 149, 150
Biomass–periphyton	149
Biomass–Chl. Ratio	149
Susp. Sed. Conc.	145, 149, 150
Susp. Sed. Part. Size	145
Susp. Sed. Dischg.	145, 149, 150
Solids, residue, diss.	148, 149, 150
Solids, sum of constituents, diss.	148, 149
Solids, dissolved	145, 148, 149, 150
Solids Dischg., dissolved	145, 150
Solids, total suspended	158
Residue, Filtered (TDS)	145, 148
Residue, Nonfiltered (TSS)	145, 148
Oil and grease	148, 149
Metals and ions:	
Sodium + Potassium, diss.	145
Chloride, dissolved	148, 149, 150
Chloride, total	145
Sulfate, dissolved	148, 149, 150
Sulfate, total (SO4)	145
Fluoride, dissolved	148, 149, 150
Fluoride, total	145
Silica, diss.	145, 148, 149, 150
Aluminum, diss.	145, 149, 150
Antimony	43, 158
Arsenic, diss.	145, 46, 43, 135, 148, 149, 150
Arsenic, susp.	145, 148, 149, 150
Arsenic, total	145, 158, 148, 149, 150
Barium, diss.	145, 46, 43, 149, 150
Barium, susp.	145, 149, 150
Barium, total	158, 149, 150
Beryllium, diss.	145, 46, 43, 149, 150
Beryllium, total	158
Cadmium, diss.	145, 46, 43, 148, 149, 150
Cadmium, susp.	145, 148, 149, 150
Cadmium, total	145, 158, 148, 149, 150
Calcium, diss.	145, 148, 149, 150
Calcium, total recover.	148, 149
Chromium, diss.	145, 46, 43, 135, 148, 149, 150
Chromium, susp.	145, 148, 149, 150
Chromium, total	145, 158, 148, 149, 150
Cobalt, diss.	145, 148, 149, 150
Cobalt, susp.	145, 148, 149, 150

TABLE A1. (Continued)

	Study Reference[a]
Cobalt, total	145, 148, 149, 150
Copper, diss.	145, 46, 43, 135, 149, 150
Copper, susp.	145, 148, 149, 150
Copper, total	145, 158, 148, 149, 150
Iron, diss.	145, 46, 43, 135, 148, 149, 150
Iron, susp.	145, 150
Iron, total	145, 158, 148, 149, 150
Lead, diss.	145, 46, 43, 135, 148, 149, 150
Lead, susp.	145, 148, 149, 150
Lead, total	145, 158, 148, 149, 150
Lithium, diss.	145, 149, 150
Magnesium, diss.	145, 148, 149, 150
Magnesium, total recov.	148, 149
Manganese, diss.	145, 46, 43, 135, 148, 149, 150
Manganese, susp.	145, 148, 149, 150
Manganese, total	145, 158, 148, 149, 150
Mercury, diss.	145, 46, 43, 135, 148, 149, 150
Mercury, susp.	145, 149, 150
Mercury, total	145, 158, 148, 149, 150
Molybdenum, diss.	145, 149, 150
Nickel, diss.	145, 46, 43, 149, 150
Nickel, susp.	145, 149, 150
Nickel, total	145, 158, 149, 150
Potassium, diss.	145, 148, 149, 150
Potassium, total recov.	148, 149
Selenium, diss.	145, 43, 148, 149, 150
Selenium, susp.	145, 148, 149, 150
Selenium, total	145, 158, 148, 149, 150
Silver, diss.	145, 43, 149, 150
Silver, susp.	145, 149, 150
Silver, total	145, 158, 149, 150
Sodium, diss.	145, 148, 149, 150
Sodium, total recover.	148, 149
Sodium, adsorbtion	145, 148, 149, 150
Sodium, percent	145, 148, 149, 150
Strontium, diss.	145, 149, 150
Thallium, dissolved	43
Thallium, total	158
Titanium	158
Vanadium, diss.	145, 149, 150
Zinc, diss.	145, 46, 43, 135, 148, 149, 150
Zinc, susp.	145, 148, 149, 150
Zinc, total	145, 158, 148, 149, 150
Cyanide, diss.	46, 135, 148
Organics:	
Phenol	158
Phenols, total	46, 43
Adsorbable organic halides (AOX)	158

TABLE A1. (Continued)

	Study Reference[a]
Pesticides/PCB:	
DDD (I)	46, 135
DDE (I)	46, 135
DDT (I)	46, 135
Aldrin (I)	46, 135
Chlordane (I)	46, 135
Dieldrin (I)	46, 135
PCBs	46, 135, 158
PCN	46, 135
Toxaphene	46, 135
Endosulfan (H)	46, 135
Endrin (H)	46, 135
Heptachlor (H)	46, 135
Heptachlor epoxide (H)	46, 135
Methoxychlor (Ind.)	46, 135
Mirex	46
Perthane	46, 135
Gamma-BHC (Lindane) (H)	46, 135
Ametryne	46
Atratone	46
Atrazine	46
Cyanazine	46
Cyprazine	46
Prometone	46
Prometryne	46
Propazine	46
Silvex	46
Simazine	46
Simetone	46
Simetryne	46
2,4-D	46
2,4,5-T	46
2,4-DP	46
Radionuclides:	
Ba-140	53
Cr-51	134, 53
Zn-65	134, 53
Sc-46	53
Co-58	53
Co-60	134, 53
Mn-54	53
Zr-95/Nb-95	134, 53
Ru-106	134, 53
K-40, diss.	145, 134, 149, 150
P-32	134, 53
Cs-137	134, 53
Fe-59	53
Ce-141	134
Sb-124	53
Tritium	134
Gross alpha	134
Gross beta	134

TABLE A1. (Continued)

	Study Reference[a]
Resin Acids:	158
Abietic acid	158
Neoabietic acid	158
Dehydroabietic acid	158
Pimaric acid	158
Isopimaric acid	158
Sandaracopimaric acid	158
Palustiric acid	158
Oleic acid	158
Guaiacol	158
Chlorinated resin acids:	
Chlorodehydroabietic acid	158
Dichlorodehydroabietic acid	158
9,10-Dichlorostearic acid	158
4-Chloroguaiacol	158
4,5-Dichloroguaiacol	158
Tetrachloroguaiacol	158
4,5,6-Trichloroguaiacol	158
Trichlorosyringol	158

[a] Number refers to reference cited in report reference list.

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 1 of 42)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Temp.	Turb
	SEGMENT 1A							
1A	Col. R. Tansy Pt.	10	46o11'29"/123o5'15"		46	Jul-80		
1A	Baker Bay		46o17'53"/124o01'48"		46	Jul-80		
1A	Baker Bay		46o17'09"/124o00'57"		46	Jul-80		
1A	Col R Area D		46o14'30"/123o57'25"		46	Dec-80		
1A	Col. R. Area D		46o14'30"/123o57'24"		46	Aug-80		
	SEGMENT 1B							
1B	Col. R. Tongue Pt.	18	46o12'52"/123o45'12"		46	7/24/80		
	SEGMENT 1C							
1C	Col R (RM 32.7)	32.7	46o16'01"/123o28'57"		46	5/14/80		
	SEGMENT 2A							
2A	Col. R. Bradwood	39		See document	148	10/17/78	15.7	
2A	Col R. Bradwood	39		See document	148	11/9/78	11	
2A	Col. R. Bradwood	39		See document	148	12/12/78	5.5	
2A	Col. R. Bradwood	39		See document	148	1/17/79	1.2	
2A	Col. R. Bradwood	39		See document	148	2/14/79	4	
2A	Col. R. Bradwood	39		See document	148	3/9/79	6	
2A	Col. R. Bradwood	39		See document	148	4/6/79	8 1	
2A	Col R Bradwood	39		See document	148	5/16/79	13.9	

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 2 of 42)

River Seg	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Temp.	Turb
2A	Col. R. Bradwood	39		See document	148	6/15/79	16 6	
2A	Col. R. Bradwood	39		See document	148	7/12/79	19.3	
2A	Col. R. Bradwood	39		See document	148	8/23/79	20.5	
2A	Col. R. Bradwood	39		See document	148	9/18/79	19.7	
	SEGMENT 2C							
2C	Col R. Beaver Army Terminal	53 6	46o10'54"/123o10'58"	See document	150	11/20/90	10.5	3.5
2C	Col R. Beaver Army Terminal	53.6	46o10'54"/123o10'58"	See document	150	3/13/91	6	7.5
2C	Col R. Beaver Army Terminal	53.6	46o10'54"/123o10'58"	See document	150	5/15/91	12	
2C	Col R. Beaver Army Terminal	53.6	46o10'54"/123o10'58"	See document	150	5/29/91	13	
2C	Col R. (RM 65.8)	65.8	46o06'22"/122o57'53"		46	5/21/80		
2C	Col. R. (RM 70.8)	70.8	46o03'45"/122o53'09"		46	5/28/80		
2C	Col. R. (RM 71.4)	71.4	46o03'24"/122o52'59"		46	6/4/80		
	SEGMENT 3B							
3B	Col. R. (RM 100.5)	100.5	45o39'53"/122o46'04"		43	Oct-83		
3B	Columbia R.	101.8			135	May-77		
	SEGMENT 4A							
4A	Col. R. 1 mi. above Will. R.	102.5	45o38'40"/122o44'50"	See document	145	2/20/91	7	3
4A	Col. R. 1 mi. above Will. R.	102.5	45o38'40"/122o44'50"	See document	145	2/20/91	6.5	3
4A	Col. R. 1 mi. above Will. R.	102.5	45o38'40"/122o44'50"	See document	145	3/13/91	7	2
4A	I-5 Bridge 6A - Surface	107	None	WA side-Ship chan	160	8/28/89	20.4	5

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 3 of 42)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Temp.	Turb.
4A	I-5 Bridge 6A - Mid-depth (10-30')	107	None	WA side-Ship chan.	160	8/28/89	20.5	4
4A	I-5 Bridge 6B - Surface	107	None	Center	160	8/28/89	20.4	4
4A	I-5 Bridge 6B - Mid-depth (10-30')	107	None	Center	160	8/28/89	20.4	4
4A	I-5 Bridge 6C - Surface	107	None	OR side	160	8/28/89	20 4	4
4A	I-5 Bridge 6C - Mid-depth (10-30')	107	None	OR side	160	8/28/89	20.3	4
4A	I-205 Bridge 5A - Surface	114	None	WA side	160	8/28/89	20.5	5
4A	I-205 Bridge 5A - Mid-depth (10-30')	114	None	WA side	160	8/28/89	20.5	5
4A	I-205 Bridge 5B - Surface	114	None	Center - Ship chan.	160	8/28/89	20 5	5
4A	I-205 Bridge 5B - Mid-depth (10-30')	114	None	Center - Ship chan.	160	8/28/89	20.5	4
4A	I-205 Bridge 5C - Surface	114	None	OR side	160	8/28/89	20.5	4
4A	I-205 Bridge 5C - Mid-depth (10-30')	114	None	OR side	160	8/28/89	20.6	4
4A	Hassalo Rock 4A - Surface	117	None	WA side-Camas sl.	160	8/28/89	20.5	4
4A	Hassalo Rock 4A - Mid-depth (10-30')	117	None	WA side-Camas sl.	160	8/28/89	20.6	4
4A	Hassalo Rock 4B - Surface	117	None	Center	160	8/28/89	20.5	4
4A	Hassalo Rock 4B - Mid-depth (10-30')	117	None	Center	160	8/28/89	20.6	5
4A	Hassalo Rock 4C - Surface	117	None	OR side-Ship chan.	160	8/28/89	20 4	5
4A	Hassalo Rock 4C - Mid-depth (10-30')	117	None	OR side-Ship chan.	160	8/28/89	20.5	4
4A	Camas Outfall - above 2A - Surface	120	None	WA side	160	8/28/89	20.4	5
4A	Camas Outfall - above 2A - Mid-depth	120	None	WA side	160	8/28/89	20.4	4
4A	Camas Outfall - above 2B - Surface	120	None	Center	160	8/28/89	20.4	4
4A	Camas Outfall - above 2B - Mid-depth	120	None	Center	160	8/28/89	20.4	4
4A	Camas Outfall - above 2C - Surface	120	None	OR side	160	8/28/89	20.4	5
4A	Camas Outfall - above 2C - Mid-depth	120	None	OR side	160	8/28/89	20.5	4
4A	Camas Outfall - below 3A - Surface	120	None	WA side	160	8/28/89	20 4	4
4A	Camas Outfall - below 3A - Mid-depth	120	None	WA side	160	8/28/89	20 4	4
4A	Camas Outfall - below 3B - Surface	120	None	Center	160	8/28/89	20.4	4

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 4 of 42)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Temp.	Turb.
4A	Camas Outfall - below 3B - Mid-depth	120	None	Center	160	8/28/89	20.5	4
4A	Camas Outfall - below 3C - Surface	120	None	OR side	160	8/28/89	20.4	4
4A	Camas Outfall - below 3C - Mid-depth	120	None	OR side	160	8/28/89	20 4	4
4A	Parkers Landing 1A - Surface	121	None	WA side	160	8/28/89	20.4	3
4A	Parkers Landing 1A - Mid-depth	121	None	WA side	160	8/28/89	20.4	4
4A	Parkers Landing 1B - Surface	121	None	Ship channel	160	8/28/89	20 4	4
4A	Parkers Landing 1B - Mid-depth	121	None	Ship channel	160	8/28/89	20.2	4
4A	Parkers Landing 1C - Surface	121	None	OR side	160	8/28/89	20 3	4
4A	Parkers Landing 1C - Mid-depth	121	None	OR side	160	8/28/89	20.4	4
4A	I-5 Bridge 6A - Surface	107	None	WA side-Ship chan.	160	9/4/89	19.9	3
4A	I-5 Bridge 6A - Mid-depth (10-30')	107	None	WA side-Ship chan.	160	9/4/89	19.9	3
4A	I-5 Bridge 6B - Surface	107	None	Center	160	9/4/89	19.9	3
4A	I-5 Bridge 6B - Mid-depth (10-30')	107	None	Center	160	9/4/89	19.9	3
4A	I-5 Bridge 6C - Surface	107	None	OR side	160	9/4/89	19.9	3
4A	I-5 Bridge 6C - Mid-depth (10-30')	107	None	OR side	160	9/4/89	19.9	3
4A	I-205 Bridge 5A - Surface	114	None	WA side	160	9/4/89	19 8	3
4A	I-205 Bridge 5A - Mid-depth (10-30')	114	None	WA side	160	9/4/89	19.9	3
4A	I-205 Bridge 5B - Surface	114	None	Center - Ship chan.	160	9/4/89	19.9	3
4A	I-205 Bridge 5B - Mid-depth (10-30')	114	None	Center - Ship chan.	160	9/4/89	19.9	3
4A	I-205 Bridge 5C - Surface	114	None	OR side	160	9/4/89	19.9	3
4A	I-205 Bridge 5C - Mid-depth (10-30')	114	None	OR side	160	9/4/89	19.9	3
4A	Hassalo Rock 4A - Surface	117	None	WA side-Camas sl.	160	9/4/89	20	3
4A	Hassalo Rock 4A - Mid-depth (10-30')	117	None	WA side-Camas sl.	160	9/4/89	20	3
4A	Hassalo Rock 4B - Surface	117	None	Center	160	9/4/89	19.8	3
4A	Hassalo Rock 4B - Mid-depth (10-30')	117	None	Center	160	9/4/89	19.8	3
4A	Hassalo Rock 4C - Surface	117	None	OR side-Ship chan.	160	9/4/89	19 8	3

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA -- CONVENTIONALS AND NUTRIENTS
(Page 5 of 42)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Temp	Turb
4A	Hassalo Rock 4C - Mid-depth (10-30')	117	None	OR side-Ship chan.	160	9/4/89	19.7	3
4A	Camas Outfall - above 2A - Surface	120	None	WA side	160	9/4/89	19.7	3
4A	Camas Outfall - above 2A - Mid-depth	120	None	WA side	160	9/4/89	19.7	3
4A	Camas Outfall - above 2B - Surface	120	None	Center	160	9/4/89	19.7	3
4A	Camas Outfall - above 2B - Mid-depth	120	None	Center	160	9/4/89	19.7	3
4A	Camas Outfall - above 2C - Surface	120	None	OR side	160	9/4/89	19 7	3
4A	Camas Outfall - above 2C - Mid-depth	120	None	OR side	160	9/4/89	19 7	4
4A	Camas Outfall - below 3A - Surface	120	None	WA side	160	9/4/89	19.7	4
4A	Camas Outfall - below 3A - Mid-depth	120	None	WA side	160	9/4/89	19.7	4
4A	Camas Outfall - below 3B - Surface	120	None	Center	160	9/4/89	19.8	4
4A	Camas Outfall - below 3B - Mid-depth	120	None	Center	160	9/4/89	19 8	3
4A	Camas Outfall - below 3C - Surface	120	None	OR side	160	9/4/89	19.8	3
4A	Camas Outfall - below 3C - Mid-depth	120	None	OR side	160	9/4/89	19.8	3
4A	Parkers Landing 1A - Surface	121	None	WA side	160	9/4/89	19.7	3
4A	Parkers Landing 1A - Mid-depth	121	None	WA side	160	9/4/89	19.7	3
4A	Parkers Landing 1B - Surface	121	None	Ship channel	160	9/4/89	19.7	3
4A	Parkers Landing 1B - Mid-depth	121	None	Ship channel	160	9/4/89	19.6	3
4A	Parkers Landing 1C - Surface	121	None	OR side	160	9/4/89	19.7	3
4A	Parkers Landing 1C - Mid-depth	121	None	OR side	160	9/4/89	19 7	3
	SEGMENT 4B							
4B	Col. R Warrendale	141	45o36'45"/122o01'35"	See document	149	11/29/88	9.1	3
4B	Col. R. Warrendale	141	45o36'45"/122o01'35"	See document	149	3/21/89	6.4	12
4B	Col. R. Warrendale	141	45o36'45"/122o01'35"	See document	149	5/16/89	13.6	8.1
4B	Col. R. Warrendale	141	45o36'45"/122o01'35"	See document	149	9/5/89	20	1 1

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 6 of 42)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Temp.	Turb.
4B	Col. R. (RM 145.7)	145.7	45o38'46"/121o57'02"		46	8/15/80		
4B	Col. R. Warrendale	141	45o36'45"/122o01'35"	See document	145	1980-91		
	SUMMARY STATISTICS							
	Minimum Value						1.2	1.1
	Maximum Value						20.6	12
	Average Value						17.905	3.7802
	Total Msrmts.			0			95	81

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 7 of 42)

River Seg.	Station Location	Unit	Conduc.	Cond. umhos/cm	DO (mg/L)	BOD	COD (mg/L)	pH	Tot. Alkal. (CaCO3) (mg/L)	Total Hardness (CaCO3) (mg/L)	N, total (mg/L)
	SEGMENT 1A										
1A	Col. R. Tansy Pt.			7850				7.8			
1A	Baker Bay			14500				8			
1A	Baker Bay			21200				8			
1A	Col R. Area D			42900				8.1			
1A	Col. R. Area D			21100				7.8			
	SEGMENT 1B										
1B	Col. R. Tongue Pt.			1650				7.9			
	SEGMENT 1C										
1C	Col. R. (RM 32.7)			143				7.8			
	SEGMENT 2A										
2A	Col. R. Bradwood			156	9 2		50	7.8	56		0.61
2A	Col. R. Bradwood			150	10.8			7.7			0.44
2A	Col. R. Bradwood			126	12.5			7.7			0.57
2A	Col. R. Bradwood			151	9 8		30	7.2	48		0.52
2A	Col. R. Bradwood			117	12.9		33	7.3			1.1
2A	Col. R. Bradwood			122	12.5		15	8.4			0.79
2A	Col. R. Bradwood			188	12.3		11	8.1	66	0	0.92
2A	Col. R. Bradwood			158	11.3			8.2			0.55

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 8 of 42)

River Seg.	Station Location	Unit	Conduc	Cond. umhos/cm	DO (mg/L)	BOD	COD (mg/L)	pH	Tot Alkal. (CaCO3) (mg/L)	Total Hardness (CaCO3) (mg/L)	N, total (mg/L)
2A	Col. R. Bradwood			113	10.2			8.5			0.53
2A	Col. R. Bradwood			127	9.3			7.9	40	0	0.23
2A	Col. R. Bradwood			144	8.7			7.6			0.24
2A	Col. R. Bradwood			159				7.2			0 22
	SEGMENT 2C										
2C	Col R Beaver Army Terminal		134	146	10 6			7.7	51	54	0 5
2C	Col R Beaver Army Terminal		139	142	12.6			7.9	51	54	0 55
2C	Col R. Beaver Army Terminal		133		12			8.4	53		
2C	Col R. Beaver Army Terminal		757		11.4			8.1	51		
2C	Col. R. (RM 65.8)			139				7.6			
2C	Col. R. (RM 70.8)			124				7.9			
2C	Col. R. (RM 71.4)			133				8			
	SEGMENT 3B										
3B	Col. R. (RM 100.5)			166							
3B	Columbia R.										
	SEGMENT 4A										
4A	Col. R. 1 mi. above Will. R.	FTU			13.9	2	9	8	57		
4A	Col. R. 1 mi. above Will. R.	FTU			13.8	2.1	5	8.1	55		
4A	Col. R. 1 mi. above Will. R.	FTU			13.7	2.3	5	8	86		
4A	I-5 Bridge 6A - Surface	NTU			8.4			8			

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 9 of 42)

River Seg.	Station Location	Unit	Conduc.	Cond umhos/cm	DO (mg/L)	BOD	COD (mg/L)	pH	Tot. Alkal (CaCO3) (mg/L)	Total Hardness (CaCO3) (mg/L)	N, total (mg/L)
4A	I-5 Bridge 6A - Mid-depth (10-30')	NTU			8.4			8			
4A	I-5 Bridge 6B - Surface	NTU			8.4			8			
4A	I-5 Bridge 6B - Mid-depth (10-30')	NTU			8.4			8			
4A	I-5 Bridge 6C - Surface	NTU			8.3			8.1			
4A	I-5 Bridge 6C - Mid-depth (10-30')	NTU			8.3			8.1			
4A	I-205 Bridge 5A - Surface	NTU			8			8			
4A	I-205 Bridge 5A - Mid-depth (10-30')	NTU			8			8			
4A	I-205 Bridge 5B - Surface	NTU			8.4			8			
4A	I-205 Bridge 5B - Mid-depth (10-30')	NTU			8.4			8			
4A	I-205 Bridge 5C - Surface	NTU			8.4			8			
4A	I-205 Bridge 5C - Mid-depth (10-30')	NTU			8.4			8			
4A	Hassalo Rock 4A - Surface	NTU			8.3			8			
4A	Hassalo Rock 4A - Mid-depth (10-30')	NTU			8.3			7.9			
4A	Hassalo Rock 4B - Surface	NTU			8.2			7.9			
4A	Hassalo Rock 4B - Mid-depth (10-30')	NTU			8.2			7.9			
4A	Hassalo Rock 4C - Surface	NTU			8			7.9			
4A	Hassalo Rock 4C - Mid-depth (10-30')	NTU			8			7.9			
4A	Camas Outfall - above 2A - Surface	NTU			8.4			8			
4A	Camas Outfall - above 2A - Mid-depth	NTU			8.4			8			
4A	Camas Outfall - above 2B - Surface	NTU			8.4			8			
4A	Camas Outfall - above 2B - Mid-depth	NTU			8.4			8			
4A	Camas Outfall - above 2C - Surface	NTU			8.3			8			
4A	Camas Outfall - above 2C - Mid-depth	NTU			8.3			8			
4A	Camas Outfall - below 3A - Surface	NTU			8.3			8			
4A	Camas Outfall - below 3A - Mid-depth	NTU			8.3			8			
4A	Camas Outfall - below 3B - Surface	NTU			8.4			8			

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 10 of 42)

River Seg.	Station Location	Unit	Conduc.	Cond. umhos/cm	DO (mg/L)	BOD	COD (mg/L)	pH	Tot. Alkal. (CaCO3) (mg/L)	Total Hardness (CaCO3) (mg/L)	N, total (mg/L)
4A	Camas Outfall - below 3B - Mid-depth	NTU			8.4			8			
4A	Camas Outfall - below 3C - Surface	NTU			8.4			8			
4A	Camas Outfall - below 3C - Mid-depth	NTU			8.4			8			
4A	Parkers Landing 1A - Surface	NTU			8.3			8			
4A	Parkers Landing 1A - Mid-depth	NTU			8.3			8			
4A	Parkers Landing 1B - Surface	NTU			8.4			8			
4A	Parkers Landing 1B - Mid-depth	NTU			8.4			8			
4A	Parkers Landing 1C - Surface	NTU			8.3			8			
4A	Parkers Landing 1C - Mid-depth	NTU			8 3			8			
4A	I-5 Bridge 6A - Surface	NTU			8 4			7.9			
4A	I-5 Bridge 6A - Mid-depth (10-30')	NTU			8.4			7.9			
4A	I-5 Bridge 6B - Surface	NTU			8.4			8			
4A	I-5 Bridge 6B - Mid-depth (10-30')	NTU			8.4			8			
4A	I-5 Bridge 6C - Surface	NTU			8.3			8			
4A	I-5 Bridge 6C - Mid-depth (10-30')	NTU			8.3			8			
4A	I-205 Bridge 5A - Surface	NTU			8			7.9			
4A	I-205 Bridge 5A - Mid-depth (10-30')	NTU			8			7.9			
4A	I-205 Bridge 5B - Surface	NTU			8.4			7.9			
4A	I-205 Bridge 5B - Mid-depth (10-30')	NTU			8.4			7.9			
4A	I-205 Bridge 5C - Surface	NTU			8.4			8			
4A	I-205 Bridge 5C - Mid-depth (10-30')	NTU			8.4			8			
4A	Hassalo Rock 4A - Surface	NTU			8.3			7.9			
4A	Hassalo Rock 4A - Mid-depth (10-30')	NTU			8.3			7.9			
4A	Hassalo Rock 4B - Surface	NTU			8.2			7.9			
4A	Hassalo Rock 4B - Mid-depth (10-30')	NTU			8.2			7.9			
4A	Hassalo Rock 4C - Surface	NTU			8			7.8			

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 11 of 42)

River Seg.	Station Location	Unit	Conduc.	Cond. umhos/cm	DO (mg/L)	BOD	COD (mg/L)	pH	Tot. Alkal (CaCO3) (mg/L)	Total Hardness (CaCO3) (mg/L)	N, total (mg/L)
4A	Hassalo Rock 4C - Mid-depth (10-30')	NTU			8			7.8			
4A	Camas Outfall - above 2A - Surface	NTU			8.4			7.9			
4A	Camas Outfall - above 2A - Mid-depth	NTU			8 4			7.9			
4A	Camas Outfall - above 2B - Surface	NTU			8.4			7.9			
4A	Camas Outfall - above 2B - Mid-depth	NTU			8.4			7.9			
4A	Camas Outfall - above 2C - Surface	NTU			8.3			7.9			
4A	Camas Outfall - above 2C - Mid-depth	NTU			8.3			7.9			
4A	Camas Outfall - below 3A - Surface	NTU			8.3			7.9			
4A	Camas Outfall - below 3A - Mid-depth	NTU			8.3			7.9			
4A	Camas Outfall - below 3B - Surface	NTU			8 4			7.8			
4A	Camas Outfall - below 3B - Mid-depth	NTU			8.4			7.8			
4A	Camas Outfall - below 3C - Surface	NTU			8.4			7.9			
4A	Camas Outfall - below 3C - Mid-depth	NTU			8.4			7.9			
4A	Parkers Landing 1A - Surface	NTU			8.3			7.9			
4A	Parkers Landing 1A - Mid-depth	NTU			8.3			7 9			
4A	Parkers Landing 1B - Surface	NTU			8.4			7.9			
4A	Parkers Landing 1B - Mid-depth	NTU			8.4			7.9			
4A	Parkers Landing 1C - Surface	NTU			8.3			7.9			
4A	Parkers Landing 1C - Mid-depth	NTU			8.3			7.9			
	SEGMENT 4B										
4B	Col. R. Warrendale			151	11			7.8	59		
4B	Col. R. Warrendale			196	12.9			8.05	80		
4B	Col. R. Warrendale			142	11.4			8.2	57		
4B	Col. R Warrendale			145	8.35			7.77	58		

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 12 of 42)

River Seg.	Station Location	Unit	Conduc.	Cond. umhos/cm	DO (mg/L)	BOD	COD (mg/L)	pH	Tot. Alkal (CaCO3) (mg/L)	Total Hardness (CaCO3) (mg/L)	N, total (mg/L)
4B	Col. R. (RM 145.7)			145				8.1			
4B	Col. R. Warrendale										
	SUMMARY STATISTICS										
	Minimum Value	0	133	113	8	2	5	7.2	40	0	0 22
	Maximum Value	0	757	42900	13.9	2.3	50	8.5	86	54	1.1
	Average Value	--	290.75	3756.1	9.0378	2.133	19 75	7.93	57.866667	27	0.555
	Total Msrmts.	0	4	30	94	3	8	106	15	4	14

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 13 of 42)

River Seg.	Station Location	N-Org total (mg/L)	N-NH4 total (mg/L)	N-NH4 diss. (mg/L)	NH4+Org total (mg/L)	NH4+Org diss. (mg/L)	NH3+NH4 total (mg/L)	Un-ionized NH3-N (mg/L)	Un-ionized NH3-NH3 (mg/L)	TKN (mg/L)
	SEGMENT 1A									
1A	Col. R. Tansy Pt.			0.01U		0.3				
1A	Baker Bay			0.01U		0.4				
1A	Baker Bay			0.01U		0.6				
1A	Col. R. Area D			0.03		0.9				
1A	Col. R. Area D			0.09		0.5				
	SEGMENT 1B									
1B	Col. R. Tongue Pt.			0.01U		0.4				
	SEGMENT 1C									
1C	Col. R. (RM 32.7)			0.04		1.8				
	SEGMENT 2A									
2A	Col. R. Bradwood	0.35	0.11		0.46					
2A	Col. R. Bradwood	0.28	0.01		0.29					
2A	Col. R. Bradwood	0.17	0.02		0.19					
2A	Col. R. Bradwood	0.16	0.02		0.18					
2A	Col. R. Bradwood	0.4	0.09		0.49					
2A	Col. R. Bradwood	0.2	0.07		0.27					
2A	Col. R. Bradwood	0.18	0.08		0.26					
2A	Col. R. Bradwood	0.3	0.05		0.35					

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 14 of 42)

River Seg.	Station Location	N-Org. total (mg/L)	N-NH4 total (mg/L)	N-NH4 diss. (mg/L)	NH4+Org total (mg/L)	NH4+Org diss. (mg/L)	NH3+NH4 total (mg/L)	Un-ionized NH3-N (mg/L)	Un-ionized NH3-NH3 (mg/L)	TKN (mg/L)
2A	Col. R. Bradwood	0.5	0.02		0.52					
2A	Col. R. Bradwood	0.16	0.05		0.21					
2A	Col. R. Bradwood	0.16	0.01		0.17					
2A	Col. R. Bradwood	0.12	0.1		0.22					
	SEGMENT 2C									
2C	Col R Beaver Army Terminal	0 15	0 06	0.09	0 2		0.05			
2C	Col R Beaver Army Terminal	0.18	0 03	0.03	0.2		0.02			
2C	Col R. Beaver Army Terminal									
2C	Col R. Beaver Army Terminal									
2C	Col. R. (RM 65.8)									
2C	Col. R. (RM 70.8)			0.03		0.4				
2C	Col. R. (RM 71.4)			0.01		0.5				
	SEGMENT 3B									
3B	Col. R. (RM 100.5)		0.062		0.6					
3B	Columbia R.			0.06						
	SEGMENT 4A									
4A	Col. R. 1 mi. above Will. R.						0.04	0.0006	0.0007	0.4
4A	Col. R. 1 mi. above Will. R.						0.04	0.0007	0.0008	0.4
4A	Col. R. 1 mi. above Will. R.						0.02	0.0003	0.0004	0.2
4A	I-5 Bridge 6A - Surface									

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 15 of 42)

River Seg.	Station Location	N-Org. total (mg/L)	N-NH4 total (mg/L)	N-NH4 diss. (mg/L)	NH4+Org total (mg/L)	NH4+Org diss. (mg/L)	NH3+NH4 total (mg/L)	Un-ionized NH3-N (mg/L)	Un-ionized NH3-NH3 (mg/L)	TKN (mg/L)
4A	I-5 Bridge 6A - Mid-depth (10-30')									
4A	I-5 Bridge 6B - Surface									
4A	I-5 Bridge 6B - Mid-depth (10-30')									
4A	I-5 Bridge 6C - Surface									
4A	I-5 Bridge 6C - Mid-depth (10-30')									
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface									
4A	I-205 Bridge 5B - Mid-depth (10-30')									
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface									
4A	Hassalo Rock 4B - Mid-depth (10-30')									
4A	Hassalo Rock 4C - Surface									
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Camas Outfall - above 2A - Surface									
4A	Camas Outfall - above 2A - Mid-depth									
4A	Camas Outfall - above 2B - Surface									
4A	Camas Outfall - above 2B - Mid-depth									
4A	Camas Outfall - above 2C - Surface									
4A	Camas Outfall - above 2C - Mid-depth									
4A	Camas Outfall - below 3A - Surface									
4A	Camas Outfall - below 3A - Mid-depth									
4A	Camas Outfall - below 3B - Surface									

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 16 of 42)

River Seg.	Station Location	N-Org. total (mg/L)	N-NH4 total (mg/L)	N-NH4 diss. (mg/L)	NH4+Org total (mg/L)	NH4+Org diss (mg/L)	NH3+NH4 total (mg/L)	Un-ionized NH3-N (mg/L)	Un-ionized NH3-NH3 (mg/L)	TKN (mg/L)
4A	Camas Outfall - below 3B - Mid-depth									
4A	Camas Outfall - below 3C - Surface									
4A	Camas Outfall - below 3C - Mid-depth									
4A	Parkers Landing 1A - Surface									
4A	Parkers Landing 1A - Mid-depth									
4A	Parkers Landing 1B - Surface									
4A	Parkers Landing 1B - Mid-depth									
4A	Parkers Landing 1C - Surface									
4A	Parkers Landing 1C - Mid-depth									
4A	I-5 Bridge 6A - Surface									
4A	I-5 Bridge 6A - Mid-depth (10-30')									
4A	I-5 Bridge 6B - Surface									
4A	I-5 Bridge 6B - Mid-depth (10-30')									
4A	I-5 Bridge 6C - Surface									
4A	I-5 Bridge 6C - Mid-depth (10-30')									
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface									
4A	I-205 Bridge 5B - Mid-depth (10-30')									
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface									
4A	Hassalo Rock 4B - Mid-depth (10-30')									
4A	Hassalo Rock 4C - Surface									

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 17 of 42)

River Seg.	Station Location	N-Org. total (mg/L)	N-NH4 total (mg/L)	N-NH4 diss. (mg/L)	NH4+Org total (mg/L)	NH4+Org diss (mg/L)	NH3+NH4 total (mg/L)	Un-ionized NH3-N (mg/L)	Un-ionized NH3-NH3 (mg/L)	TKN (mg/L)
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Camas Outfall - above 2A - Surface									
4A	Camas Outfall - above 2A - Mid-depth									
4A	Camas Outfall - above 2B - Surface									
4A	Camas Outfall - above 2B - Mid-depth									
4A	Camas Outfall - above 2C - Surface									
4A	Camas Outfall - above 2C - Mid-depth									
4A	Camas Outfall - below 3A - Surface									
4A	Camas Outfall - below 3A - Mid-depth									
4A	Camas Outfall - below 3B - Surface									
4A	Camas Outfall - below 3B - Mid-depth									
4A	Camas Outfall - below 3C - Surface									
4A	Camas Outfall - below 3C - Mid-depth									
4A	Parkers Landing 1A - Surface									
4A	Parkers Landing 1A - Mid-depth									
4A	Parkers Landing 1B - Surface									
4A	Parkers Landing 1B - Mid-depth									
4A	Parkers Landing 1C - Surface									
4A	Parkers Landing 1C - Mid-depth									
	SEGMENT 4B									
4B	Col. R. Warrendale		0.02	0.01U	0.3					
4B	Col. R. Warrendale		0.05	0.03	0.2U					
4B	Col. R. Warrendale		0.01	0.03	0.4					
4B	Col. R. Warrendale		0.03	0.03	0.2U					

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 18 of 42)

Seg.	Station Location	N-Org. total (mg/L)	N-NH4 total (mg/L)	N-NH4 diss (mg/L)	NH4+Org total (mg/L)	NH4+Org diss. (mg/L)	NH3+NH4 total (mg/L)	Un-ionized NH3-N (mg/L)	Un-ionized NH3-NH3 (mg/L)	TKN (mg/L)
4B	Col. R. (RM 145.7)									
4B	Col. R. Warrendale									
	SUMMARY STATISTICS									
	Minimum Value	0.12	0.01	0.01U	0.2U	0.3	0.02	0.0003	0.0004	0.2
	Maximum Value	0.5	0.11	0.09	0.6	1.8	0.05	0.0007	0.0008	0.4
	Average Value	0.2364	0.04695	0.04273	0.3123529	0.6444444	0.034	0.000533333	0.000633333	0.333
	Total Msrmts.	14	19	11	17	9	5	3	3	3

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 19 of 42)

River Seg.	Station Location	NO2-N total (mg/L)	NO3-N total (mg/L)	NO2+NO3 diss. (mg/L)	NO2+NO3 total (mg/L)	P, Diss. (ug/L)	P, Total (ug/L)	P, Ortho diss. (ug/L)	P, Ortho total (ug/L)	C, Org. diss. (mg/L)
	SEGMENT 1A									
1A	Col. R. Tansy Pt.					58		30		2.7
1A	Baker Bay					55		35		2.5
1A	Baker Bay					53		47		2.5
1A	Col. R. Area D					60		53		3.2
1A	Col R. Area D					87		60		4
	SEGMENT 1B									
1B	Col R Tongue Pt.					37		36		3.4
	SEGMENT 1C									
1C	Col. R. (RM 32.7)					47		12		2.4
	SEGMENT 2A									
2A	Col. R Bradwood		2.7		0.15		30			
2A	Col. R. Bradwood		1.9		0.15		30			
2A	Col. R. Bradwood		2.5		0.38		20			
2A	Col. R. Bradwood		2.3		0.34		60			
2A	Col. R. Bradwood		4.7		0.57		190			
2A	Col. R. Bradwood		3.5		0.52		60			
2A	Col. R. Bradwood		4.1		0.66		70		210	
2A	Col. R. Bradwood		2.4		0.2		70		210	

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 20 of 42)

River Seg.	Station Location	NO2-N total (mg/L)	NO3-N total (mg/L)	NO2+NO3 diss. (mg/L)	NO2+NO3 total (mg/L)	P, Diss. (ug/L)	P, Total (ug/L)	P, Ortho diss. (ug/L)	P, Ortho total (ug/L)	C, Org. diss. (mg/L)
2A	Col. R. Bradwood		2.3		0.01		50		150	
2A	Col. R. Bradwood		1		0.02		20		60	
2A	Col. R. Bradwood		1.1		0 07		40		120	
2A	Col. R. Bradwood		0.97		0.1U		220		670	
	SEGMENT 2C									
2C	Col R. Beaver Army Terminal	0.01	2.2	0.3	0 3	10U	30	60	20	
2C	Col R. Beaver Army Terminal	0.01U	2.4	0.37	0.35	20	40	30	10U	
2C	Col R. Beaver Army Terminal									
2C	Col R. Beaver Army Terminal									
2C	Col. R. (RM 65.8)							10U		
2C	Col. R. (RM 70.8)					34		21		3.2
2C	Col. R. (RM 71.4)					52		18		5.3
	SEGMENT 3B									
3B	Col. R. (RM 100.5)						55			2
3B	Columbia R.									
	SEGMENT 4A									
4A	Col. R. 1 mi. above Will. R.				0.25		40	20		
4A	Col. R. 1 mi. above Will. R.				0.25		40	17		
4A	Col. R. 1 mi. above Will. R.				0.25		40	17		
4A	I-5 Bridge 6A - Surface									

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 21 of 42)

River Seg.	Station Location	NO2-N total (mg/L)	NO3-N total (mg/L)	NO2+NO3 diss. (mg/L)	NO2+NO3 total (mg/L)	P, Diss (ug/L)	P, Total (ug/L)	P, Ortho diss. (ug/L)	P, Ortho total (ug/L)	C, Org. diss. (mg/L)
4A	I-5 Bridge 6A - Mid-depth (10-30')									
4A	I-5 Bridge 6B - Surface									
4A	I-5 Bridge 6B - Mid-depth (10-30')									
4A	I-5 Bridge 6C - Surface									
4A	I-5 Bridge 6C - Mid-depth (10-30')									
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface									
4A	I-205 Bridge 5B - Mid-depth (10-30')									
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface									
4A	Hassalo Rock 4B - Mid-depth (10-30')									
4A	Hassalo Rock 4C - Surface									
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Camas Outfall - above 2A - Surface									
4A	Camas Outfall - above 2A - Mid-depth									
4A	Camas Outfall - above 2B - Surface									
4A	Camas Outfall - above 2B - Mid-depth									
4A	Camas Outfall - above 2C - Surface									
4A	Camas Outfall - above 2C - Mid-depth									
4A	Camas Outfall - below 3A - Surface									
4A	Camas Outfall - below 3A - Mid-depth									
4A	Camas Outfall - below 3B - Surface									

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 22 of 42)

River Seg.	Station Location	NO2-N total (mg/L)	NO3-N total (mg/L)	NO2+NO3 diss. (mg/L)	NO2+NO3 total (mg/L)	P, Diss. (ug/L)	P, Total (ug/L)	P, Ortho diss. (ug/L)	P, Ortho total (ug/L)	C, Org. diss. (mg/L)
4A	Camas Outfall - below 3B - Mid-depth									
4A	Camas Outfall - below 3C - Surface									
4A	Camas Outfall - below 3C - Mid-depth									
4A	Parkers Landing 1A - Surface									
4A	Parkers Landing 1A - Mid-depth									
4A	Parkers Landing 1B - Surface									
4A	Parkers Landing 1B - Mid-depth									
4A	Parkers Landing 1C - Surface									
4A	Parkers Landing 1C - Mid-depth									
4A	I-5 Bridge 6A - Surface									
4A	I-5 Bridge 6A - Mid-depth (10-30')									
4A	I-5 Bridge 6B - Surface									
4A	I-5 Bridge 6B - Mid-depth (10-30')									
4A	I-5 Bridge 6C - Surface									
4A	I-5 Bridge 6C - Mid-depth (10-30')									
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface									
4A	I-205 Bridge 5B - Mid-depth (10-30')									
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface									
4A	Hassalo Rock 4B - Mid-depth (10-30')									
4A	Hassalo Rock 4C - Surface									

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 23 of 42)

River Seg.	Station Location	NO2-N total (mg/L)	NO3-N total (mg/L)	NO2+NO3 diss. (mg/L)	NO2+NO3 total (mg/L)	P, Diss. (ug/L)	P, Total (ug/L)	P, Ortho diss. (ug/L)	P, Ortho total (ug/L)	C, Org. diss. (mg/L)
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Camas Outfall - above 2A - Surface									
4A	Camas Outfall - above 2A - Mid-depth									
4A	Camas Outfall - above 2B - Surface									
4A	Camas Outfall - above 2B - Mid-depth									
4A	Camas Outfall - above 2C - Surface									
4A	Camas Outfall - above 2C - Mid-depth									
4A	Camas Outfall - below 3A - Surface									
4A	Camas Outfall - below 3A - Mid-depth									
4A	Camas Outfall - below 3B - Surface									
4A	Camas Outfall - below 3B - Mid-depth									
4A	Camas Outfall - below 3C - Surface									
4A	Camas Outfall - below 3C - Mid-depth									
4A	Parkers Landing 1A - Surface									
4A	Parkers Landing 1A - Mid-depth									
4A	Parkers Landing 1B - Surface									
4A	Parkers Landing 1B - Mid-depth									
4A	Parkers Landing 1C - Surface									
4A	Parkers Landing 1C - Mid-depth									
	SEGMENT 4B									
4B	Col. R. Warrendale			0.28		30	50	30		
4B	Col. R. Warrendale			0.41		40	60	70		
4B	Col. R. Warrendale			0.12		20	30	10		
4B	Col. R. Warrendale			0.1U		10U	10	20		

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 24 of 42)

River Seg.	Station Location	NO2-N total (mg/L)	NO3-N total (mg/L)	NO2+NO3 diss. (mg/L)	NO2+NO3 total (mg/L)	P, Diss. (ug/L)	P, Total (ug/L)	P, Ortho diss. (ug/L)	P, Ortho total (ug/L)	C, Org. diss. (mg/L)
4B	Col. R. (RM 145.7)							10U		
4B	Col. R. Warrendale									
	SUMMARY STATISTICS									
	Minimum Value	0.01	0.97	0.1U	0.01	10U	10	10U	20	2
	Maximum Value	0 01	4.7	0.41	0.66	87	220	70	670	5.3
	Average Value	0.01	2.43357	0.296	0.279375	45.61538	57.04545	32 55556	205.7143	3 12
	Total Msrmts	1	14	5	16	13	22	18	7	10

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 25 of 42)

River Seg.	Station Location	C, Org total (mg/L)	CO3 diss. (mg/L)	HCO3 diss. (mg/L)	Fecal Col. (Cols./100 ml)	Fecal Strept. (Cols./100 ml)	Chl. a (ug/L)	Res. Solids diss. (mg/L)	Solids diss. (mg/L)	TSS (mg/L)
	SEGMENT 1A									
1A	Col. R. Tansy Pt.									
1A	Baker Bay									
1A	Baker Bay									
1A	Col R Area D									
1A	Col. R. Area D									
	SEGMENT 1B									
1B	Col R Tongue Pt.									
	SEGMENT 1C									
1C	Col. R. (RM 32.7)									
	SEGMENT 2A									
2A	Col. R. Bradwood	2.6	0	68	620	2	0	93	0.13	13
2A	Col. R. Bradwood	2.4			1.0U	4500	0	90	0.12	8
2A	Col. R. Bradwood	2.4			620	41		77	0.1	32
2A	Col. R. Bradwood	2.1	0	58	14	95	6.42	74	0.1	9
2A	Col. R. Bradwood	5.2			230	550	1.83	69	0.09	113
2A	Col. R. Bradwood	2.8			90	57	3.46	81	0.11	33
2A	Col. R. Bradwood	5.6	0	81	21	5	18.2	110	0.15	16
2A	Col. R. Bradwood	3.9			33	4	4.05	93	0.13	49

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 26 of 42)

River Seg.	Station Location	C, Org. total (mg/L)	CO3 diss. (mg/L)	HCO3 diss. (mg/L)	Fecal Col. (Cols./100 ml)	Fecal Strept. (Cols./100 ml)	Chl. a (ug/L)	Res. Solids diss. (mg/L)	Solids diss. (mg/L)	TSS (mg/L)
2A	Col. R. Bradwood	4.2			53	2	5.74	69	0.09	13
2A	Col. R. Bradwood	5.3	0	49	24	19	1.09	70	0.1	22
2A	Col. R. Bradwood	3.3				3		80	0.11	14
2A	Col. R. Bradwood	2.1			94	2		125	0.17	17
	SEGMENT 2C									
2C	Col R Beaver Army Terminal		0	62				93	86	
2C	Col R Beaver Army Terminal		0	62	11	26		79	83	
2C	Col R Beaver Army Terminal		2	60	11	3				
2C	Col R. Beaver Army Terminal		0	62	0	1				
2C	Col. R. (RM 65.8)									
2C	Col. R. (RM 70.8)									
2C	Col. R. (RM 71.4)									
	SEGMENT 3B									
3B	Col. R. (RM 100.5)	5.6								
3B	Columbia R.									
	SEGMENT 4A									
4A	Col. R. 1 mi. above Will. R.	2						7		
4A	Col. R. 1 mi. above Will. R.	2						5		
4A	Col. R. 1 mi. above Will. R.	2						6		
4A	I-5 Bridge 6A - Surface	1.7								9

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 27 of 42)

River Seg.	Station Location	C, Org. total (mg/L)	CO3 diss. (mg/L)	HCO3 diss. (mg/L)	Fecal Col. (Cols./100 ml)	Fecal Strept. (Cols./100 ml)	Chl. a (ug/L)	Res. Solids diss. (mg/L)	Solids diss. (mg/L)	TSS (mg/L)
4A	I-5 Bridge 6A - Mid-depth (10-30')	1.7								6
4A	I-5 Bridge 6B - Surface									6
4A	I-5 Bridge 6B - Mid-depth (10-30')									7
4A	I-5 Bridge 6C - Surface									4
4A	I-5 Bridge 6C - Mid-depth (10-30')									8
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface	1 6								
4A	I-205 Bridge 5B - Mid-depth (10-30')	2								
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface	1.8								
4A	Hassalo Rock 4B - Mid-depth (10-30')	1.8								
4A	Hassalo Rock 4C - Surface									
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Camas Outfall - above 2A - Surface									4
4A	Camas Outfall - above 2A - Mid-depth									3
4A	Camas Outfall - above 2B - Surface	1.2								4
4A	Camas Outfall - above 2B - Mid-depth	1								4
4A	Camas Outfall - above 2C - Surface									15
4A	Camas Outfall - above 2C - Mid-depth									7
4A	Camas Outfall - below 3A - Surface									3
4A	Camas Outfall - below 3A - Mid-depth									15
4A	Camas Outfall - below 3B - Surface	1.1								4

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 28 of 42)

River Seg.	Station Location	C, Org. total (mg/L)	CO3 diss. (mg/L)	HCO3 diss. (mg/L)	Fecal Col. (Cols./100 ml)	Fecal Strept. (Cols./100 ml)	Chl. a (ug/L)	Res. Solids diss. (mg/L)	Solids diss. (mg/L)	TSS (mg/L)
4A	Camas Outfall - below 3B - Mid-depth	1.3								15
4A	Camas Outfall - below 3C - Surface									4
4A	Camas Outfall - below 3C - Mid-depth									8
4A	Parkers Landing 1A - Surface									2
4A	Parkers Landing 1A - Mid-depth									6
4A	Parkers Landing 1B - Surface	0.6								5
4A	Parkers Landing 1B - Mid-depth	1.2								4
4A	Parkers Landing 1C - Surface									5
4A	Parkers Landing 1C - Mid-depth									6
4A	I-5 Bridge 6A - Surface									5
4A	I-5 Bridge 6A - Mid-depth (10-30')									3
4A	I-5 Bridge 6B - Surface									3
4A	I-5 Bridge 6B - Mid-depth (10-30')									3
4A	I-5 Bridge 6C - Surface									3
4A	I-5 Bridge 6C - Mid-depth (10-30')									3
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface									
4A	I-205 Bridge 5B - Mid-depth (10-30')									
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface									
4A	Hassalo Rock 4B - Mid-depth (10-30')									
4A	Hassalo Rock 4C - Surface									

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 29 of 42)

River Seg.	Station Location	C, Org. total (mg/L)	CO3 diss. (mg/L)	HCO3 diss. (mg/L)	Fecal Col. (Cols./100 ml)	Fecal Strept. (Cols./100 ml)	Chl. a (ug/L)	Res. Solids diss. (mg/L)	Solids diss. (mg/L)	TSS (mg/L)
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Camas Outfall - above 2A - Surface									
4A	Camas Outfall - above 2A - Mid-depth									
4A	Camas Outfall - above 2B - Surface									
4A	Camas Outfall - above 2B - Mid-depth									
4A	Camas Outfall - above 2C - Surface									
4A	Camas Outfall - above 2C - Mid-depth									
4A	Camas Outfall - below 3A - Surface									4
4A	Camas Outfall - below 3A - Mid-depth									4
4A	Camas Outfall - below 3B - Surface									6
4A	Camas Outfall - below 3B - Mid-depth									3
4A	Camas Outfall - below 3C - Surface									4
4A	Camas Outfall - below 3C - Mid-depth									5
4A	Parkers Landing 1A - Surface									4
4A	Parkers Landing 1A - Mid-depth									5
4A	Parkers Landing 1B - Surface									2
4A	Parkers Landing 1B - Mid-depth									3
4A	Parkers Landing 1C - Surface									2
4A	Parkers Landing 1C - Mid-depth									2
	SEGMENT 4B									
4B	Col. R. Warrendale		0	70	2			97		7
4B	Col. R. Warrendale		0	95	7	7		133		19
4B	Col. R. Warrendale		0	68		2		77		25
4B	Col R. Warrendale		0	70	3	22		89		6

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 30 of 42)

River Seg.	Station Location	C, Org. total (mg/L)	CO3 diss. (mg/L)	HCO3 diss. (mg/L)	Fecal Col. (Cols./100 ml)	Fecal Strept. (Cols./100 ml)	(ug/L)	Res. Solids diss. (mg/L)	Solids diss. (mg/L)	TSS (mg/L)
4B	Col. R. (RM 145.7)									
4B	Col. R. Warrendale									
	SUMMARY STATISTICS									
	Minimum Value	0.6	0	49	1.0U	1	0	5	0.09	2
	Maximum Value	5.6	2	95	620	4500	18.2	133	86	113
	Average Value	2.5179	0.1667	67.083	114.5625	296.7222222	4.5322	77	12.1714	10.5862
	Total Msrmts	28	12	12	16	18	9	21	14	58

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 31 of 42)

River Seg.	Station Location	Residue Filtered	Chloride diss. (mg/L)	Sulfate diss. (mg/L)	Fluoride diss. (mg/L)	Silica diss. (mg/L)	Calcium diss. (mg/L)	Mg diss. (mg/L)	K diss. (mg/L)	Na diss. (mg/L)	Na Adsorb.
	SEGMENT 1A										
1A	Col. R. Tansy Pt.										
1A	Baker Bay										
1A	Baker Bay										
1A	Col. R. Area D										
1A	Col R Area D										
	SEGMENT 1B										
1B	Col R. Tongue Pt.										
	SEGMENT 1C										
1C	Col. R (RM 32 7)										
	SEGMENT 2A										
2A	Col R. Bradwood		5.2	9.7		9.7					
2A	Col. R Bradwood					8.9					
2A	Col. R. Bradwood					12					
2A	Col. R. Bradwood		4.3	11		9.9					
2A	Col. R. Bradwood					11					
2A	Col. R. Bradwood					11					
2A	Col. R. Bradwood		5.4	16		12					
2A	Col R Bradwood					10					

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 32 of 42)

River Seg.	Station Location	Residue Filtered	Chloride diss (mg/L)	Sulfate diss. (mg/L)	Fluoride diss. (mg/L)	Silica diss. (mg/L)	Calcium diss. (mg/L)	Mg diss. (mg/L)	K diss. (mg/L)	Na diss. (mg/L)	Na Adsorb.
2A	Col. R. Bradwood					5.6					
2A	Col. R. Bradwood		4.7	14		6.9					
2A	Col. R. Bradwood					6.9					
2A	Col. R. Bradwood					8					
	SEGMENT 2C										
2C	Col R. Beaver Army Terminal		6.1	10	0.2	10	15	4.1	1.2	6.8	0.4
2C	Col R. Beaver Army Terminal		3.9	9.9	0.1U	11	15	4.1	1.1	5.9	0.3
2C	Col R. Beaver Army Terminal										
2C	Col R. Beaver Army Terminal										
2C	Col. R. (RM 65.8)										
2C	Col. R. (RM 70.8)										
2C	Col. R. (RM 71.4)										
	SEGMENT 3B										
3B	Col. R. (RM 100.5)										
3B	Columbia R.										
	SEGMENT 4A										
4A	Col. R. 1 mi. above Will. R.	100					18	5	0.9	5.4	
4A	Col. R. 1 mi. above Will. R.	100					17	4.8	0.5	5.1	
4A	Col. R. 1 mi. above Will. R.	110					20	5.5	0.8	5.8	
4A	I-5 Bridge 6A - Surface										

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS

River Seg.	Station Location	Residue Filtered	Chloride diss. (mg/L)	Sulfate diss. (mg/L)	Fluoride diss. (mg/L)	Silica diss. (mg/L)	Calcium diss. (mg/L)	Mg diss. (mg/L)	K diss. (mg/L)	Na diss. (mg/L)	Na Adsorb.
4A	I-5 Bridge 6A - Mid-depth (10-30')										
4A	I-5 Bridge 6B - Surface										
4A	I-5 Bridge 6B - Mid-depth (10-30')										
4A	I-5 Bridge 6C - Surface										
4A	I-5 Bridge 6C - Mid-depth (10-30')										
4A	I-205 Bridge 5A - Surface										
4A	I-205 Bridge 5A - Mid-depth (10-30')										
4A	I-205 Bridge 5B - Surface										
4A	I-205 Bridge 5B - Mid-depth (10-30')										
4A	I-205 Bridge 5C - Surface										
4A	I-205 Bridge 5C - Mid-depth (10-30')										
4A	Hassalo Rock 4A - Surface										
4A	Hassalo Rock 4A - Mid-depth (10-30')										
4A	Hassalo Rock 4B - Surface										
4A	Hassalo Rock 4B - Mid-depth (10-30')										
4A	Hassalo Rock 4C - Surface										
4A	Hassalo Rock 4C - Mid-depth (10-30')										
4A	Camas Outfall - above 2A - Surface										
4A	Camas Outfall - above 2A - Mid-depth										
4A	Camas Outfall - above 2B - Surface										
4A	Camas Outfall - above 2B - Mid-depth										
4A	Camas Outfall - above 2C - Surface										
4A	Camas Outfall - above 2C - Mid-depth										
4A	Camas Outfall - below 3A - Surface										
4A	Camas Outfall - below 3A - Mid-depth										
4A	Camas Outfall - below 3B - Surface										

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 34 of 42)

River Seg.	Station Location	Residue Filtered	Chloride diss. (mg/L)	Sulfate diss. (mg/L)	Fluoride diss. (mg/L)	Silica diss. (mg/L)	Calcium diss. (mg/L)	Mg diss. (mg/L)	K diss. (mg/L)	Na diss. (mg/L)	Na Adsorb.
4A	Camas Outfall - below 3B - Mid-depth										
4A	Camas Outfall - below 3C - Surface										
4A	Camas Outfall - below 3C - Mid-depth										
4A	Parkers Landing 1A - Surface										
4A	Parkers Landing 1A - Mid-depth										
4A	Parkers Landing 1B - Surface										
4A	Parkers Landing 1B - Mid-depth										
4A	Parkers Landing 1C - Surface										
4A	Parkers Landing 1C - Mid-depth										
4A	I-5 Bridge 6A - Surface										
4A	I-5 Bridge 6A - Mid-depth (10-30')										
4A	I-5 Bridge 6B - Surface										
4A	I-5 Bridge 6B - Mid-depth (10-30')										
4A	I-5 Bridge 6C - Surface										
4A	I-5 Bridge 6C - Mid-depth (10-30')										
4A	I-205 Bridge 5A - Surface										
4A	I-205 Bridge 5A - Mid-depth (10-30')										
4A	I-205 Bridge 5B - Surface										
4A	I-205 Bridge 5B - Mid-depth (10-30')										
4A	I-205 Bridge 5C - Surface										
4A	I-205 Bridge 5C - Mid-depth (10-30')										
4A	Hassalo Rock 4A - Surface										
4A	Hassalo Rock 4A - Mid-depth (10-30')										
4A	Hassalo Rock 4B - Surface										
4A	Hassalo Rock 4B - Mid-depth (10-30')										
4A	Hassalo Rock 4C - Surface										

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA – CONVENTIONALS AND NUTRIENTS
(Page 35 of 42)

River Seg.	Station Location	Residue Filtered	Chloride diss. (mg/L)	Sulfate diss. (mg/L)	Fluoride diss. (mg/L)	Silica diss. (mg/L)	Calcium diss. (mg/L)	Mg diss. (mg/L)	K diss. (mg/L)	Na diss. (mg/L)	Na Adsorb.
4A	Hassalo Rock 4C - Mid-depth (10-30')										
4A	Camas Outfall - above 2A - Surface										
4A	Camas Outfall - above 2A - Mid-depth										
4A	Camas Outfall - above 2B - Surface										
4A	Camas Outfall - above 2B - Mid-depth										
4A	Camas Outfall - above 2C - Surface										
4A	Camas Outfall - above 2C - Mid-depth										
4A	Camas Outfall - below 3A - Surface										
4A	Camas Outfall - below 3A - Mid-depth										
4A	Camas Outfall - below 3B - Surface										
4A	Camas Outfall - below 3B - Mid-depth										
4A	Camas Outfall - below 3C - Surface										
4A	Camas Outfall - below 3C - Mid-depth										
4A	Parkers Landing 1A - Surface										
4A	Parkers Landing 1A - Mid-depth										
4A	Parkers Landing 1B - Surface										
4A	Parkers Landing 1B - Mid-depth										
4A	Parkers Landing 1C - Surface										
4A	Parkers Landing 1C - Mid-depth										
	SEGMENT 4B										
4B	Col. R. Warrendale		3.3	14	0.2	8.7	17	4.9	1.2	6.4	
4B	Col. R. Warrendale		4.8	18	0.2	15	21	6.6	1.9	9	
4B	Col. R. Warrendale		2.6	12	0.2	12	16	4.6	1.4	6.1	
4B	Col. R. Warrendale		2.7	10	0.2	6.6	16	4.6	1.1	5.6	

TABLE A2. LOWER COLUMBIA RIVER WATER QUALITY DATA - CONVENTIONALS AND NUTRIENTS
(Page 36 of 42)

River Seg.	Station Location	Residue Filtered	Chloride diss. (mg/L)	Sulfate diss. (mg/L)	Fluoride diss. (mg/L)	Silica diss. (mg/L)	Calcium diss. (mg/L)	Mg diss. (mg/L)	K diss. (mg/L)	Na diss. (mg/L)	Na Adsorb.
4B	Col. R. (RM 145.7)										
4B	Col. R. Warrendale										
	SUMMARY STATISTICS										
	Minimum Value	100	2.6	9.7	0.2	5.6	15	4.1	0.5	5.1	0 3
	Maximum Value	110	6.1	18	0.2	15	21	6.6	1.9	9	0.4
	Average Value	103.33333	4.3	12.46	0.2	9.7333	17.22222	4.91111	1.1222	6.2333	0.35
	Total Msrmts.	3	10	10	5	18	9	9	9	9	2

TABLE A2. (Continued)
(Page 37 of 42)

River Seg.	Station Location	Na Percent
	SEGMENT 1A	
1A	Col. R. Tansy Pt.	
1A	Baker Bay	
1A	Baker Bay	
1A	Col. R. Area D	
1A	Col. R Area D	
	SEGMENT 1B	
1B	Col. R. Tongue Pt.	
	SEGMENT 1C	
1C	Col. R. (RM 32.7)	
	SEGMENT 2A	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	

TABLE A2. (Continued)
(Page 38 of 42)

River Seg.	Station Location	Na Percent
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
	SEGMENT 2C	
2C	Col R. Beaver Army Terminal	21
2C	Col R. Beaver Army Terminal	19
2C	Col R. Beaver Army Terminal	
2C	Col R. Beaver Army Terminal	
2C	Col. R. (RM 65.8)	
2C	Col. R. (RM 70.8)	
2C	Col. R. (RM 71.4)	
	SEGMENT 3B	
3B	Col. R. (RM 100.5)	
3B	Columbia R.	
	SEGMENT 4A	
4A	Col. R. 1 mi. above Will. R.	
4A	Col. R. 1 mi. above Will. R.	
4A	Col. R. 1 mi. above Will. R.	
4A	I-5 Bridge 6A - Surface	

TABLE A2. (Continued)
(Page 39 of 42)

River Seg.	Station Location	Na Percent
4A	I-5 Bridge 6A - Mid-depth (10-30')	
4A	I-5 Bridge 6B - Surface	
4A	I-5 Bridge 6B - Mid-depth (10-30')	
4A	I-5 Bridge 6C - Surface	
4A	I-5 Bridge 6C - Mid-depth (10-30')	
4A	I-205 Bridge 5A - Surface	
4A	I-205 Bridge 5A - Mid-depth (10-30')	
4A	I-205 Bridge 5B - Surface	
4A	I-205 Bridge 5B - Mid-depth (10-30')	
4A	I-205 Bridge 5C - Surface	
4A	I-205 Bridge 5C - Mid-depth (10-30')	
4A	Hassalo Rock 4A - Surface	
4A	Hassalo Rock 4A - Mid-depth (10-30')	
4A	Hassalo Rock 4B - Surface	
4A	Hassalo Rock 4B - Mid-depth (10-30')	
4A	Hassalo Rock 4C - Surface	
4A	Hassalo Rock 4C - Mid-depth (10-30')	
4A	Camas Outfall - above 2A - Surface	
4A	Camas Outfall - above 2A - Mid-depth	
4A	Camas Outfall - above 2B - Surface	
4A	Camas Outfall - above 2B - Mid-depth	
4A	Camas Outfall - above 2C - Surface	
4A	Camas Outfall - above 2C - Mid-depth	
4A	Camas Outfall - below 3A - Surface	
4A	Camas Outfall - below 3A - Mid-depth	
4A	Camas Outfall - below 3B - Surface	

TABLE A2. (Continued)
(Page 40 of 42)

River Seg.	Station Location	Na Percent
4A	Camas Outfall - below 3B - Mid-depth	
4A	Camas Outfall - below 3C - Surface	
4A	Camas Outfall - below 3C - Mid-depth	
4A	Parkers Landing 1A - Surface	
4A	Parkers Landing 1A - Mid-depth	
4A	Parkers Landing 1B - Surface	
4A	Parkers Landing 1B - Mid-depth	
4A	Parkers Landing 1C - Surface	
4A	Parkers Landing 1C - Mid-depth	
4A	I-5 Bridge 6A - Surface	
4A	I-5 Bridge 6A - Mid-depth (10-30')	
4A	I-5 Bridge 6B - Surface	
4A	I-5 Bridge 6B - Mid-depth (10-30')	
4A	I-5 Bridge 6C - Surface	
4A	I-5 Bridge 6C - Mid-depth (10-30')	
4A	I-205 Bridge 5A - Surface	
4A	I-205 Bridge 5A - Mid-depth (10-30')	
4A	I-205 Bridge 5B - Surface	
4A	I-205 Bridge 5B - Mid-depth (10-30')	
4A	I-205 Bridge 5C - Surface	
4A	I-205 Bridge 5C - Mid-depth (10-30')	
4A	Hassalo Rock 4A - Surface	
4A	Hassalo Rock 4A - Mid-depth (10-30')	
4A	Hassalo Rock 4B - Surface	
4A	Hassalo Rock 4B - Mid-depth (10-30')	
4A	Hassalo Rock 4C - Surface	

TABLE A2. (Continued)
(Page 41 of 42)

River Seg.	Station Location	Na Percent
4A	Hassalo Rock 4C - Mid-depth (10-30')	
4A	Camas Outfall - above 2A - Surface	
4A	Camas Outfall - above 2A - Mid-depth	
4A	Camas Outfall - above 2B - Surface	
4A	Camas Outfall - above 2B - Mid-depth	
4A	Camas Outfall - above 2C - Surface	
4A	Camas Outfall - above 2C - Mid-depth	
4A	Camas Outfall - below 3A - Surface	
4A	Camas Outfall - below 3A - Mid-depth	
4A	Camas Outfall - below 3B - Surface	
4A	Camas Outfall - below 3B - Mid-depth	
4A	Camas Outfall - below 3C - Surface	
4A	Camas Outfall - below 3C - Mid-depth	
4A	Parkers Landing 1A - Surface	
4A	Parkers Landing 1A - Mid-depth	
4A	Parkers Landing 1B - Surface	
4A	Parkers Landing 1B - Mid-depth	
4A	Parkers Landing 1C - Surface	
4A	Parkers Landing 1C - Mid-depth	
	SEGMENT 4B	
4B	Col. R. Warrendale	
4B	Col. R. Warrendale	
4B	Col. R. Warrendale	
4B	Col. R. Warrendale	

TABLE A2. (Continued)
(Page 42 of 42)

River Seg.	Station Location	Na Percent
4B	Col. R. (RM 145.7)	
4B	Col. R. Warrendale	
	SUMMARY STATISTICS	
	Minimum Value	19
	Maximum Value	21
	Average Value	20
	Total Msrmts.	2

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 1 of 25)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Al, Diss ug/L
	SEGMENT 1A						
1A	Col. R. Tansy Pt.	10	46o11'29"/123o5'15"		46	Jul-80	
1A	Baker Bay		46o17'53"/124o01'48"		46	Jul-80	
1A	Baker Bay		46o17'09"/124o00'57"		46	Jul-80	
1A	Col. R Area D		46o14'30"/123o57'25"		46	Dec-80	
1A	Col R. Area D		46o14'30"/123o57'24"		46	Aug-80	
	SEGMENT 1B						
1B	Col R Tongue Pt.	18	46o12'52"/123o45'12"		46	7/24/80	
	SEGMENT 1C						
1C	Col. R (RM 32.7)	32.7	46o16'01"/123o28'57"		46	5/14/80	
	SEGMENT 2A						
2A	Col. R. Bradwood	39		See document	148	10/17/78	
2A	Col. R. Bradwood	39		See document	148	11/9/78	
2A	Col. R. Bradwood	39		See document	148	12/12/78	
2A	Col. R. Bradwood	39		See document	148	1/17/79	
2A	Col. R. Bradwood	39		See document	148	2/14/79	
2A	Col R. Bradwood	39		See document	148	3/9/79	
2A	Col. R. Bradwood	39		See document	148	4/6/79	
2A	Col. R. Bradwood	39		See document	148	5/16/79	
2A	Col. R. Bradwood	39		See document	148	6/15/79	

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 2 of 25)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Al, Diss. ug/L
2A	Col. R. Bradwood	39		See document	148	7/12/79	
2A	Col. R. Bradwood	39		See document	148	8/23/79	
2A	Col. R. Bradwood	39		See document	148	9/18/79	
	SEGMENT 2C						
2C	Col R. Beaver Army Terminal	53.6	46o10'54"/123o10'58"	See document	150	11/20/90	30
2C	Col R. Beaver Army Terminal	53.6	46o10'54"/123o10'58"	See document	150	3/13/91	30
2C	Col R. Beaver Army Terminal	53.6	46o10'54"/123o10'58"	See document	150	5/15/91	
2C	Col R. Beaver Army Terminal	53.6	46o10'54"/123o10'58"	See document	150	5/29/91	
2C	Col. R. (RM 65.8)	65.8	46o06'22"/122o57'53"		46	5/21/80	
2C	Col. R. (RM 70.8)	70.8	46o03'45"/122o53'09"		46	5/28/80	
2C	Col. R. (RM 71.4)	71.4	46o03'24"/122o52'59"		46	6/4/80	
	SEGMENT 3B						
3B	Col. R. (RM 100 5)	100.5	45o39'53"/122o46'04"		43	Oct-83	
3B	Columbia R.	101.8			135	May-77	
	SEGMENT 4A						
4A	Col. R. 1 mi. above Will. R.	102.5	45o38'40"/122o44'50"	See document	145	2/20/91	100K
4A	Col. R. 1 mi. above Will. R.	102.5	45o38'40"/122o44'50"	See document	145	2/20/91	100K
4A	Col. R. 1 mi. above Will. R.	102.5	45o38'40"/122o44'50"	See document	145	3/13/91	100K
4A	I-5 Bridge 6A - Surface	107	None	WA side-Ship chan.	160	8/28/89	
4A	I-5 Bridge 6A - Mid-depth (10-30')	107	None	WA side-Ship chan	160	8/28/89	
4A	I-5 Bridge 6A - Surface	107	None	WA side-Ship chan.	160	9/4/89	

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 3 of 25)

River Seg	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Al, Diss. ug/L
4A	I-5 Bridge 6A - Mid-depth (10-30')	107	None	WA side-Ship chan.	160	9/4/89	
4A	I-205 Bridge 5A - Surface	114	None	WA side	160	8/28/89	
4A	I-205 Bridge 5A - Mid-depth (10-30')	114	None	WA side	160	8/28/89	
4A	I-205 Bridge 5B - Surface	114	None	Center - Ship chan	160	8/28/89	
4A	I-205 Bridge 5B - Mid-depth (10-30')	114	None	Center - Ship chan	160	8/28/89	
4A	I-205 Bridge 5C - Surface	114	None	OR side	160	8/28/89	
4A	I-205 Bridge 5C - Mid-depth (10-30')	114	None	OR side	160	8/28/89	
4A	I-205 Bridge 5A - Surface	114	None	WA side	160	9/4/89	
4A	I-205 Bridge 5A - Mid-depth (10-30')	114	None	WA side	160	9/4/89	
4A	I-205 Bridge 5B - Surface	114	None	Center - Ship chan	160	9/4/89	
4A	I-205 Bridge 5B - Mid-depth (10-30')	114	None	Center - Ship chan.	160	9/4/89	
4A	I-205 Bridge 5C - Surface	114	None	OR side	160	9/4/89	
4A	I-205 Bridge 5C - Mid-depth (10-30')	114	None	OR side	160	9/4/89	
4A	Hassalo Rock 4A - Surface	117	None	WA side-Camas sl.	160	8/28/89	
4A	Hassalo Rock 4A - Mid-depth (10-30')	117	None	WA side-Camas sl	160	8/28/89	
4A	Hassalo Rock 4B - Surface	117	None	Center	160	8/28/89	
4A	Hassalo Rock 4B - Mid-depth (10-30')	117	None	Center	160	8/28/89	
4A	Hassalo Rock 4C - Surface	117	None	OR side-Ship chan	160	8/28/89	
4A	Hassalo Rock 4C - Mid-depth (10-30')	117	None	OR side-Ship chan.	160	8/28/89	
4A	Hassalo Rock 4A - Surface	117	None	WA side-Camas sl.	160	9/4/89	
4A	Hassalo Rock 4A - Mid-depth (10-30')	117	None	WA side-Camas sl	160	9/4/89	
4A	Hassalo Rock 4B - Surface	117	None	Center	160	9/4/89	
4A	Hassalo Rock 4B - Mid-depth (10-30')	117	None	Center	160	9/4/89	
4A	Hassalo Rock 4C - Surface	117	None	OR side-Ship chan	160	9/4/89	
4A	Hassalo Rock 4C - Mid-depth (10-30')	117	None	OR side-Ship chan.	160	9/4/89	
4A	Camas Outfall - above 2A - Surface	120	None	WA side	160	8/28/89	
4A	Camas Outfall - above 2A - Mid-depth	120	None	WA side	160	8/28/89	

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 4 of 25)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Al, Diss. ug/L
4A	Camas Outfall - above 2B - Surface	120	None	Center	160	8/28/89	
4A	Camas Outfall - above 2B - Mid-depth	120	None	Center	160	8/28/89	
4A	Camas Outfall - above 2C - Surface	120	None	OR side	160	8/28/89	
4A	Camas Outfall - above 2C - Mid-depth	120	None	OR side	160	8/28/89	
4A	Camas Outfall - below 3A - Surface	120	None	WA side	160	8/28/89	
4A	Camas Outfall - below 3A - Mid-depth	120	None	WA side	160	8/28/89	
4A	Camas Outfall - below 3B - Surface	120	None	Center	160	8/28/89	
4A	Camas Outfall - below 3B - Mid-depth	120	None	Center	160	8/28/89	
4A	Camas Outfall - below 3C - Surface	120	None	OR side	160	8/28/89	
4A	Camas Outfall - below 3C - Mid-depth	120	None	OR side	160	8/28/89	
4A	Camas Outfall - above 2A - Surface	120	None	WA side	160	9/4/89	
4A	Camas Outfall - above 2A - Mid-depth	120	None	WA side	160	9/4/89	
4A	Camas Outfall - above 2B - Surface	120	None	Center	160	9/4/89	
4A	Camas Outfall - above 2B - Mid-depth	120	None	Center	160	9/4/89	
4A	Camas Outfall - above 2C - Surface	120	None	OR side	160	9/4/89	
4A	Camas Outfall - above 2C - Mid-depth	120	None	OR side	160	9/4/89	
4A	Camas Outfall - below 3A - Surface	120	None	WA side	160	9/4/89	
4A	Camas Outfall - below 3A - Mid-depth	120	None	WA side	160	9/4/89	
4A	Camas Outfall - below 3B - Surface	120	None	Center	160	9/4/89	
4A	Camas Outfall - below 3B - Mid-depth	120	None	Center	160	9/4/89	
4A	Camas Outfall - below 3C - Surface	120	None	OR side	160	9/4/89	
4A	Camas Outfall - below 3C - Mid-depth	120	None	OR side	160	9/4/89	
4A	Parkers Landing 1A - Surface	121	None	WA side	160	8/28/89	
4A	Parkers Landing 1A - Mid-depth	121	None	WA side	160	8/28/89	
4A	Parkers Landing 1B - Surface	121	None	Ship channel	160	8/28/89	
4A	Parkers Landing 1B - Mid-depth	121	None	Ship channel	160	8/28/89	
4A	Parkers Landing 1C - Surface	121	None	OR side	160	8/28/89	

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 5 of 25)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Al, Diss ug/L
4A	Parkers Landing 1C - Mid-depth	121	None	OR side	160	8/28/89	
4A	Parkers Landing 1A - Surface	121	None	WA side	160	9/4/89	
4A	Parkers Landing 1A - Mid-depth	121	None	WA side	160	9/4/89	
4A	Parkers Landing 1B - Surface	121	None	Ship channel	160	9/4/89	
4A	Parkers Landing 1B - Mid-depth	121	None	Ship channel	160	9/4/89	
4A	Parkers Landing 1C - Surface	121	None	OR side	160	9/4/89	
4A	Parkers Landing 1C - Mid-depth	121	None	OR side	160	9/4/89	
	SEGMENT 4B						
4B	Col R Warrendale	141	45o36'45"/122o01'35"	See document	149	11/29/88	10 0U
4B	Col R. Warrendale	141	45o36'45"/122o01'35"	See document	149	3/21/89	430
4B	Col. R. Warrendale	141	45o36'45"/122o01'35"	See document	149	5/16/89	40
4B	Col. R. Warrendale	141	45o36'45"/122o01'35"	See document	149	9/5/89	10.0U
4B	Col. R. (RM 145.7)	145.7	45o38'46"/121o57'02"		46	8/15/80	
4B	Col. R. Warrendale	141	45o36'45"/122o01'35"	See document	145	1980-91	
	SUMMARY STATISTICS						
	Minimum Value						10.0U
	Maximum Value						430
	Average Value						132.5
	Total Msrmts.			0			4

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 6 of 25)

River Seg.	Station Location	As, Diss. ug/L	As, Total ug/L	Ba, Diss. ug/L	Ba, Total ug/L	Be, Diss. ug/L	Bo, Diss. ug/L	Cd, Diss. ug/L	Cd, Total ug/L
	SEGMENT 1A								
1A	Col. R. Tansy Pt.	1		100U		10		1.0U	
1A	Baker Bay	100U		10U		10		1.0U	
1A	Baker Bay	100U		10U		10		1.0U	
1A	Col. R. Area D	1		100U		10U		1.0U	
1A	Col. R. Area D	1		100U		10		1	
	SEGMENT 1B								
1B	Col. R. Tongue Pt.	100U						0.04	
	SEGMENT 1C								
1C	Col. R. (RM 32.7)	1		100U		10U		1.0U	
	SEGMENT 2A								
2A	Col. R. Bradwood		1						5
2A	Col. R. Bradwood		1						5
2A	Col. R. Bradwood		1						37
2A	Col. R. Bradwood		1						ND
2A	Col. R. Bradwood		2						15
2A	Col. R. Bradwood		1						2.0U
2A	Col. R. Bradwood		2						4
2A	Col. R. Bradwood		1						2
2A	Col. R. Bradwood		5						2.0U

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 7 of 25)

River Seg.	Station Location	As, Diss. ug/L	As, Total ug/L	Ba, Diss. ug/L	Ba, Total ug/L	Be, Diss. ug/L	Bo, Diss. ug/L	Cd, Diss ug/L	Cd, Total ug/L
2A	Col. R. Bradwood		3						4
2A	Col. R. Bradwood		2						2
2A	Col. R. Bradwood		1						2.0U
	SEGMENT 2C								
2C	Col R Beaver Army Terminal	1		18		0.5U		1.0U	
2C	Col R Beaver Army Terminal	1 0U		18		0.5U		1.0U	
2C	Col R. Beaver Army Terminal								
2C	Col R Beaver Army Terminal								
2C	Col. R. (RM 65.8)			100U		10U		1	
2C	Col. R. (RM 70.8)	1		100U		10U		1.0U	
2C	Col. R. (RM 71.4)	1		100U		10U		1.0U	
	SEGMENT 3B								
3B	Col R. (RM 100.5)		1		20				0 03
3B	Columbia R.	1							
	SEGMENT 4A								
4A	Col. R. 1 mi. above Will. R.								
4A	Col. R. 1 mi. above Will. R.								
4A	Col. R. 1 mi. above Will. R.								
4A	I-5 Bridge 6A - Surface	ND		0.029		ND		ND	
4A	I-5 Bridge 6A - Mid-depth (10-30')	ND		0.025		ND		ND	
4A	I-5 Bridge 6A - Surface	ND		0.028		ND		ND	

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 8 of 25)

River Seg.	Station Location	As, Diss. ug/L	As, Total ug/L	Ba, Diss. ug/L	Ba, Total ug/L	Be, Diss. ug/L	Bo, Diss. ug/L	Cd, Diss. ug/L	Cd, Total ug/L
4A	I-5 Bridge 6A - Mid-depth (10-30')	ND		0.028		ND		ND	
4A	I-205 Bridge 5A - Surface								
4A	I-205 Bridge 5A - Mid-depth (10-30')								
4A	I-205 Bridge 5B - Surface	ND		0.027		ND		ND	
4A	I-205 Bridge 5B - Mid-depth (10-30')	ND		0.026		ND		ND	
4A	I-205 Bridge 5C - Surface								
4A	I-205 Bridge 5C - Mid-depth (10-30')								
4A	I-205 Bridge 5A - Surface								
4A	I-205 Bridge 5A - Mid-depth (10-30')								
4A	I-205 Bridge 5B - Surface	ND		0.027		ND		ND	
4A	I-205 Bridge 5B - Mid-depth (10-30')	ND		0.034		ND		ND	
4A	I-205 Bridge 5C - Surface								
4A	I-205 Bridge 5C - Mid-depth (10-30')								
4A	Hassalo Rock 4A - Surface								
4A	Hassalo Rock 4A - Mid-depth (10-30')								
4A	Hassalo Rock 4B - Surface	ND		ND		ND		ND	
4A	Hassalo Rock 4B - Mid-depth (10-30')	ND		ND		ND		ND	
4A	Hassalo Rock 4C - Surface								
4A	Hassalo Rock 4C - Mid-depth (10-30')								
4A	Hassalo Rock 4A - Surface								
4A	Hassalo Rock 4A - Mid-depth (10-30')								
4A	Hassalo Rock 4B - Surface	ND		0.027		ND		ND	
4A	Hassalo Rock 4B - Mid-depth (10-30')	ND		0.029		ND		ND	
4A	Hassalo Rock 4C - Surface								
4A	Hassalo Rock 4C - Mid-depth (10-30')								
4A	Camas Outfall - above 2A - Surface								
4A	Camas Outfall - above 2A - Mid-depth								

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 9 of 25)

River Seg.	Station Location	As, Diss. ug/L	As, Total ug/L	Ba, Diss. ug/L	Ba, Total ug/L	Be, Diss. ug/L	Bo, Diss. ug/L	Cd, Diss ug/L	Cd, Total ug/L
4A	Camas Outfall - above 2B - Surface	ND		0 027		ND		ND	
4A	Camas Outfall - above 2B - Mid-depth	ND		0 025		ND		ND	
4A	Camas Outfall - above 2C - Surface								
4A	Camas Outfall - above 2C - Mid-depth								
4A	Camas Outfall - below 3A - Surface								
4A	Camas Outfall - below 3A - Mid-depth								
4A	Camas Outfall - below 3B - Surface	ND		0.025		ND		ND	
4A	Camas Outfall - below 3B - Mid-depth	ND		0 09		ND		ND	
4A	Camas Outfall - below 3C - Surface								
4A	Camas Outfall - below 3C - Mid-depth								
4A	Camas Outfall - above 2A - Surface								
4A	Camas Outfall - above 2A - Mid-depth								
4A	Camas Outfall - above 2B - Surface	ND		0.027		ND		ND	
4A	Camas Outfall - above 2B - Mid-depth	ND		0.027		ND		ND	
4A	Camas Outfall - above 2C - Surface								
4A	Camas Outfall - above 2C - Mid-depth								
4A	Camas Outfall - below 3A - Surface								
4A	Camas Outfall - below 3A - Mid-depth								
4A	Camas Outfall - below 3B - Surface	ND		0.029		ND		ND	
4A	Camas Outfall - below 3B - Mid-depth	ND		0.031		ND		ND	
4A	Camas Outfall - below 3C - Surface								
4A	Camas Outfall - below 3C - Mid-depth								
4A	Parkers Landing 1A - Surface								
4A	Parkers Landing 1A - Mid-depth								
4A	Parkers Landing 1B - Surface	ND		0.028		ND		ND	
4A	Parkers Landing 1B - Mid-depth	ND		0.025		ND		ND	
4A	Parkers Landing 1C - Surface								

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 10 of 25)

River Seg.	Station Location	As, Diss. ug/L	As, Total ug/L	Ba, Diss. ug/L	Ba, Total ug/L	Be, Diss. ug/L	Bo, Diss. ug/L	Cd, Diss. ug/L	Cd, Total ug/L
4A	Parkers Landing 1C - Mid-depth								
4A	Parkers Landing 1A - Surface								
4A	Parkers Landing 1A - Mid-depth								
4A	Parkers Landing 1B - Surface	ND		0.028		ND		ND	
4A	Parkers Landing 1B - Mid-depth	ND		0.027		ND		ND	
4A	Parkers Landing 1C - Surface								
4A	Parkers Landing 1C - Mid-depth								
	SEGMENT 4B								
4B	Col. R. Warrendale	1		23		0.5U		1.0U	
4B	Col. R. Warrendale	2		32		0.5U		1.0U	
4B	Col. R. Warrendale	1		22		0.5U		1.0U	
4B	Col. R. Warrendale	1.0U		24		0.5U		1.0U	
4B	Col. R. (RM 145.7)	1		100U			10		
4B	Col. R. Warrendale								
	SUMMARY STATISTICS								
	Minimum Value	1.0U	1	100U	20	0.5U	10	1.0U	0.03
	Maximum Value	2	5	32	20	10	10	1	37
	Average Value	1.0833333	1.6923077	4.91675	20	10	10	0.68	8.2255556
	Total Msrmts.	12	13	28	1	4	1	3	9

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 11 of 25)

River Seg.	Station Location	Cr, Diss. ug/L	Cr, Total ug/L	Cu, Diss. ug/L	Cu, Total ug/L	Fe, Diss ug/L	Fe, Total ug/L	Pb, Diss ug/L	Pb, Total ug/L
	SEGMENT 1A								
1A	Col. R. Tansy Pt.	1.0U		2		30		1	
1A	Baker Bay	1.0U		2		90		2	
1A	Baker Bay	1.0U		4		80		3	
1A	Col. R. Area D	4		1.0U		140		1 0U	
1A	Col. R. Area D	1		2		80		1	
	SEGMENT 1B								
1B	Col. R. Tongue Pt.	1 0U		3		20		2	
	SEGMENT 1C								
1C	Col. R. (RM 32.7)	1 0U		1.0U		19		28	
	SEGMENT 2A								
2A	Col. R. Bradwood		20.0U		40		340		130
2A	Col. R. Bradwood		ND		11		270		38
2A	Col. R. Bradwood		20		43		1500		17
2A	Col. R. Bradwood		ND		18		470		6
2A	Col. R. Bradwood		ND		45		5000		26
2A	Col. R. Bradwood		ND		34		1800		38
2A	Col. R. Bradwood		20.0U		49		1700		53
2A	Col. R. Bradwood		ND		15		1300		8
2A	Col. R. Bradwood		20.0U		18		570		10

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 12 of 25)

River Seg.	Station Location	Cr, Diss. ug/L	Cr, Total ug/L	Cu, Diss. ug/L	Cu, Total ug/L	Fe, Diss. ug/L	Fe, Total ug/L	Pb, Diss ug/L	Pb, Total ug/L
2A	Col. R. Bradwood		20.0U		27		470		130
2A	Col. R. Bradwood		20		8		380		9
2A	Col. R. Bradwood		20.0U		12		180		4
	SEGMENT 2C								
2C	Col R. Beaver Army Terminal	1.0U		3		30		1	
2C	Col R. Beaver Army Terminal	1.0U		3		31		1.0U	
2C	Col R. Beaver Army Terminal								
2C	Col R Beaver Army Terminal								
2C	Col. R. (RM 65 8)			10		37		32	
2C	Col. R. (RM 70.8)	1.0U		3		20		2	
2C	Col. R. (RM 71.4)	2		1.0U		20		4	
	SEGMENT 3B								
3B	Col. R. (RM 100.5)		1.0U		1		19		1
3B	Columbia R.	40		3		20		6	
	SEGMENT 4A								
4A	Col. R. 1 mi. above Will. R.					40K			
4A	Col. R. 1 mi. above Will. R.					40K			
4A	Col. R. 1 mi. above Will. R.					40K			
4A	I-5 Bridge 6A - Surface	ND		ND		0.18		ND	
4A	I-5 Bridge 6A - Mid-depth (10-30')	ND		ND		0.16		ND	
4A	I-5 Bridge 6A - Surface	ND		ND		0.16		ND	

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 13 of 25)

River Seg.	Station Location	Cr, Diss. ug/L	Cr, Total ug/L	Cu, Diss. ug/L	Cu, Total ug/L	Fe, Diss. ug/L	Fe, Total ug/L	Pb, Diss. ug/L	Pb, Total ug/L
4A	I-5 Bridge 6A - Mid-depth (10-30')	ND		ND		0.22		ND	
4A	I-205 Bridge 5A - Surface								
4A	I-205 Bridge 5A - Mid-depth (10-30')								
4A	I-205 Bridge 5B - Surface	ND		ND		0.2		ND	
4A	I-205 Bridge 5B - Mid-depth (10-30')	ND		ND		0.16		ND	
4A	I-205 Bridge 5C - Surface								
4A	I-205 Bridge 5C - Mid-depth (10-30')								
4A	I-205 Bridge 5A - Surface								
4A	I-205 Bridge 5A - Mid-depth (10-30')								
4A	I-205 Bridge 5B - Surface	ND		ND		0 18		ND	
4A	I-205 Bridge 5B - Mid-depth (10-30')	ND		ND		0 23		ND	
4A	I-205 Bridge 5C - Surface								
4A	I-205 Bridge 5C - Mid-depth (10-30')								
4A	Hassalo Rock 4A - Surface								
4A	Hassalo Rock 4A - Mid-depth (10-30')								
4A	Hassalo Rock 4B - Surface	ND		ND		0.06		ND	
4A	Hassalo Rock 4B - Mid-depth (10-30')	ND		ND		0 11		ND	
4A	Hassalo Rock 4C - Surface								
4A	Hassalo Rock 4C - Mid-depth (10-30')								
4A	Hassalo Rock 4A - Surface								
4A	Hassalo Rock 4A - Mid-depth (10-30')								
4A	Hassalo Rock 4B - Surface	ND		ND		0.18		ND	
4A	Hassalo Rock 4B - Mid-depth (10-30')	ND		ND		0.22		ND	
4A	Hassalo Rock 4C - Surface								
4A	Hassalo Rock 4C - Mid-depth (10-30')								
4A	Camas Outfall - above 2A - Surface								
4A	Camas Outfall - above 2A - Mid-depth								

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 14 of 25)

River Seg.	Station Location	Cr, Diss. ug/L	Cr, Total ug/L	Cu, Diss. ug/L	Cu, Total ug/L	Fe, Diss. ug/L	Fe, Total ug/L	Pb, Diss ug/L	Pb, Total ug/L
4A	Camas Outfall - above 2B - Surface	ND		ND		0.13		ND	
4A	Camas Outfall - above 2B - Mid-depth	ND		ND		0.15		ND	
4A	Camas Outfall - above 2C - Surface								
4A	Camas Outfall - above 2C - Mid-depth								
4A	Camas Outfall - below 3A - Surface								
4A	Camas Outfall - below 3A - Mid-depth								
4A	Camas Outfall - below 3B - Surface	ND		ND		0.11		ND	
4A	Camas Outfall - below 3B - Mid-depth	ND		ND		0.16		ND	
4A	Camas Outfall - below 3C - Surface								
4A	Camas Outfall - below 3C - Mid-depth								
4A	Camas Outfall - above 2A - Surface								
4A	Camas Outfall - above 2A - Mid-depth								
4A	Camas Outfall - above 2B - Surface	ND		ND		0.15		ND	
4A	Camas Outfall - above 2B - Mid-depth	ND		ND		0.2		ND	
4A	Camas Outfall - above 2C - Surface								
4A	Camas Outfall - above 2C - Mid-depth								
4A	Camas Outfall - below 3A - Surface								
4A	Camas Outfall - below 3A - Mid-depth								
4A	Camas Outfall - below 3B - Surface	ND		ND		0.18		ND	
4A	Camas Outfall - below 3B - Mid-depth	ND		ND		0.23		ND	
4A	Camas Outfall - below 3C - Surface								
4A	Camas Outfall - below 3C - Mid-depth								
4A	Parkers Landing 1A - Surface								
4A	Parkers Landing 1A - Mid-depth								
4A	Parkers Landing 1B - Surface	ND		ND		0.08		ND	
4A	Parkers Landing 1B - Mid-depth	ND		ND		0.12		ND	
4A	Parkers Landing 1C - Surface								

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA - METALS
(Page 15 of 25)

River Seg.	Station Location	Cr, Diss. ug/L	Cr, Total ug/L	Cu, Diss. ug/L	Cu, Total ug/L	Fe, Diss. ug/L	Fe, Total ug/L	Pb, Diss ug/L	Pb, Total ug/L
4A	Parkers Landing 1C - Mid-depth								
4A	Parkers Landing 1A - Surface								
4A	Parkers Landing 1A - Mid-depth								
4A	Parkers Landing 1B - Surface	ND		ND		0.15		ND	
4A	Parkers Landing 1B - Mid-depth	ND		ND		0.16		ND	
4A	Parkers Landing 1C - Surface								
4A	Parkers Landing 1C - Mid-depth								
	SEGMENT 4B								
4B	Col. R. Warrendale	1		5		13		5.0U	
4B	Col R. Warrendale	2		11		370		9	
4B	Col. R. Warrendale	1		3		47		1	
4B	Col R. Warrendale	1		5		7		1.0U	
4B	Col. R. (RM 145.7)	1.0U		1		20		1.0U	
4B	Col. R. Warrendale								
	SUMMARY STATISTICS								
	Minimum Value	1.0U	20	1	1	0.06	19	1.0U	1
	Maximum Value	40	20	11	49	370	5000	32	130
	Average Value	6.5	20	4	24.692308	25.66381	1076.8462	7.0769231	36.153846
	Total Msrmts.	8	2	15	13	42	13	13	13

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 16 of 25)

River Seg.	Station Location	Li, Diss. ug/L	Mn, Diss. ug/L	Hg, Diss. ug/L	Ni, Diss. ug/L	Ni, Total ug/L	Ag, Diss. ug/L	Sr, Diss. ug/L	Zn, Diss. ug/L	Zn total ug/L
	SEGMENT 1A									
1A	Col. R. Tansy Pt.		20	0.1U	1.0U				20	
1A	Baker Bay		20	0.1U	1				20	
1A	Baker Bay		40	0.1	3				42	
1A	Col. R. Area D		30	0.1	3				30	
1A	Col. R. Area D		20	0 2	3				20	
	SEGMENT 1B									
1B	Col. R. Tongue Pt.		10	0.1U	4				10U	
	SEGMENT 1C									
1C	Col. R. (RM 32.7)		30	0.1U	1.0U				9	
	SEGMENT 2A									
2A	Col. R. Bradwood									50
2A	Col. R. Bradwood									20
2A	Col. R. Bradwood									50
2A	Col. R. Bradwood									20
2A	Col. R. Bradwood									90
2A	Col. R. Bradwood									50
2A	Col. R. Bradwood									70
2A	Col. R. Bradwood									40
2A	Col. R. Bradwood									20

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 17 of 25)

River Seg.	Station Location	Li, Diss. ug/L	Mn, Diss. ug/L	Hg, Diss. ug/L	Ni, Diss. ug/L	Ni, Total ug/L	Ag, Diss. ug/L	Sr, Diss. ug/L	Zn, Diss. ug/L	Zn total ug/L
2A	Col. R. Bradwood									40
2A	Col. R. Bradwood									ND
2A	Col. R. Bradwood									ND
	SEGMENT 2C									
2C	Col R. Beaver Army Terminal	6	3	0 1U	1		1 0U	79	3.0U	
2C	Col R. Beaver Army Terminal	4.0U	4	0 1U	1.0U		1 0U	80	5	
2C	Col R Beaver Army Terminal									
2C	Col R. Beaver Army Terminal									
2C	Col. R. (RM 65 8)		16						10U	
2C	Col. R. (RM 70.8)		10U	0.1U	1				10U	
2C	Col. R. (RM 71.4)		10U	0.1U	2				10U	
	SEGMENT 3B									
3B	Col. R. (RM 100.5)					1				1.6
3B	Columbia R.		0	0					15	
	SEGMENT 4A									
4A	Col. R. 1 mi. above Will. R.		10K							
4A	Col. R. 1 mi. above Will. R.		10K							
4A	Col. R. 1 mi. above Will. R.		20							
4A	I-5 Bridge 6A - Surface		0.01	ND	ND		ND		ND	
4A	I-5 Bridge 6A - Mid-depth (10-30')		0.013	ND	ND		ND		ND	
4A	I-5 Bridge 6A - Surface		ND	ND	ND		ND		ND	

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 18 of 25)

River Seg.	Station Location	Li, Diss. ug/L	Mn, Diss. ug/L	Hg, Diss. ug/L	Ni, Diss. ug/L	Ni, Total ug/L	Ag, Diss. ug/L	Sr, Diss. ug/L	Zn, Diss. ug/L	Zn total ug/L
4A	I-5 Bridge 6A - Mid-depth (10-30')		0.012	ND	ND		ND		ND	
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface		0.012	ND	ND		ND		ND	
4A	I-205 Bridge 5B - Mid-depth (10-30')		0.01	ND	ND		ND		ND	
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	I-205 Bridge 5A - Surface									
4A	I-205 Bridge 5A - Mid-depth (10-30')									
4A	I-205 Bridge 5B - Surface		ND	ND	ND		ND		ND	
4A	I-205 Bridge 5B - Mid-depth (10-30')		0.011	ND	ND		ND		ND	
4A	I-205 Bridge 5C - Surface									
4A	I-205 Bridge 5C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface		0.007	ND	ND		ND		ND	
4A	Hassalo Rock 4B - Mid-depth (10-30')		0.009	ND	ND		ND		ND	
4A	Hassalo Rock 4C - Surface									
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Hassalo Rock 4A - Surface									
4A	Hassalo Rock 4A - Mid-depth (10-30')									
4A	Hassalo Rock 4B - Surface		0.011	ND	ND		ND		ND	
4A	Hassalo Rock 4B - Mid-depth (10-30')		0.012	ND	ND		ND		ND	
4A	Hassalo Rock 4C - Surface									
4A	Hassalo Rock 4C - Mid-depth (10-30')									
4A	Camas Outfall - above 2A - Surface									
4A	Camas Outfall - above 2A - Mid-depth									

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 19 of 25)

River Seg.	Station Location	Li, Diss. ug/L	Mn, Diss. ug/L	Hg, Diss. ug/L	Ni, Diss. ug/L	Ni, Total ug/L	Ag, Diss. ug/L	Sr, Diss. ug/L	Zn, Diss. ug/L	Zn total ug/L
4A	Camas Outfall - above 2B - Surface		0.008	ND	ND		ND		ND	
4A	Camas Outfall - above 2B - Mid-depth		0.008	ND	ND		ND		ND	
4A	Camas Outfall - above 2C - Surface									
4A	Camas Outfall - above 2C - Mid-depth									
4A	Camas Outfall - below 3A - Surface									
4A	Camas Outfall - below 3A - Mid-depth									
4A	Camas Outfall - below 3B - Surface		0.008	ND	ND		ND		ND	
4A	Camas Outfall - below 3B - Mid-depth		0.009	ND	ND		ND		ND	
4A	Camas Outfall - below 3C - Surface									
4A	Camas Outfall - below 3C - Mid-depth									
4A	Camas Outfall - above 2A - Surface									
4A	Camas Outfall - above 2A - Mid-depth									
4A	Camas Outfall - above 2B - Surface		ND	ND	ND		ND		ND	
4A	Camas Outfall - above 2B - Mid-depth		ND	ND	ND		ND		ND	
4A	Camas Outfall - above 2C - Surface									
4A	Camas Outfall - above 2C - Mid-depth									
4A	Camas Outfall - below 3A - Surface									
4A	Camas Outfall - below 3A - Mid-depth									
4A	Camas Outfall - below 3B - Surface			ND	ND		ND		ND	
4A	Camas Outfall - below 3B - Mid-depth		0 029	ND	ND		ND		ND	
4A	Camas Outfall - below 3C - Surface									
4A	Camas Outfall - below 3C - Mid-depth									
4A	Parkers Landing 1A - Surface									
4A	Parkers Landing 1A - Mid-depth									
4A	Parkers Landing 1B - Surface		0.007	ND	ND		ND		ND	
4A	Parkers Landing 1B - Mid-depth		0.008	ND	ND		ND		ND	
4A	Parkers Landing 1C - Surface									

TABLE A3. LOWER COLUMBIA RIVER WATER QUALITY DATA – METALS
(Page 20 of 25)

River Seg.	Station Location	Li, Diss. ug/L	Mn, Diss. ug/L	Hg, Diss. ug/L	Ni, Diss. ug/L	Ni, Total ug/L	Ag, Diss. ug/L	Sr, Diss. ug/L	Zn, Diss. ug/L	Zn total ug/L
4A	Parkers Landing 1C - Mid-depth									
4A	Parkers Landing 1A - Surface									
4A	Parkers Landing 1A - Mid-depth									
4A	Parkers Landing 1B - Surface		0.009	ND	ND		ND		ND	
4A	Parkers Landing 1B - Mid-depth		0.01	ND	ND		ND		ND	
4A	Parkers Landing 1C - Surface									
4A	Parkers Landing 1C - Mid-depth									
	SEGMENT 4B									
4B	Col. R. Warrendale	4.0U	2	0.1U	8		1	100	8	
4B	Col. R. Warrendale	4	26	0.1U	6		1.0U	120	13	
4B	Col. R. Warrendale	4.0U	1	0.1U	1.0U		1.0U	82	3.0U	
4B	Col. R. Warrendale	4.0U	1	0.1U	1.0U		1.0U	89	10	
4B	Col. R. (RM 145.7)			0.1U					10U	
4B	Col. R. Warrendale									
	SUMMARY STATISTICS									
	Minimum Value	4.0U	0	0.1U/ND	1.0U/ND	1	1 0U/ND	79	3.0U/ND	1.6
	Maximum Value	6	40	0.2	8	1	1	120	42	90
	Average Value	5	6.9486571	0.1	3.2	1	1	91.66667	17.454545	41.1
	Total Msrmts.	2	35	4	10	1	1	6	11	11

TABLE A3. (Continued)
(Page 21 of 25)

River Seg.	Station Location	CN Diss. ug/L
	SEGMENT 1A	
1A	Col. R. Tansy Pt.	0
1A	Baker Bay	0
1A	Baker Bay	0
1A	Col. R. Area D	1
1A	Col. R. Area D	2
	SEGMENT 1B	
1B	Col. R. Tongue Pt.	0
	SEGMENT 1C	
1C	Col. R. (RM 32.7)	4
	SEGMENT 2A	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	

TABLE A3. (Continued)
(Page 22 of 25)

River Seg.	Station Location	CN Diss ug/L
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
2A	Col. R. Bradwood	
	SEGMENT 2C	
2C	Col R. Beaver Army Terminal	
2C	Col R. Beaver Army Terminal	
2C	Col R Beaver Army Terminal	
2C	Col R. Beaver Army Terminal	
2C	Col. R. (RM 65.8)	
2C	Col. R. (RM 70.8)	3
2C	Col. R. (RM 71.4)	
	SEGMENT 3B	
3B	Col. R. (RM 100.5)	
3B	Columbia R.	0
	SEGMENT 4A	
4A	Col. R. 1 mi. above Will. R.	
4A	Col. R. 1 mi. above Will. R.	
4A	Col. R. 1 mi. above Will. R.	
4A	I-5 Bridge 6A - Surface	
4A	I-5 Bridge 6A - Mid-depth (10-30')	
4A	I-5 Bridge 6A - Surface	

TABLE A3. (Continued)
(Page 23 of 25)

River Seg.	Station Location	CN Diss. ug/L
4A	I-5 Bridge 6A - Mid-depth (10-30')	
4A	I-205 Bridge 5A - Surface	
4A	I-205 Bridge 5A - Mid-depth (10-30')	
4A	I-205 Bridge 5B - Surface	
4A	I-205 Bridge 5B - Mid-depth (10-30')	
4A	I-205 Bridge 5C - Surface	
4A	I-205 Bridge 5C - Mid-depth (10-30')	
4A	I-205 Bridge 5A - Surface	
4A	I-205 Bridge 5A - Mid-depth (10-30')	
4A	I-205 Bridge 5B - Surface	
4A	I-205 Bridge 5B - Mid-depth (10-30')	
4A	I-205 Bridge 5C - Surface	
4A	I-205 Bridge 5C - Mid-depth (10-30')	
4A	Hassalo Rock 4A - Surface	
4A	Hassalo Rock 4A - Mid-depth (10-30')	
4A	Hassalo Rock 4B - Surface	
4A	Hassalo Rock 4B - Mid-depth (10-30')	
4A	Hassalo Rock 4C - Surface	
4A	Hassalo Rock 4C - Mid-depth (10-30')	
4A	Hassalo Rock 4A - Surface	
4A	Hassalo Rock 4A - Mid-depth (10-30')	
4A	Hassalo Rock 4B - Surface	
4A	Hassalo Rock 4B - Mid-depth (10-30')	
4A	Hassalo Rock 4C - Surface	
4A	Hassalo Rock 4C - Mid-depth (10-30')	
4A	Camas Outfall - above 2A - Surface	
4A	Camas Outfall - above 2A - Mid-depth	

TABLE A3. (Continued)
(Page 24 of 25)

River Seg.	Station Location	CN Diss. ug/L
4A	Camas Outfall - above 2B - Surface	
4A	Camas Outfall - above 2B - Mid-depth	
4A	Camas Outfall - above 2C - Surface	
4A	Camas Outfall - above 2C - Mid-depth	
4A	Camas Outfall - below 3A - Surface	
4A	Camas Outfall - below 3A - Mid-depth	
4A	Camas Outfall - below 3B - Surface	
4A	Camas Outfall - below 3B - Mid-depth	
4A	Camas Outfall - below 3C - Surface	
4A	Camas Outfall - below 3C - Mid-depth	
4A	Camas Outfall - above 2A - Surface	
4A	Camas Outfall - above 2A - Mid-depth	
4A	Camas Outfall - above 2B - Surface	
4A	Camas Outfall - above 2B - Mid-depth	
4A	Camas Outfall - above 2C - Surface	
4A	Camas Outfall - above 2C - Mid-depth	
4A	Camas Outfall - below 3A - Surface	
4A	Camas Outfall - below 3A - Mid-depth	
4A	Camas Outfall - below 3B - Surface	
4A	Camas Outfall - below 3B - Mid-depth	
4A	Camas Outfall - below 3C - Surface	
4A	Camas Outfall - below 3C - Mid-depth	
4A	Parkers Landing 1A - Surface	
4A	Parkers Landing 1A - Mid-depth	
4A	Parkers Landing 1B - Surface	
4A	Parkers Landing 1B - Mid-depth	
4A	Parkers Landing 1C - Surface	

TABLE A3. (Continued)
(Page 25 of 25)

River Seg.	Station Location	CN Diss. ug/L
4A	Parkers Landing 1C - Mid-depth	
4A	Parkers Landing 1A - Surface	
4A	Parkers Landing 1A - Mid-depth	
4A	Parkers Landing 1B - Surface	
4A	Parkers Landing 1B - Mid-depth	
4A	Parkers Landing 1C - Surface	
4A	Parkers Landing 1C - Mid-depth	
	SEGMENT 4B	
4B	Col. R. Warrendale	
4B	Col. R. Warrendale	
4B	Col R. Warrendale	
4B	Col. R. Warrendale	
4B	Col R. (RM 145.7)	
4B	Col. R. Warrendale	
	SUMMARY STATISTICS	
	Minimum Value	0
	Maximum Value	4
	Average Value	1.111
	Total Msrmts.	9

TABLE A4. LOWER COLUMBIA RIVER WATER QUALITY DATA – ORGANIC POLLUTANTS
(Page 1 of 6)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Phenols Diss ug/L	AOX ug/L
1A	Col. R. Tansy Pt.	10	46o11'29"/123o5'15"		46	Jul-80	8	
1A	Baker Bay		46o17'53"/124o01'48"		46	Jul-80	8	
1A	Baker Bay		46o17'09"/124o00'57"		46	Jul-80	5	
1A	Col. R. Area D		46o14'30"/123o57'25"		46	Dec-80	6	
1A	Col. R. Area D		46o14'30"/123o57'24"		46	Aug-80	5	
1B	Col. R. Tongue Pt	18	46o12'52"/123o45'12"		46	7/24/80	3	
1C	Col R (RM 32.7)	32.7	46o16'01"/123o28'57"		46	5/14/80	4	
2C	Col R (RM 70 8)	70.8	46o03'45"/122o53'09"		46	5/28/80	12	
3B	Columbia R	101 8			135	May-77		
4A	I-5 Bridge 6A - Surface	107	None	WA side-Ship chan.	160	8/28/89		55
4A	I-5 Bridge 6A - Mid-depth (10-30')	107	None	WA side-Ship chan.	160	8/28/89		88
4A	I-205 Bridge 5B - Surface	114	None	Center - Ship chan.	160	8/28/89		61
4A	I-205 Bridge 5B - Mid-depth (10-30')	114	None	Center - Ship chan	160	8/28/89		106
4A	Hassalo Rock 4B - Surface	117	None	Center	160	8/28/89		84
4A	Hassalo Rock 4B - Mid-depth (10-30')	117	None	Center	160	8/28/89		62
4A	Camas Outfall - above 2B - Surface	120	None	Center	160	8/28/89		19
4A	Camas Outfall - above 2B - Mid-depth	120	None	Center	160	8/28/89		23
4A	Camas Outfall - below 3B - Surface	120	None	Center	160	8/28/89		21
4A	Camas Outfall - below 3B - Mid-depth	120	None	Center	160	8/28/89		24
4A	Parkers Landing 1B - Surface	121	None	Ship channel	160	8/28/89		18
4A	Parkers Landing 1B - Mid-depth	121	None	Ship channel	160	8/28/89		25
4B	Col. R (RM 145.7)	145.7	45o38'46"/121o57'02"		46	8/15/80		
	SUMMARY STATISTICS							
	Minimum Value						3	18
	Maximum Value						12	106

TABLE A4. LOWER COLUMBIA RIVER WATER QUALITY DATA - ORGANIC POLLUTANTS
(Page 2 of 6)

River Seg.	Station Location	River Mile	Latitude/Longitude	Area description	Study reference	Sample Date	Phenols Diss. ug/L	AOX ug/L
	Average Value						6.375	48.8
	Total Msrmts.						8	12

TABLE A4. LOWER COLUMBIA RIVER WATER QUALITY DATA – ORGANIC POLLUTANTS
(Page 3 of 6)

River Seg.	Station Location	DDD ug/L	DDE ug/L	DDT ug/L	Aldrin ug/L	Chlor-dane ug/L	Diel-drin ug/L	PCBs ug/L	PCN ug/L	Toxa-phene ug/L	Endo-sulf ug/L	Endrin ug/L	Hepta-chlor ug/L
1A	Col. R. Tansy Pt.	0.01U	0.01U	0.01U	0.01U	0.1U	0.01U	0.1U	0.1U	1.0U	0.01U	0.01U	0.01U
1A	Baker Bay	0.01U	0.01U	0.01U	0.01U	0.1U	0.01U	0.1U	0.1U	1.0U	0.01U	0.01U	0.01U
1A	Baker Bay	0.01U	0.01U	0.01U	0.01U	0.1U	0.01U	0.1U	0.1U	1.0U	0.01U	0 01U	0.01U
1A	Col. R. Area D	0.01U	0.01U	0.01U	0.01U	0.1U	0.01U	0.1U	0.1U	1.0U	0.01U	0.01U	0.01U
1A	Col. R. Area D	0.01U	0.01U	0.01U	0.01U	0.1U	0 01U	0.1U	0.1U	1 0U	0.01U	0.01U	0.01U
1B	Col. R. Tongue Pt.	0.01U	0.01U	0.01U	0.01U	0.1U	0.01U	0.1U	0.1U	1.0U	0 01U	0.01U	0.01U
1C	Col. R (RM 32.7)	0.01U	0 01U	0.01U	0.01U	0 1U	0.01U	0.1U	0.1U	1 0U	0 01U	0.01U	0 01U
2C	Col. R (RM 70.8)	0.01U	0.01U	0 01U	0.01U	0.1U	0 01U	0 1U	0.1U	1.0U	0.01U	0 01U	0 02
3B	Columbia R	0	0	0	0	0	0	0	0	0	0	0	0
4A	I-5 Bridge 6A - Surface												
4A	I-5 Bridge 6A - Mid-depth (10-30')												
4A	I-205 Bridge 5B - Surface												
4A	I-205 Bridge 5B - Mid-depth (10-30')												
4A	Hassalo Rock 4B - Surface												
4A	Hassalo Rock 4B - Mid-depth (10-30')												
4A	Camas Outfall - above 2B - Surface												
4A	Camas Outfall - above 2B - Mid-depth												
4A	Camas Outfall - below 3B - Surface												
4A	Camas Outfall - below 3B - Mid-depth												
4A	Parkers Landing 1B - Surface												
4A	Parkers Landing 1B - Mid-depth												
4B	Col. R. (RM 145.7)	0.01U	0.01U	0.01U	0.01U	0.1U	0.01U	0.1U	0.1U	1.0U	0.01U	0.01U	0.01U
	SUMMARY STATISTICS												
	Minimum Value	0.01U	0.01U	0.01U	0.01U	0.1U	0.01U	0.1U	0.1U	1.0U	0.01U	0.01U	0.01U
	Maximum Value	0	0	0	0	0	0	0	0	0	0	0	0 02

TABLE A4. LOWER COLUMBIA RIVER WATER QUALITY DATA – ORGANIC POLLUTANTS
(Page 4 of 6)

River Seg.	Station Location	DDD ug/L	DDE ug/L	DDT ug/L	Aldrin ug/L	Chlordane ug/L	Dieldrin ug/L	PCBs ug/L	PCN ug/L	Toxaphene ug/L	Endosulf ug/L	Endrin ug/L	Heptachlor ug/L
	Average Value	0	0	0	0	0	0	0	0	0	0	0	0.01
	Total Msrmts.	1	1	1	1	1	1	1	1	1	1	1	2

TABLE A4. LOWER COLUMBIA RIVER WATER QUALITY DATA - ORGANIC POLLUTANTS
(Page 5 of 6)

River Seg.	Station Location	Hept. Epox. ug/L	Methoxy-chlor ug/L	Per-thane ug/L	Lin-dane ug/L	Silvex ug/L	2,4-D ug/L	2,4-DP ug/L	2,4,5-T ug/L
1A	Col. R. Tansy Pt.	0.01U	0.01U	0.1U	0.01U				
1A	Baker Bay	0.01U	0.01U	0.1U	0.01U				
1A	Baker Bay	0.01U	0.01U	0.1U	0 01U				
1A	Col. R. Area D	0.01U	0.01U	0.1U	0.01U	0.01U	0.01U	0.01U	0.01U
1A	Col. R. Area D	0.01U	0.01U	0.1U	0 01U	0.01U	0 01U	0.01U	0.01U
1B	Col. R. Tongue Pt.	0.01U	0 01U	0.1U	0 01U				
1C	Col. R. (RM 32.7)	0.01U	0.01U	0.1U	0.01U	0.01	0.01	0.01U	0.01
2C	Col. R (RM 70.8)	0.01U	0.01U	0.1U	0.01U	0.01U	0.04	0.04	0.01
3B	Columbia R	0	0	0	0				
4A	I-5 Bridge 6A - Surface								
4A	I-5 Bridge 6A - Mid-depth (10-30')								
4A	I-205 Bridge 5B - Surface								
4A	I-205 Bridge 5B - Mid-depth (10-30')								
4A	Hassalo Rock 4B - Surface								
4A	Hassalo Rock 4B - Mid-depth (10-30')								
4A	Camas Outfall - above 2B - Surface								
4A	Camas Outfall - above 2B - Mid-depth								
4A	Camas Outfall - below 3B - Surface								
4A	Camas Outfall - below 3B - Mid-depth								
4A	Parkers Landing 1B - Surface								
4A	Parkers Landing 1B - Mid-depth								
4B	Col. R. (RM 145.7)	0.01U	0.01U	0.1U	0.01U	0.01U	0.01U	0.01U	0.01
	SUMMARY STATISTICS								
	Minimum Value	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U
	Maximum Value	0	0	0	0	0.01	0.04	0 04	0 01

TABLE A4. LOWER COLUMBIA RIVER WATER QUALITY DATA - ORGANIC POLLUTANTS
(Page 6 of 6)

River Seg.	Station Location	Hept. Epox. ug/L	Methoxy-chlor ug/L	Per-thane ug/L	Lin-dane ug/L	Silvex ug/L	2,4-D ug/L	2,4-DP ug/L	2,4,5-T ug/L
	Average Value	0	0	0	0	0.01	0.025	0.04	0.01
	Total Msrmts.	1	1	1	1	1	2	1	3

APPENDIX B

SELECTED SEDIMENT DATA

APPENDIX B

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 1 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference*	Grain Size Class
1A	1	Baker Bay 12	2	46, 136	FS
1A	1	Baker Bay 4	2	46, 136	FS
1A	1	Ilwaco 1	3.1	136	SILT
1A	1	Ilwaco 2	2.5	136	SILT
1A	1	Ilwaco 3	2.5	136	SILT
1A	1	Ilwaco 4	2.1	136	SILT
1A	1	Baker Bay (Ilwaco) 2	3 1	42, 136	SILT
1A	1	Baker Bay (Ilwaco) 3	3 1	42, 136	SILT
1A	1	Baker Bay (Ilwaco) 4	3 1	42, 136	SILT
1A	1	Baker Bay (Ilwaco) 5	3 1	42, 136	SILT
1A	1	Baker Bay (Ilwaco) 6	3.1	42, 136	SILT
1A	1	Baker Bay 6	2	46, 136	SILT
1A	1	Baker Bay 8	2	46, 136	VFS
1A	1	Ilwaco	3	66	
1A	2	Ilwaco 6-1	1.32	136	FS
1A	2	Ilwaco 7-1/2	0.48	136	FS
1A	2	Baker Bay 14	2	46, 136	FS
1A	2	Ilwaco 8-2	0	136	MS
1A	2	Ilwaco 5-1	1.39	136	SILT
1A	3	Columbia River 3	3.2	41, 136	CS
1A	3	Baker Bay (Col.R.) 1	3.1	42, 136	CS
1A	3	Columbia River B1 (0.81m)	0.5	136	FS
1A	3	Columbia River 2	1.8	41, 136	FS/CS
1A	4	Chinook 3A/B	3	136	0.07
1A	4	Chinook 1B	3	136	FS
1A	4	Chinook 3	3	136	FS
1A	4	Chinook 4A	3	136	FS
1A	4	Chinook 10	3	136	SILT
1A	4	Chinook 11	3	136	SILT
1A	4	Chinook 1A	3	136	SILT
1A	4	Chinook 2A	3	136	SILT
1A	4	Chinook 2B	3	136	SILT
1A	4	Chinook 4	3	136	SILT
1A	4	Chinook 5	3	136	SILT
1A	4	Chinook 6A	3	136	SILT
1A	4	Chinook 6B	3	136	SILT
1A	4	Chinook 7	3	136	SILT
1A	4	Chinook 9	3	136	SILT
1A	4	Chinook 8	3	46136	SILT

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 2 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference[a]	Grain Size Class
1A	4	Chinook 2	3	136	VFS
1A	4	Chinook Composite 2A-3A/B	3	136	
1A	4	Chinook Composite 4-5-6	3	136	
1A	4	Chinook Composite 7-8	3	136	
1A	5	Columbia River Area D-10	5.4	136	CS
1A	5	Columbia River Area D-11	5.8	136	CS
1A	5	Columbia River Area D-9	5 9	136	CS
1A	5	Columbia River D1 (0.9m)	5.5	136	FS
1A	5	Columbia River Area D-13	4.3	136	FS
1A	5	Columbia River Area D-5	5.9	136	FS
1A	5	Columbia River Area D-6	6.2	136	FS
1A	5	Columbia River D-1	7	136	MS
1A	5	Columbia River Area D-1	5.7	136	MS
1A	5	Columbia River Area D-12	4	136	MS
1A	5	Columbia River Area D-14	4.5	136	MS
1A	5	Columbia River Area D-2	6	136	MS
1A	5	Columbia River Area D-4	5.6	136	MS
1A	5	Columbia River Area D-7	5.2	136	MS
1A	5	Columbia River Area D-8	5.5	136	MS
1A	5	Columbia River Area D	7	46, 136	MS
1A	5	Columbia River Area D-3	6.4	136	SILT
1A	6	Columbia River 4	6.6	41, 136	CS
1A	7	Columbia River 5	11	41, 136	CS
1A	7	Tansy Pt. (Ast.) 4	10	41, 136	MS
1A	7	Columbia River F1 (1.8m)	10.5	136	SILT
1A	7	Columbia River 1 (0-0.6 m)	12.5	44, 136	SILT
1A	7	Columbia River F2 (1.8m)	10.5	136	
1A	7	Columbia River F3 (5.28m)	10.5	136	
1A	8	Youngs Bay 14	12.5	46, 136	SILT
1A	9	Tansy Pt. (Ast.) 4	10	46, 136	0.4
1B	9	Astoria A-II2	13.15	136	FS
1B	9	Columbia River 6	13	41, 136	FS
1B	9	Columbia River I1 (0.63m)	13	136	MS
1B	9	Astoria 7	13	42, 136	SILT
1B	9	Columbia River I2 (1.53m)	13	136	
1B	10	Columbia River 7	16	41, 136	CS
1B	10	Columbia River K1 (0.09m)	15	136	MS
1B	10	Columbia River K2 (4.35m)	15	136	
1B	10	Cathlamet Bay 6b (.56-.76 m)	18	44, 136	

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 3 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference*	Grain Size Class
1B	11	Tongue Point TP-S-2	18	136	0.072
1B	11	Cathlamet Bay 6a (0-0 9 m)	18	44, 136	52% <125 um
1B	11	Columbia River 8	18.1	41, 136	CS
1B	11	Tongue Point TP-9	18	136	FS
1B	11	Tongue Point TP-S-3	18	136	FS
1B	11	Columbia River N1 (1.2m)	16.5	136	MS
1B	11	Columbia River P1 (1.02m)	18.5	136	MS
1B	11	Tongue Point TP-1+2	18	136	SILT
1B	11	Tongue Point TP-5	18	136	SILT
1B	11	Tongue Point TP-8	18	136	SILT
1B	11	Tongue Point TP-S-1/2	18	136	SILT
1B	11	Tongue Point TP-S-4	18	136	SILT
1B	11	Tongue Point TP-S-6	18	136	SILT
1B	11	Tongue Point CB-6a (0.61m)	18	136	VFS
1B	11	Tongue Point TP-3	18	136	VFS
1B	11	Tongue Point TP-4	18	136	VFS
1B	11	Tongue Point TP-6+7	18	136	VFS
1B	11	Tongue Point TP-S-5	18	136	VFS
1B	11	Tongue Point TP-S-8	18	136	VFS
1B	11	Cathlamet Bay 10	18.3	41, 136	VFS
1B	11	Cathlamet Bay 11	18.3	41, 136	VFS
1B	11	Cathlamet Bay 9	18 3	41, 136	VFS
1B	11	Cathlamet Bay 6a (2.1-2.2 m)	18	44, 136	VFS
1B	11	Cathlamet Bay 6b (.56-.76 m)	18	44, 136	VFS
1B	11	Tongue Point C-1/2 (1.92m)	18	158, 136	VFS
1B	11	Tongue Point C-345 (1.5m)	18	158, 136	VFS
1B	11	Tongue Point C-345 (2.13m)	18	158, 136	VFS
1B	11	Tongue Point C-6/7 (2.31m)	18	158, 136	VFS
1B	11	Tongue Point C-6/7 (2m)	18	158, 136	VFS
1B	11	Columbia River P2 (1.92m)	18.5	136	
1B	11	Columbia River P3 (5.1m)	18.5	136	
1B	11	Tongue Point CB-6a (0.33m)	18	136	
1B	11	Tongue Point CB-6b (0.18m)	18	136	
1B	11	Cathlamet Bay 6a (0.9-3.7 m)	18	44, 136	
1B	11	Cathlamet Bay 6b (1.17-1.4 m)	18	44, 136	
1B	11	Cathlamet Bay 6b (1.78-1.98 m)	18	44, 136	
1B	11	Cathlamet Bay 6b (2.58-2.76 m)	18	44, 136	
1B	11	Cathlamet Bay 6b (3.1-3.2 m)	18	44, 136	
1B	11	Cathlamet Bay 6b (3.23-3.44 m)	18	44, 136	
1B	11	Cathlamet Bay 6b (3.64-3.82 m)	18	44, 136	

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 4 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference[a]	Grain Size Class
1B	11	Cathlamet Bay 6b (4.22-4.42 m)	18	44, 136	
1C	12	Tongue Point TP-10	18	136	FS
1C	12	Tongue Point LI-1+2	18	136	SILT
1C	12	Tongue Point LI-3+4	18	136	SILT
1C	12	Tongue Point F B-2	18	136	
1C	12	Tongue Point F B-6	18	136	
1C	12	Tongue Point F C-5	18	136	
1C	12	Tongue Point F D-4	18	136	
1C	12	Tongue Point F E-3	18	136	
1C	12	Tongue Point F F-2	18	136	
1C	12	Tongue Point F F-6	18	136	
1C	12	Tongue Point LI-SF-A4	18	136	
1C	12	Tongue Point LI-SF-B2	18	136	
1C	12	Tongue Point LI-SF-B6	18	136	
1C	12	Tongue Point LI-SF-C3	18	136	
1C	12	Tongue Point LI-SF-C5	18	136	
1C	12	Tongue Point LI-SF-D1	18	136	
1C	12	Tongue Point LI-SF-D4	18	136	
1C	12	Tongue Point LI-SF-D7	18	136	
1C	12	Tongue Point LI-SF-E3	18	136	
1C	12	Tongue Point LI-SF-E5	18	136	
1C	12	Tongue Point LI-SF-F2	18	136	
1C	12	Tongue Point LI-SF-F6	18	136	
1C	12	Tongue Point LI-SF-G4	18	136	
1C	13	Tongue Point TP-11	18	136	SILT
1C	13	Tongue Point TP-12	18	136	SILT
1C	13	Tongue Point TP-12-R1	18	136	SILT
1C	13	Tongue Point TP-12-R2	18	136	SILT
1C	14	Columbia River 1	32.7	46, 136	CS
2A	15	CR-GC-17 Wauna	39.72	136, 94	
2A	15	CR-GC-18 Wauna	39.4	136, 94	
2A	16	CR-GC-15 Wauna	40.95	136, 94	
2A	16	CR-GC-16 Wauna	40.9	136, 94	
2A	17	CR-VC-11/12 Wauna	43.19	136, 94	SILT
2A	17	CR-VC-9/10 Wauna	43.19	136, 94	VFS
2A	17	CR-VC-12A Wauna	43.19	136, 94	
2A	17	CR-VC-12B Wauna	43.19	136, 94	
2A	17	CR-VC-11+12 Wauna	43.19	136, 94	

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 5 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference*	Grain Size Class
2A	17	CR-VC-9+10 Wauna	43 19	136, 94	
2C	18	Coal Cr. Slough	57	66	SAND
2C	19	Longview - Reynolds	63	66	SAND
2C	19	Longview - Weyco	64	66	SAND
2C	19	Col. R. Longview S-1	63.5	157	SAND
2C	19	Col. R. Longview S-2	63.5	157	SAND
2C	19	Col. R. Longview S-3	63.5	157	SAND
2C	19	CR-GC-2 Longview	63.9	136, 94	
2C	19	CR-GC-4 Longview	63.9	136, 94	
2C	19	CR-GC-5 Longview	62.9	136, 94	
2C	19	CR-GC-6 A+B Longview	62.9	136, 94	
2C	20	Longview	66.5	66	SAND
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-	67.7	136	0.13
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-	67.7	136	0.13
2C	21	Old Mouth of Cowlitz (Cow-3), btm.	67.7	136	FS
2C	21	Old Mouth of Cowlitz (Cow-3), top	67.7	136	FS
2C	21	Mouth of Cowlitz R. (Cow-2A)	67.7	136	VFS
3A	22	Kalama	74.5	66	SAND
3A	23	St. Helens SH-VC-5	86.5	136	MS
3A	23	St. Helens SH-VC-6	86.5	136	MS
3A	23	CR-GC-23 St. Helens	86	136, 94	
3A	23	CR-GC-24 St. Helens	85.98	136, 94	
4A	24	Col. R. 1 mi. above Will. confl. 381	102.5	145	??
4A	24	Col. R. 1 mi. above Will. confl. 381	102.5	145	??
4A	24	Oregon slough OS-4/6	102.2	136	CS
4A	24	Vancouver	102	66	SAND
4A	24	Oregon slough OS-1/2	102.2	136	VFS
4A	25	Vancouver	105	66	SAND
4A	25	Port of Vanc. after clean-up Zone A	105	15	
4A	25	Port of Vanc. after clean-up Zone B	105	15	
4A	25	Port of Vancouver - Background	105	15	
4A	26	Hassalo Rock 4B	117	160	SILT-VFS
4A	27	Camas Slough	119	66	SILT
4A	27	Camas Outfall - below 3A	120	160	SILT-VFS
4A	27	CR-GC-25 Camas	118.54	136, 94	
4A	27	CR-GC-26 Camas	118.54	136, 94	
4A	28	Parkers Landing 1A	121	160	SILT-VFS

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 6 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference[a]	Grain Size Class
4A	28	Parkers Landing 1C	121	160	SILT-VFS
4B	29	Reed Is.	124	66	SAND
4B	30	Warrendale	141	149	??
4B	31	Col. R. - Bonneville	146	46	??
1A	R1	Col. R. (X-section composite)	2	64	
1A	R2	Col. R. (X-section composite)	6	64	
1B	R3	Col. R. (X-section composite)	14	64	
1B	R4	Col. R. (X-section composite)	18	64	
1C	R5	Col. R. (X-section composite)	23	64	
1C	R6	Col. R. (X-section composite)	27	64	
1C	R7	Col. R. (X-section composite)	31	64	
2A	R8	Col. R. (X-section composite)	38	64	
2B	R9	Col. R. (X-section composite)	47	64	
2B	R10	Col. R. (X-section composite)	50	64	
2C	R11	Col. R. (X-section composite)	54	64	
2C	R12	Col. R. (X-section composite)	59	64	
2C	R13	Col. R. (X-section composite)	64	64	
2C	R14	Columbia River	65.5	53	
2C	R15	Columbia River (0-1 inch)	66.7	53	
2C	R15	Columbia River (1-2 inch)	66.7	53	
2C	R15	Columbia River (2-3 inch)	66.7	53	
2C	R15	Columbia River (3-4 inch)	66.7	53	
2C	R16	Columbia River	67.7	53	
2C	R16	Columbia River (0-1 inch)	67.6	53	
2C	R16	Columbia River (1-2 inch)	67.6	53	
2C	R16	Columbia River (2-3 inch)	67.6	53	
2C	R16	Columbia River (4-5 inch)	67.6	53	
2C	R16	Columbia River (6-7 inch)	67.6	53	
2C	R16	Columbia River (8-9 inch)	67.6	53	
2C	R17	Columbia River	68.8	53	
2C	R17	Columbia River (0-1 inch)	69.1	53	
2C	R17	Columbia River (1-2 inch)	69.1	53	
2C	R17	Columbia River (2-3 inch)	69.1	53	

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 7 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference*	Grain Size Class
2C	R17	Columbia River (3-4 inch)	69.1	53	
2C	R17	Columbia River (4-5 inch)	69.1	53	
2C	R17	Columbia River (5-6 inch)	69.1	53	
2C	R17	Columbia River (6-7 inch)	69.1	53	
2C	R17	Columbia River (7-8 inch)	69 1	53	
2C	R18	Columbia River	71.6	53	
2C	R18	Columbia River (0-1 inch)	71.6	53	
2C	R18	Columbia River (1-2 inch)	71.6	53	
2C	R18	Columbia River (2-3 inch)	71.6	53	
2C	R18	Columbia River (3-4 inch)	71.6	53	
3A	R19	Columbia River	75.2	53	
3A	R19	Columbia River (0-1 inch)	75.2	53	
3A	R19	Columbia River (1-2 inch)	75.2	53	
3A	R19	Columbia River (2-3 inch)	75.2	53	
3A	R19	Columbia River (3-4 inch)	75.2	53	
3A	R19	Columbia River (4-5 inch)	75.2	53	
3A	R20	Columbia River	78	53	
3A	R21	Columbia River	79.6	53	
3A	R22	Columbia River	81.1	53	
3A	R23	Columbia River	82.2	53	
3A	R24	Columbia River (0-1 inch)	83.6	53	
3A	R24	Columbia River (1-2 inch)	83.6	53	
3A	R24	Columbia River (2-3 inch)	83.6	53	
3A	R24	Columbia River (3-4 inch)	83.6	53	
3A	R24	Columbia River (4-5 inch)	83.6	53	
3A	R24	Columbia River (5-6 inch)	83.6	53	
3A	R25	Columbia River	84.5	53	
3A	R25	Columbia River (0-1 inch)	84.6	53	
3A	R25	Columbia River (1-2 inch)	84.6	53	
3A	R25	Columbia River (2-3 inch)	84.6	53	
3A	R25	Columbia River (3-4 inch)	84.6	53	
3A	R25	Columbia River (4-5 inch)	84.6	53	
3A	R25	Columbia River (5-6 inch)	84.6	53	
3A	R26	Columbia River	85.1	53	
3A	R27	Columbia River	86.5	53	
3B	R29	Columbia River	91.6	53	
3B	R30	Columbia River	97.8	53	
3B	R31	Columbia River	101.5	53	

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER
(Page 8 of 9)

River Seg.	Map Location	Station Location	River Mile	Study Reference[a]	Grain Size Class
3B	R31	Columbia River (0-1 inch)	101.5	53	
3B	R31	Columbia River (1-2 inch)	101.5	53	
3B	R31	Columbia River (2-3 inch)	101.5	53	
3B	R31	Columbia River (3-4 inch)	101.5	53	
3B	R31	Columbia River (4-5 inch)	101.5	53	
4A	R32	Columbia River	106.6	53	
4A	R32	Columbia River (0-1 inch)	106.6	53	
4A	R32	Columbia River (1-2 inch)	106.6	53	
4A	R32	Columbia River (11-12 inch)	106.6	53	
4A	R32	Columbia River (13-14 inch)	106.6	53	
4A	R32	Columbia River (17-18 inch)	107	53	
4A	R32	Columbia River (2-3 inch)	106.6	53	
4A	R32	Columbia River (3-4 inch)	106.6	53	
4A	R32	Columbia River (4-5 inch)	106.6	53	
4A	R32	Columbia River (5-6 inch)	106.6	53	
4A	R32	Columbia River (6-7 inch)	106.6	53	
4A	R32	Columbia River (7-8 inch)	106.6	53	
4A	R32	Columbia River (8-9 inch)	106.6	53	
4A	R32	Columbia River (9-10 inch)	106.6	53	
4A	R33	Columbia River	110.2	53	
4A	R34	Columbia River	114.8	53	
4A	R34	Columbia River (0-1 inch)	114.8	53	
4A	R34	Columbia River (1-2 inch)	114.8	53	
4A	R34	Columbia River (2-3 inch)	114.8	53	
4A	R34	Columbia River (3-4 inch)	114.8	53	
4A	R34	Columbia River (4-5 inch)	114.8	53	
4A	R34	Columbia River (5-6 inch)	114.8	53	
4A	R34	Columbia River (7-8 inch)	114.8	53	
4A	R34	Columbia River (9-10 inch)	114.8	53	
4A	R35	Columbia River	120.5	53	
4A	R35	Columbia River (0-1 inch)	120.5	53	
4A	R35	Columbia River (1-2 inch)	120.5	53	
4A	R35	Columbia River (2-3 inch)	120.5	53	
4A	R35	Columbia River (3-4 inch)	120.5	53	
4A	R35	Columbia River (5-6 inch)	120.5	53	
4A	R35	Columbia River (8-9 inch)	120.5	53	
4B	R36	Columbia River (0-1 inch)	123.7	53	
4B	R36	Columbia River (1-2 inch)	123 7	53	

TABLE B1. LOCATIONS OF ACCEPTED EXISTING STUDIES ALONG THE LOWER COLUMBIA RIVER

River Seg.	Map Location	Station Location	River Mile	Study Reference*	Grain Size Class
4B	R36	Columbia River (2-3 inch)	123.7	53	
4B	R36	Columbia River (3-4 inch)	123.7	53	
4B	R36	Columbia River (4-5 inch)	123.7	53	
4B	R36	Columbia River (5-6 inch)	123.7	53	
4B	R36	Columbia River (7-8 inch)	123.7	53	
4B	R37	Columbia River	125.1	53	
4B	R38	Columbia River	128.9	53	
4B	R38	Columbia River (0-1 inch)	128.9	53	
4B	R38	Columbia River (1-2 inch)	128.9	53	
4B	R38	Columbia River (11-12 inch)	128.9	53	
4B	R38	Columbia River (14-15 inch)	128.9	53	
4B	R38	Columbia River (16-18 inch)	128.9	53	
4B	R38	Columbia River (18-24 inch)	128.9	53	
4B	R38	Columbia River (2-3 inch)	128.9	53	
4B	R38	Columbia River (3-4 inch)	128 9	53	
4B	R38	Columbia River (4-5 inch)	128.9	53	
4B	R38	Columbia River (5-6 inch)	128.9	53	
4B	R38	Columbia River (7-8 inch)	128.9	53	
4B	R38	Columbia River (9-10 inch)	128.9	53	
4B	R39	Columbia River	131.8	53	
4B	R40	Columbia River	137.9	53	

Reference List numbers.

TABLE B-2 MEAN CONCENTRATIONS OF CHEMICAL CONTAMINANTS AT EACH SAMPLING LOCATION
(Page 1 of 7)

Chemical	Location				
	1	2	3	4	5
Metals (mg/kg)	$\bar{x}$ (n,n_d)[a]	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)
Arsenic	6 18 (8,8)	2 7 (5,5)	5 33 (3,3)	9 67 (20,20)	3 41 (17,17)
Cadmium	1 03 (13,12)	0 19 (5,4)	3 43 (4,2)	0 87 (20,20)	0 313 (16,4)
Chromium	10 8 (13,13)	8 46 (5,5)	7 8 (2,2)	16 6 (20,20)	8 18 (17,17)
Copper	26 48 (13,13)	10 01 (5,5)	8 8 (2,2)	30 97 (20,20)	10 88 (17,17)
Iron	13,853 (13,13)	11,300 (5,5)	6,998 (4,4)	17,029 (7,7)	10,850 (2,2)
Lead	18 78 (13,13)	4 51 (5,5)	7 8 (2,2)	8.97 (20,20)	4 55 (17,17)
Manganese	184 1 (13,13)	123 2 (5,5)	105 8 (4,4)	217 4 (7,7)	155 (2,2)
Mercury	0 09 (13,8)	0 021 (4,4)	0 026 (2,1)	0 064 (20,20)	0 011 (17,4)
Nickel	11.04 (13,13)	11 56 (5,5)	3 2 (1,1)	14 36 (7,7)	7 (15,15)
Zinc	100 69 (13,13)	28 (5,5)	37 48 (2,2)	96 15 (20,20)	33 41 (17,17)
Pesticides (ug/kg)					
Total DDT	2 9 (21,10)	0 15 (3,0)	No Data	14 77 (45,2)	2 4 (45,0)
DDD	0 64 (7,4)	0 05 (1,0)	No Data	5 06 (15,1)	0 8 (15,0)
DDE	1 28 (7,3)	0.05 (1,0)	No Data	5 04 (15,1)	0.8 (15,0)
DDT	0.48 (7,3)	0 05 (1,0)	No Data	4 67 (15,0)	0 8 (15,0)
Chlordane	1 36 (7,2)	0 5 (1,0)	No Data	37 6 (15,1)	7 33 (15,0)
Dieldrin	0.47 (7,2)	0 05 (1,0)	No Data	4 69 (15,1)	0 8 (15,0)
Other Pesticides	3 838 (73,3)	1 6 (14,0)	No Data	225 77 (224,11)	10 3 (91,0)
Total PAHs (ug/kg)	25,897 (45,2)	70 (14,0)	850 (16,0)	446 (2,2)	180 (224,0)
Total PCBs (ug/kg)	9.6 (7,4)	0 5 (1,0)	No Data	84 (98,0)	7 3 (15,0)
Dioxins and Furans (pg/g)					
Total TCDF	No Data	No Data	No Data	No Data	No Data
Total TCDD	No Data	No Data	No Data	No Data	No Data
Total PeCDF	No Data	No Data	No Data	No Data	No Data
Total PeCDD	No Data	No Data	No Data	No Data	No Data
Total HxCDF	No Data	No Data	No Data	No Data	No Data
Total HxCDD	No Data	No Data	No Data	No Data	No Data
Total HpCDF	No Data	No Data	No Data	No Data	No Data
Total HpCDD	No Data	No Data	No Data	No Data	No Data
OCDF	No Data	No Data	No Data	No Data	No Data
OCDD	No Data	No Data	No Data	No Data	No Data
Total Resin Acids (ug/g)	No Data	No Data	No Data	No Data	No Data

[a] (n,n_d): n = number measured, n_d = number detected

TABLE B-2. MEAN CONCENTRATIONS OF CHEMICAL CONTAMINANTS AT EACH SAMPLING LOCATION
(Page 2 of 7)

Chemical	Location				
	6	7	8	9	10
Metals (mg/kg)	$\bar{x}$ (n,n_d)[a]	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)
Arsenic	2 (1,1)	6 67 (3,3)	10 (1,1)	11 9 (4,4)	5 5 (2,2)
Cadmium	5 (1,0)	3 15 (4,3)	4 (1,1)	2.72 (5,4)	3 15 (2,1)
Chromium	2 (1,1)	26 3 (3,3)	8 (1,1)	6 45 (4,4)	12 (1,1)
Copper	2 (1,1)	24 67 (3,3)	180 (1,1)	50 (4,4)	6 9 (1,1)
Iron	4,100 (1,1)	19,075 (4,4)	11,000 (1,1)	9,483 (4,4)	9,750 (2,2)
Lead	50 (1,0)	14 33 (3,3)	10 (1,1)	9 55 (4,4)	12 (1,1)
Manganese	55 (1,1)	268 (4,4)	140 (1,1)	182 8 (4,4)	145 (2,2)
Mercury	0 005 (1,0)	0 073 (2,2)	0 03 (1,1)	0.036 (4,2)	0 009 (1,1)
Nickel	No Data	22 5 (2,2)	20 (1,1)	12 55 (2,2)	No Data
Zinc	15 (1,1)	92 67 (3,3)	35 (1,1)	77 75 (4,4)	55 (1,1)
Pesticides (ug/kg)					
Total DDT	No Data	No Data	0 15 (3,0)	12 55 (9,5)	No Data
DDD	No Data	No Data	0 05 (1,0)	2.52 (3,1)	No Data
DDE	No Data	No Data	0 05 (1,0)	2 15 (3,2)	No Data
DDT	No Data	No Data	0 05 (1,0)	7.88 (3,2)	No Data
Chlordane	No Data	No Data	0 05 (1,0)	13 517 (3,0)	No Data
Dieldrin	No Data	No Data	0 05 (1,0)	1 77 (3,1)	No Data
Other Pesticides	No Data	No Data	0 7 (14,0)	8 9 (29,1)	No Data
Total PAHs (ug/kg)	No Data	833 3 (48,0)	No Data	800 (32,0)	800 (16,0)
Total PCBs (ug/kg)	No Data	No Data	0 5 (1,0)	28 83 (3,1)	No Data
Dioxins and Furans (pg/g)					
Total TCDF	No Data	No Data	No Data	No Data	No Data
Total TCDD	No Data	No Data	No Data	No Data	No Data
Total PeCDF	No Data	No Data	No Data	No Data	No Data
Total PeCDD	No Data	No Data	No Data	No Data	No Data
Total HxCDF	No Data	No Data	No Data	No Data	No Data
Total HxCDD	No Data	No Data	No Data	No Data	No Data
Total HpCDF	No Data	No Data	No Data	No Data	No Data
Total HpCDD	No Data	No Data	No Data	No Data	No Data
OCDF	No Data	No Data	No Data	No Data	No Data
OCDD	No Data	No Data	No Data	No Data	No Data
Total Resin Acids (ug/kg)	No Data	No Data	No Data	No Data	No Data

[a] (n,n_d) n = number measured, n_d = number detected

TABLE B-2 MEAN CONCENTRATIONS OF CHEMICAL CONTAMINANTS AT EACH SAMPLING LOCATION
(Page 3 of 7)

Chemical	Location				
	11	12	13	14	15
Metals (mg/kg)	$\bar{x}$ (n,n_d)[a]	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)
Arsenic	4 43 (25,22)	9 83 (6,6)	8 45 (5,5)	4 (1,1)	No Data
Cadmium	1 44 (27,22)	0 58 (6,6)	0 376 (5,5)	1 (1,1)	No Data
Chromium	20 3 (26,26)	21 6 (6,6)	18.3 (5,5)	2 (1,1)	No Data
Copper	17 85 (26,26)	26 58 (6,6)	18 52 (5,3)	5 (1,1)	No Data
Iron	14,530 (10,10)	14,000 (1,1)	18,650 (2,2)	5,400 (1,1)	No Data
Lead	12 23 (26,24)	12 63 (6,6)	14 02 (5,5)	10 (1,1)	No Data
Manganese	163 9 (10,10)	373 (1,1)	368.5 (2,2)	150 (1,1)	No Data
Mercury	0.057 (24,18)	0 06 (6,4)	0.033 (5,2)	No Data	No Data
Nickel	17 38 (12,12)	6 11 (1,1)	9 40 (2,2)	10 (1,1)	No Data
Zinc	76 58 (26,26)	98 87 (6,6)	86 08 (5,5)	25 (1,1)	No Data
Pesticides (ug/kg)					
Total DDT	8.64 (72,13)	No Data	8.4 (15,0)	No Data	No Data
DDD	3 36 (24,5)	3 08 (6,0)	2 8 (5,0)	No Data	No Data
DDE	2 74 (24,6)	3 08 (6,0)	2.8 (5,0)	No Data	No Data
DDT	2 54 (24,2)	3 08 (6,0)	2.8 (5,0)	No Data	No Data
Chlordane	3 67 (24,0)	3 67 (6,0)	5.5 (5,0)	No Data	No Data
Dieldrin	2 09 (24,0)	2 58 (6,0)	1.9 (5,0)	No Data	No Data
Other Pesticides	24 7 (150,1)	16 02 (36,0)	15 (30,0)	No Data	No Data
Total PAHs (ug/kg)	723 5 (268,91)	749 5 (400,2)	1,025 (3,0)	No Data	No Data
Total PCBs (ug/kg)	34 78 (33,3)	30 (6,0)	26 (5,0)	No Data	No Data
Dioxins and Furans (pg/g)					
Total TCDF	No Data	No Data	No Data	No Data	1 1 (2,2)
Total TCDD	No Data	No Data	No Data	No Data	3 7 (2,2)
Total PeCDF	No Data	No Data	No Data	No Data	0 755 (2,0)
Total PeCDD	No Data	No Data	No Data	No Data	0.6 (2,0)
Total HxCDF	No Data	No Data	No Data	No Data	1 3 (2,2)
Total HxCDD	No Data	No Data	No Data	No Data	11 (2,2)
Total HpCDF	No Data	No Data	No Data	No Data	No Data
Total HpCDD	No Data	No Data	No Data	No Data	No Data
OCDF	No Data	No Data	No Data	No Data	1 6 (2,2)
OCDD	No Data	No Data	No Data	No Data	5 3 (2,2)
Total Resin Acids (ug/kg)	No Data	No Data	No Data	No Data	No Data

[a] (n,n_d): n = number measured, n_d = number detected

TABLE B-2. MEAN CONCENTRATIONS OF CHEMICAL CONTAMINANTS AT EACH SAMPLING LOCATION
(Page 4 of 7)

Chemical	Location				
	16	17	18	19	20
Metals (mg/kg)	$\bar{x}$ (n,n_d)[a]	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)
Arsenic	No Data	2 2 (2,2)	1 3 (1,1)	0 89 (6,5)	0 8 (1,1)
Cadmium	No Data	No Data	0 25 (1,0)	0 628 (6,0)	0 25 (1,0)
Chromium	No Data	7 35 (2,2)	9 (1,1)	7 67 (6,6)	8 (1,1)
Copper	No Data	19 1 (2,2)	15 (1,1)	14 67 (6,6)	14 (1,1)
Iron	No Data	No Data	14,000 (1,1)	16,000 (3,3)	14,000 (1,1)
Lead	No Data	2 57 (2,2)	5 (1,0)	3.28 (6,2)	5 (1,0)
Manganese	No Data	No Data	180 (1,1)	143 3 (3,3)	110 (1,1)
Mercury	No Data	0 225 (2,2)	0.03 (1,1)	0.045 (6,2)	0 01 (1,0)
Nickel	No Data	7 5 (2,2)	8 (1,1)	7 33 (6,6)	7 (1,1)
Zinc	No Data	38 1 (2,2)	38 (1,1)	29 (6,6)	27 (1,1)
Pesticides (ug/kg)					
Total DDT	No Data	9 (6,0)	(3,0)	59 4 (9,0)	NP (3,0)
DDD	No Data	3 (2,0)	(1,0)	19 8 (3,0)	NP (1,0)
DDE	No Data	3 (2,0)	(1,0)	19 8 (3,0)	NP (1,0)
DDT	No Data	3 (2,0)	(1,0)	19 8 (3,0)	NP (1,0)
Chlordane	No Data	2 5 (2,0)	(1,0)	98 33 (3,0)	NP (1,0)
Dieldrin	No Data	3 (2,0)	(1,0)	19 83 (3,0)	NP (1,0)
Other Pesticides	No Data	15 (12,0)	(8,0)	705 2 (48,0)	NP (14,0)
Total PAHs (ug/kg)	No Data	100 (4,0)	706 (17,13)	6909 9 (51,55)	377 (17,15)
Total PCBs (ug/kg)	No Data	25 (4,0)	10 (1,0)	902.65 (27,1)	10 (1,0)
Dioxins and Furans (pg/g)					
Total TCDF	1.0 (2,2)	2 9 (2,2)	No Data	1 157 (3,3)	No Data
Total TCDD	1 415 (2,2)	0 42 (2,2)	No Data	3 5 (1,1)	No Data
Total PeCDF	0.535 (2,0)	2 2 (2,2)	No Data	7.7 (1,1)	No Data
Total PeCDD	0.195 (2,0)	0 48 (2,2)	No Data	3 8 (1,1)	No Data
Total HxCDF	1 7 (1,1)	5 6 (2,2)	No Data	6 15 (2,2)	No Data
Total HxCDD	4 75 (2,2)	46 (2,2)	No Data	8 725 (4,4)	No Data
Total HpCDF	No Data	No Data	No Data	No Data	No Data
Total HpCDD	No Data	No Data	No Data	No Data	No Data
OCDF	2.015 (2,2)	4 4 (2,2)	No Data	6 624 (4,2)	No Data
OCDD	29 5 (2,2)	220 (2,2)	No Data	38 83 (6 6)	No Data
Total Resin Acids (ug/kg)	No Data	No Data	No Data	1554 3 (53,11)	No Data

[a] (n,n_d) n = number measured, n_d = number detected

NP Detection limit not provided

TABLE B-2. MEAN CONCENTRATIONS OF CHEMICAL CONTAMINANTS AT EACH SAMPLING LOCATION
(Page 5 of 7)

Chemical	Location				
	21	22	23	24	25
Metals (mg/kg)	$\bar{x}$ (n,n_d)[a]	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)
Arsenic	1 (3,0)	2 4 (1,1)	2 7 (2,2)	3 81 (5,5)	3 8 (1,1)
Cadmium	NP (3,0)	0 25 (1,0)	0 185 (2,2)	0 701 (5,4)	0 25 (1,0)
Chromium	5 67 (3,3)	11 (1,1)	8 15 (2,2)	16 8 (5,5)	13 (1,1)
Copper	2 31 (3,3)	8 (1,1)	6 15 (2,2)	21 2 (5,5)	1,514 (4,4)
Iron	No Data	13,000 (1,1)	No Data	17,000 (1,1)	16,000 (1,1)
Lead	NP (3,0)	5 (1,0)	4 05 (2,2)	12 28 (5,4)	140 (1,1)
Manganese	No Data	230 (1,1)	No Data	290 (1,1)	280 (1,1)
Mercury	NP (3,0)	0.06 (1,1)	0 02 (2,2)	0 06 (5,5)	0 03 (1,1)
Nickel	4.67 (3,3)	9 (1,1)	8.55 (2,2)	12 8 (4,4)	11 (1,1)
Zinc	19 33 (3,3)	59 (1,1)	49 5 (2,2)	99 14 (5,5)	95 (1,1)
Pesticides (ug/kg)					
Total DDT	0.5 (9,0)	NP (3,0)	No Data	75 05 (12,10)	NP (3,0)
DDD	0.5 (3,0)	NP (1,0)	No Data	27 8 (4,4)	NP (1,0)
DDE	0 5 (3,0)	NP (1,0)	No Data	8 75 (4,4)	NP (1,0)
DDT	0 5 (3,0)	NP (1,0)	No Data	38 5 (4,2)	NP (1,0)
Chlordane	5 (3,0)	NP (1,0)	No Data	0 5 (4,0)	NP (1,0)
Dieldrin	0 5 (3,0)	NP (1,0)	No Data	0 5 (4,0)	NP (1,0)
Other Pesticides	23 (42,0)	NP (14,0)	No Data	28 63 (39,1)	NP (14,0)
Total PAHs (ug/kg)	170 (51,0)	686 (17,9)	514.5 (2,2)	348.3 (50,24)	906 (17,16)
Total PCBs (ug/kg)	5 (21,0)	10 (1,0)	No Data	511.4 (18,1)	10 (1,0)
Dioxins and Furans (pg/g)					
Total TCDF	No Data	No Data	0.43 (2,1)	No Data	No Data
Total TCDD	No Data	No Data	0 228 (4,0)	No Data	No Data
Total PeCDF	No Data	No Data	0 108 (4,0)	No Data	No Data
Total PeCDD	No Data	No Data	0.075 (4,0)	No Data	No Data
Total HxCDF	No Data	No Data	0 67 (2,2)	No Data	No Data
Total HxCDD	No Data	No Data	3 65 (4,4)	No Data	No Data
Total HpCDF	No Data	No Data	No Data	No Data	No Data
Total HpCDD	No Data	No Data	No Data	No Data	No Data
OCDF	No Data	No Data	0 588 (4,2)	No Data	No Data
OCDD	No Data	No Data	26 8 (4,4)	No Data	No Data
Total Resin Acids (ug/kg)	No Data	No Data	No Data	No Data	737 (8,5)

[a] (n,n_d): n = number measured, n_d = number detected

NP: Detection limit not provided

TABLE B-2. MEAN CONCENTRATIONS OF CHEMICAL CONTAMINANTS AT EACH SAMPLING LOCATION
(Page 6 of 7)

Chemical	Location				
	26	27	28	29	30
Metals (mg/kg)	$\bar{x}$ (n,n_d)[a]	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)	$\bar{x}$ (n,n_d)
Arsenic	NP (1,0)	7 2 (2,2)	NP (2,0)	2 1 (1,1)	2 (1,1)
Cadmium	0 6 (1,1)	0 61 (3,3)	0 25 (2,2)	0 25 (1,0)	1 (1,1)
Chromium	9 5 (1,1)	17 4 (3,3)	8 85 (2,2)	12 (1,1)	7 (1,1)
Copper	7 1 (1,1)	21 07 (3,3)	3 8 (2,2)	6 (1,1)	1 (1,1)
Iron	No Data	24,500 (2,2)	No Data	12,000 (1,1)	9,800 (1,1)
Lead	8.7 (1,1)	33 67 (3,3)	6 3 (2,2)	5 (1,0)	10 (1,1)
Manganese	168 (1,1)	263 7 (3,3)	157 5 (2,2)	160 (1,1)	240 (1,1)
Mercury	0.044 (1,1)	0 067 (3,3)	0 14 (2,2)	0 01 (1,0)	NP (1,1)
Nickel	8 6 (1,1)	12 6 (3,3)	7 95 (2,2)	9 (1,1)	No Data
Zinc	119 (1,1)	109 33 (3,3)	92 (2,2)	40 (1,1)	98 (1,1)
Pesticides (ug/kg)					
Total DDT	NP (3,0)	NP (9,0)	NP (6,0)	NP (3,0)	No Data
DDD	NP (1,0)	NP (3,0)	NP (2,0)	NP (1,0)	No Data
DDE	NP (1,0)	NP (3,0)	NP (2,0)	NP (1,0)	No Data
DDT	NP (1,0)	NP (3,0)	NP (2,0)	NP (1,0)	No Data
Chlordane	NP (1,0)	NP (3,0)	NP (2,0)	NP (1,0)	No Data
Dieldrin	NP (1,0)	NP (3,0)	NP (2,0)	NP (1,0)	No Data
Other Pesticides	NP (13,0)	NP (15,0)	NP (26,0)	NP (14,0)	No Data
Total PAHs (ug/kg)	NP (17,0)	2187 5 (34,19)	NP (34,0)	785 5 (17,4)	No Data
Total PCBs (ug/kg)	No Data	10 (2,0)	No Data	10 (1,0)	No Data
Dioxins and Furans (pg/g)					
Total TCDF	No Data	No Data	No Data	No Data	No Data
Total TCDD	No Data	No Data	No Data	No Data	No Data
Total PeCDF	No Data	No Data	No Data	No Data	No Data
Total PeCDD	No Data	No Data	No Data	No Data	No Data
Total HxCDF	No Data	No Data	No Data	No Data	No Data
Total HxCDD	No Data	No Data	No Data	No Data	No Data
Total HpCDF	No Data	No Data	No Data	No Data	No Data
Total HpCDD	No Data	No Data	No Data	No Data	No Data
OCDF	No Data	No Data	No Data	No Data	No Data
OCDD	No Data	No Data	No Data	No Data	No Data
Total Resin Acids (ug/kg)	No Data	3,237 (8,4)	No Data	Undetected	No Data

[a] (n,n_d) n = number measured, n_d = number detected

NP Detection limit not provided

TABLE B-2. MEAN CONCENTRATIONS OF CHEMICAL CONTAMINANTS AT EACH SAMPLING LOCATION
(Page 7 of 7)

Chemical	Location				
	31				
Metals (mg/kg)	$\bar{x}$ $(n,n_d)^a$				
Arsenic	4 (2,2)				
Cadmium	2 5 (2,2)				
Chromium	13 5 (2,2)				
Copper	45 5 (2,2)				
Iron	22,000 (2,2)				
Lead	10 (2,2)				
Manganese	525 (2,2)				
Mercury	0 75 (2,2)				
Nickel	20 (2,2)				
Zinc	52 (2,2)				
Pesticides (ug/kg)					
Total DDT	0 15 (6,0)				
DDD	0 05 (2,0)				
DDE	0 05 (2,0)				
DDT	0 05 (2,0)				
Chlordane	0 05 (2,0)				
Dieldrin	0 05 (2,0)				
Other Pesticides	0 7 (14,0)				
Total PAHs (ug/kg)	No Data				
Total PCBs (ug/kg)	0 5 (2,0)				
Dioxins and Furans (pg/g)	No Data				
Total TCDF	No Data				
Total TCDD	No Data				
Total PeCDF	No Data				
Total PeCDD	No Data				
Total HxCDF	No Data				
Total HxCDD	No Data				
Total HpCDF	No Data				
Total HpCDD	No Data				
OCDF	No Data				
OCDD	No Data				
Total Resin Acids (ug/kg)	No Data				

[a] (n,n_d) n = number measured, n_d = number detected

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)	Grain Size Class
SILT										
1A	2	Ilwaco 5-1	1.39	Channel	136	7/10/87	0.763	3.9	0 025	SILT
1A	1	Baker Bay 6	2	Channel	46, 136	7/23/80	1.8	5 53	0.018	SILT
1A	1	Ilwaco 4	2.1	Channel	136	7/10/87	0.857	4.4	0 024	SILT
1A	1	Ilwaco 3	2.5	Channel	136	7/31/87	1.24	6	0.013	SILT
1A	1	Ilwaco 2	2.5	Channel	136	7/31/87	0.984	4.7	0 018	SILT
1A	14	Youngs Bay 14	2.5	Reference	46, 136	7/22/80	1.24	3.21	0.042	SILT
1A	4	Chinook 10	3	Channel	136	7/10/87	1.63	6	0 006	SILT
1A	4	Chinook 11	3	Channel	136	12/30/86	1 08	6 2	0.007	SILT
1A	4	Chinook 1A	3	Channel	136	12/30/86	0.51	2.8	0.008	SILT
1A	4	Chinook 10	3	Channel	136	12/30/86	1.06	6.4	0 008	SILT
1A	4	Chinook 9	3	Channel	136	12/30/86	1 02	6.6	0.009	SILT
1A	4	Chinook 8	3	Channel	46, 136	8/20/80	2.66	6.18	0.011	SILT
1A	4	Chinook 8	3	Channel	136	12/30/86	1.33	6.5	0.012	SILT
1A	4	Chinook 7	3	Channel	136	12/30/86	1.11	4.7	0.013	SILT
1A	4	Chinook 7	3	Channel	136	7/10/87	1 05	5.4	0 014	SILT
1A	4	Chinook 5	3	Channel	136	7/10/87	0.677	5.3	0.019	SILT
1A	4	Chinook 6B	3	Channel	136	12/30/86	0.64	3.1	0.028	SILT
1A	4	Chinook 2B	3	Channel	136	12/30/86	0.6	3.4	0 029	SILT
1A	4	Chinook 5	3	Channel	136	12/30/86	1.06	4 2	0 032	SILT
1A	4	Chinook 4	3	Channel	136	12/30/86	1.11	4.1	0.033	SILT
1A	4	Chinook 6A	3	Channel	136	12/30/86	0.75	3.6	0 04	SILT
1A	4	Chinook 2A	3	Channel	136	12/30/86	0.78	3 7	0 05	SILT
1A	1	Ilwaco 1	3.1	Channel	136	7/31/87	1 31	5.5	0.016	SILT
1A	1	Baker Bay (Ilwaco) 4	3.1	Channel	42, 136	7/12/83	1	4 6	99% < 100 um	SILT
1A	1	Baker Bay (Ilwaco) 3	3.1	Channel	42, 136	7/11/83	1.2	4.9	99.5% < 100 um	SILT

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 2 of 12)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)	Grain Size Class
SILT (continued)										
1A	1	Baker Bay (Ilwaco) 5	3.1	Channel	42, 136	7/12/83	1.6	5.2	100% < 100 um	SILT
1A	1	Baker Bay (Ilwaco) 2	3.1	Channel	42, 136	7/11/83	1.2	5.6	62% silt	SILT
1A	1	Baker Bay (Ilwaco) 6	3.1	Channel	42, 136	7/12/83	1.5	6	100% < 100 um	SILT
1A	5	Columbia River Area D-3	6.4	Reference	136	3/13/91	0.58	3.4	0.043	SILT
1A	7	Columbia River F1 (1.8m)	10.5	Channel	136	10/6/86	1.1	4.1	0 06	SILT
1A	7	Columbia River 1 (0-0 6 m)	12.5	Channel	44, 136	9/26/84	0 38		99% fine sand	SILT
VERY FINE SAND										
1A	1	Baker Bay 8	2	Channel	46, 136	7/23/80	1.97		0 075	VFS
1A	4	Chinook 2	3	Channel	136	7/10/87	0.444	2.2	0.085	VFS
FINE SAND										
1A	2	Ilwaco 7-1/2	0.48	Channel	136	7/10/87	0.024	0.6	0.22	FS
1A	3	Columbia River B1 (0.81m)	0.5	Channel	136	10/6/86	1.2	1.2	0.15	FS
1A	2	Ilwaco 6-1	1.32	Channel	136	7/10/87	0 053	0 8	0 2	FS
1A	2	Baker Bay 14	2	Disposal	46, 136	7/23/80	0.1	0.86	0.175	FS
1A	1	Baker Bay 4	2	Reference	46, 136	7/23/80	0 67	1 29	0.2	FS
1A	1	Baker Bay 12	2	Reference	46 136	7/25/80	0.09	0.81	0.2	FS
1A	4	Chinook 1B	3	Channel	136	12/30/86	0.23	1.3	0.15	FS
1A	4	Chinook 3	3	Channel	136	7/10/87	0.03	0.7	0.185	FS
1A	4	Chinook 4A	3	Channel	136	7/10/87	0.028	0.5	0 19	FS
1A	5	Columbia River Area D-13	4.3	Reference	136	3/13/91	0 05	0 7	0 23	FS

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 3 of 12)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)	Grain Size Class
FINE SAND (continued)										
1A	5	Columbia River D1 (0.9m)	5.5	Channel	136	10/6/86	0.7	0.7	0 18	FS
1A	5	Columbia River Area D-5	5.9	Reference	136	3/13/91	0 09	1	0.18	FS
1A	5	Columbia River Area D-6	6.2	Reference	136	3/13/91	0.08	0.8	0.15	FS
MEDIUM SAND										
1A	5	Columbia River Area D-2	6	Reference	136	3/13/91	0 09	1 1	0.26	MS
1A	5	Columbia River Area D-7	5.2	Reference	136	3/13/91	0 06	0 7	0 27	MS
1A	5	Columbia River Area D-12	4	Reference	136	3/13/91	0.05	0.5	0.28	MS
1A	5	Columbia River Area D-4	5.6	Reference	136	3/13/91	0.06	0.8	0.3	MS
1A	5	Columbia River D-1	7	Disposal	136	12/30/86	0.16	0 6	0 33	MS
1A	2	Ilwaco 8-2	0	Channel	136	7/10/87	0.018	0 6	0 34	MS
1A	5	Columbia River Area D-1	5.7	Reference	136	3/13/91	0 07	0.7	0.35	MS
1A	5	Columbia River Area D-8	5.5	Reference	136	3/13/91	0.06	0.7	0 36	MS
1A	5	Columbia River Area D-14	4.5	Reference	136	3/13/91	0.06	0.5	0.37	MS
1A	7	Tansy Pt. (Ast.) 4	10	Reference	46, 136	8/19/80	0.1	2.89	0 4	MS
1A	5	Columbia River Area D	7	Disposal	46, 136	8/19/80		0 7	0.41	MS
1A	5	Columbia River Area D-11	5 8	Reference	136	3/13/91	0.05	0.5	0 43	CS
1A	5	Columbia River Area D-10	5.4	Reference	136	3/13/91	0 07	0 6	0.5	CS
1A	5	Columbia River Area D-9	5.9	Reference	136	3/13/91	0.05	0.5	0.63	CS
1A	3	Columbia River 3	3.2	Channel	41, 136	8/3/82			27% fine sand	CS
1A	7	Columbia River 5	11	Channel	41, 136	8/3/82			32% fine sand	CS
1A	6	Columbia River 4	6.6	Channel	41, 136	8/3/82			43% fine sand	CS
1A	3	Columbia River 2	1.8	Channel	41, 136	8/3/82			67% fine sand	FS/CS
1A	3	Baker Bay (Col.R.) 1	3 1	Channel	42, 136	7/11/83	0 04		38% fine sand	CS

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)	Grain Size Class
SILT										
1B	9	Astoria 7	13	Bay/Harbor	46, 136	12/2/80	1.57	3.1	0.015	SILT
1B	9	Astoria 7	13	Bay/Harbor	42, 136	7/11/83	0.62	4.7	98% silt	SILT
1B	12	Tongue Point LI-3+4	18	Bay/Harbor	136	12/18/89	0 241	9 25	0.011	SILT
1B	12	Tongue Point LI-1+2	18	Bay/Harbor	136	7/25/89	0 123	8.2	0.017	SILT
1B	11	Tongue Point TP-8	18	Bay/Harbor	136	12/18/89	0.195	6 1	0.024	SILT
1B	12	Tongue Point LI-1+2	18	Bay/Harbor	136	12/18/89	0.096	3.7	0 024	SILT
1B	11	Tongue Point TP-5	18	Bay/Harbor	136	12/18/89	0.153	3 9	0 029	SILT
1B	11	Tongue Point TP-S-4	18	Bay/Harbor	136	8/14/90		5.3	0 036	SILT
1B	13	Tongue Point TP-12-R1	18	Bay/Harbor	136	12/18/89	0.077	2.4	0 038	SILT
1B	13	Tongue Point TP-12-R2	18	Bay/Harbor	136	12/18/89	0.12	2.4	0 038	SILT
1B	13	Tongue Point TP-12	18	Channel	136	9/13/88	0.58	4	0 039	SILT
1B	13	Tongue Point TP-11	18	Bay/Harbor	136	12/18/89	0.058	2.1	0 041	SILT
1B	13	Tongue Point TP-11	18	Channel	136	9/13/88	0.46	1.1	0.044	SILT
1B	11	Tongue Point TP-S-1/2	18	Bay/Harbor	136	8/14/90		3.7	0 044	SILT
1B	12	Tongue Point LI-3+4	18	Bay/Harbor	136	7/25/89	0.089	4.15	0.046	SILT
1B	11	Tongue Point TP-1+2	18	Bay/Harbor	136	12/18/89	0.063	2.6	0 056	SILT
1B	11	Tongue Point TP-S-6	18	Bay/Harbor	136	8/14/90		5.6	0 059	SILT
VERY FINE SAND										
1B	11	Cathlamet Bay 6b (.56-.76 m)	18	Reference	44, 136	9/27/84	1.06		94% < 125 um	VFS
1B	11	Cathlamet Bay 9	18.3	Bay/Harbor	41, 136	8/2/82			80% < 125um	VFS
1B	11	Cathlamet Bay 10	18.3	Bay/Harbor	41, 136	8/2/82			95% < 125um	VFS
1B	11	Cathlamet Bay 11	18.3	Bay/Harbor	41, 136	8/2/82			93% < 125um	VFS

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)	Grain Size Class
VERY FINE SAND (continued)										
1B	11	Tongue Point C-6/7 (2m)	18	Bay/Harbor	161, 136	8/23/88	0.08		med.silt-vf. sand	VFS
1B	11	Tongue Point C-345 (1.5m)	18	Bay/Harbor	161, 136	8/23/88	0.093		med silt-vf. sand	VFS
1B	11	Tongue Point C-1/2 (1.92m)	18	Bay/Harbor	161, 136	6/3/87	0.826	1.87	med silt-vf sand	VFS
1B	11	Tongue Point C-345 (2.13m)	18	Bay/Harbor	161, 136	6/3/87	1 11	3.3	med.silt-vf. sand	VFS
1B	11	Tongue Point C-6/7 (2.31m)	18	Bay/Harbor	161, 136	6/3/87	1.105	1.58	med.silt-vf. sand	VFS
1B	11	Tongue Point CB-6a (0.61m)	18	Bay/Harbor	136	8/1/84			med.silt-vf. sand	VFS
1B	11	Cathlamet Bay 6a (2.1-2.2 m)	18	Reference	44, 136	9/27/84	0 32		med.silt-vf sand	VFS
1B	11	Tongue Point TP-S-8	18	Bay/Harbor	136	8/14/90		2 6	0.064	VFS
1B	11	Tongue Point TP-S-5	18	Bay/Harbor	136	8/14/90		2 7	0 066	VFS
1B	11	Tongue Point TP-4	18	Bay/Harbor	136	12/18/89	0 055	2 6	0 067	VFS
1B	11	Tongue Point TP-6+7	18	Bay/Harbor	136	12/18/89	0.052	2.7	0 07	VFS
1B	11	Tongue Point TP-3	18	Bay/Harbor	136	12/18/89	0.105	2.6	0 1	VFS
1B	11	Tongue Point TP-9	18	Bay/Harbor	136	12/18/89	0.076	1.1	0.11	VFS
FINE/MEDIUM SAND										
1B	9	Columbia River I1 (0.63m)	13	Channel	136	10/6/86	0.8	0 8	0 4	MS
1B	9	Columbia River 6	13	Channel	41, 136	8/2/82			90% fine sand	FS
1B	9	Astoria A-II2	13 15	Channel	136	3/11/87		1 4	0 14	FS
1B	10	Columbia River K1 (0.09m)	15	Channel	136	10/6/86	1 5	1.5	0.3	MS
1B	10	Columbia River 7	16	Channel	41, 136	8/2/82			25% fine sand	CS
1B	11	Columbia River N1 (1.2m)	16.5	Channel	136	10/6/86	0.5	0.5	0 33	MS
1B	11	Tongue Point TP-S-3	18	Bay/Harbor	136	8/14/90		1.5	0.14	FS
1B	12	Tongue Point TP-10	18	Channel	136	9/13/88	0.14	1.4	0.149	FS
1B	11	Tongue Point TP-9	18	Channel	136	9/13/88	0 1	1.1	0.158	FS

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 6 of 12)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)	Grain Size Class
FINE/MEDIUM SAND (continued)										
1B	12	Tongue Point TP-10	18	Bay/Harbor	136	12/18/89	0.017	0.9	0.17	FS
1B	11	Columbia River 8	18.1	Channel	41, 136	8/2/82			20% fine sand	CS
SANDS										
1C	11	Columbia River P1 (1.02m)	18.5	Channel	136	10/6/86	0.5	0.5	0.3	MS
1C	14	Columbia River 1	32.7	Channel	46, 136	5/15/80	0 1	0 67	4% fine sand	CS

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 7 of 12)

River Seg.	Map Location	Station Location	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
SILT												
1A	2	Ilwaco 5-1	5	0.24	16 3	27.4	20800	5.56	192	0 061	15.1	54
1A	1	Baker Bay 6	9	2	15	37	22000	30	230	0.17	10	160
1A	1	Ilwaco 4	5.6	0.62	13.9	31.4	21400	12.2	167	0.087	12 6	96
1A	1	Ilwaco 3	5.8	0 66	13.9	35.3	22600	14.7	242	0.093	15.1	110
1A	1	Ilwaco 2	4.9	0.46	11 6	29.4	20000	10.9	185	0.066	10	88
1A	14	Youngs Bay 14	10	4	8	180	11000	10	140	0.03	20	35
1A	4	Chinook 10	4.6	0.71	24 4	56.9	25000	15.2	255	0.091	20.1	124
1A	4	Chinook 11	12	0.6	16	43		14		0 085		161
1A	4	Chinook 1A	12	0 5	12	26		5		0 06		83
1A	4	Chinook 10	13	0.3	17	43		8.3		0.06		124
1A	4	Chinook 9	13 5	0 3	15	43		10		0.1		140
1A	4	Chinook 8	10	8	18	44	17000	30	420	0.07	20	135
1A	4	Chinook 8	20.5	0.7	16	41		11		0.09		140
1A	4	Chinook 7	11.5	0.6	16	35		9.2		0 07		110
1A	4	Chinook 7	5 5	0.63	21 2	43.1	21600	11 7	210	0 077	12.6	104
1A	4	Chinook 5	5 9	0.52	22.7	41.2	21200	10.9	292	0 069	20.1	100
1A	4	Chinook 6B	8.5	0.3	13	26		4 2		0 06		83
1A	4	Chinook 2B	13	0.8	24	30		11		0 081		109
1A	4	Chinook 5	13	0.8	15	29		5		0.07		90
1A	4	Chinook 4	14 5	1.2	25	27		10		0 056		110
1A	4	Chinook 6A	12	0 5	12	26		5		0.06		83
1A	4	Chinook 2A	10.5	0.3	17	18		6 7		0 063		56
1A	1	Ilwaco 1	8.1	1.13	23.2	39.2	24400	21.5	265	0 184	22.6	154
1A	1	Baker Bay (Ilwaco) 4		0.68	3.2	20.6	6670	12.6	112	0 08U	5	62
1A	1	Baker Bay (Ilwaco) 3		0.92	6	17.5	7750	10.5	128	0.08U	6 6	93

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 8 of 12)

River Seg.	Map Location	Station Location	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
SILT (continued)												
1A	1	Baker Bay (Ilwaco) 5		0.6	5.8	19.4	7330	13.3	116	0.08U	4 3	62
1A	1	Baker Bay (Ilwaco) 2		1.9	5.9	26.7	11000	31.8	314	0.08U	5.1	131
1A	1	Baker Bay (Ilwaco) 6		0.87	5.8	22.8	9040	16.7	170	0.08U	2.2	90
1A	5	Columbia River Area D-3	13	0.1U	16	21		18		0.03	12	92
1A	7	Columbia River F1 (1.8m)	15	2	20	32	21000	25	220	0 125		120
1A	7	Columbia River 1 (0-0.6 m)		3.6	53	37	46000	8	700		35	118
VERY FINE SAND												
1A	1	Baker Bay 8	10	2	24	43	17000	40	280	0.26	30	190
1A	4	Chinook 2	2.2	0.24	16	25.5	15800	5.91	137	0.049	15 1	60
FINE SAND												
1A	2	Ilwaco 7-1/2	1 9	0.02	7.4	3.92	9800	1.66	110	0.002	12.6	19
1A	3	Columbia River B1 (0.81m)	9	1 5	15	15	20000	13	220	0.011		68
1A	2	Ilwaco 6-1	1.9	0.13	8.4	7.84	10600	3.24	107	0.012	12.6	26
1A	2	Baker Bay 14	2	1U	5	5	3100	10	52	0.01	10	19
1A	1	Baker Bay 4	4	1	7	17	6900	20	130	0.06	10	52
1A	1	Baker Bay 12	2	1U	5	5	4000	10	54	0 01	10	21
1A	4	Chinook 1B	8	0.3	16	10		1		0.028		61
1A	4	Chinook 3	1.9	0.04	8.15	5.88	9200	3.09	110	0.025	2 51	24
1A	4	Chinook 4A	1.2	0.11	7.14	5.88	9400	2.22	97 5	0.007	10.1	26
1A	5	Columbia River Area D-13	2	0.1U	9	3		2		02U	7	26

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 9 of 12)

River Seg.	Map Location	Station Location	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
FINE SAND (continued)												
1A	5	Columbia River D1 (0.9m)	6	1.4	3	91	17000	12	160	0.012		49
1A	5	Columbia River Area D-5	2	0.1U	11	7		3		.02U	9	40
1A	5	Columbia River Area D-6	2	0.1U	12	6		4		.02U	10	39
MEDIUM SAND												
1A	5	Columbia River Area D-2	3	0 4	9	6		4		.02U	7	30
1A	5	Columbia River Area D-7	3	0 1U	8	4		3		.02U	7	28
1A	5	Columbia River Area D-12	2	0.1U	8	4		2		02U	6	24
1A	5	Columbia River Area D-4	2	0 1U	6	4		2		.02U	6	26
1A	5	Columbia River D-1	3	0.6	19	5		0.4		0 01		31
1A	2	Ilwaco 8-2	2.7	0 05	5.2	5.88	12200	2.1	155		7.54	22
1A	5	Columbia River Area D-1	3	0.1U	6	4		3		02U	6	24
1A	5	Columbia River Area D-8	2	0.1U	6	4		3		.02U	5	24
1A	5	Columbia River Area D-14	3	1.0U	5	5		3		.02U	5	23
1A	7	Tansy Pt. (Ast.) 4	3	2	6	5	4500	10	87	0.02	10	40
1A	5	Columbia River Area D	3	2	4	4	4700	10	150	0.01	10	22
1A	5	Columbia River Area D-11	3	0.1U	6	6		3		02U	5	33
1A	5	Columbia River Area D-10	3	0 1U	5	6		3		.02U	5	32
1A	5	Columbia River Area D-9	3	0.1U	6	5		2		.02U	5	25
1A	3	Columbia River 3	5	10U			3600		90			
1A	7	Columbia River 5	2	10U			4800		65			
1A	6	Columbia River 4	2	10U	2	2	4100	100U	55	.01U		15
1A	3	Columbia River 2	2	10U			3400		60			
1A	3	Baker Bay (Col.R.) 1		2.2	0.6	2.6	990	2.6	53	0.08U	3.2	15

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 10 of 12)

River Seg.	Map Location	Station Location	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
SILT												
1B	9	Astoria 7	7	5	14	31	11000	10	190	0.09	20	110
1B	9	Astoria 7		0.91	3.6	21	6630	11.2	276	0.08U	5 1	80
1B	12	Tongue Point LI-3+4	12 8	1.2	34	52		26		0.12		157
1B	12	Tongue Point LI-1+2	16	0 62	26	39		13.1		0.11		133
1B	11	Tongue Point TP-8	12.8	0.85	27	37		14		0.11U		128
1B	12	Tongue Point LI-1+2	10 5	0.67	23	29		12		0 08U		104
1B	11	Tongue Point TP-5	10 6	1.04	26	37		14		0 1		122
1B	11	Tongue Point TP-S-4	2.7	0 44	14	9.2		3.1		0.064	10	72
1B	13	Tongue Point TP-12-R1	11.6	0.46	19	17		12		0.05U		83
1B	13	Tongue Point TP-12-R2	9.3	0.48	19	17		9.5		0 05U		81
1B	13	Tongue Point TP-12	6 1	0 29	18.9	21.2	20000	13 2	307	0.05	9 92	91.9
1B	13	Tongue Point TP-11	8.8	0.44	18	18		11		0.05U		87
1B	13	Tongue Point TP-11	6.45	0.21	16.4	19.4	17300	24.4	430	0 04	8.87	87.5
1B	11	Tongue Point TP-S-1/2	2	0.26	13	2.4		6		0.024	9.5	52
1B	12	Tongue Point LI-3+4	8	0.62	20	23		9.9		0.06		93
1B	11	Tongue Point TP-1+2	4.5	0.25	16	14		6.5		0.03U		63
1B	11	Tongue Point TP-S-6	3.2	0.31	33	17		3.7		0.038	27	47
VERY FINE SAND												
1B	11	Cathlamet Bay 6b (.56-.76 m)		1.2	45	22	39000	9	90	0.11	21.5	126
1B	11	Cathlamet Bay 9	8	10			6000		350			
1B	11	Cathlamet Bay 10	3	10U	3	19	4300	100U	160	0.06		40
1B	11	Cathlamet Bay 11	3	10U			4600		140			

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 11 of 12)

River Seg.	Map Location	Station Location	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
VERY FINE SAND (continued)												
1B	11	Tongue Point C-6/7 (2m)	5.43	1 16	25	30.8		18.23		0.14	23	134
1B	11	Tongue Point C-345 (1.5m)	5.18	1.21	22 8	35.1		20.53		0.16	22.4	161.8
1B	11	Tongue Point C-1/2 (1.92m)	1.0U	0.48	12 3	16.2		8 53		0 09		61.1
1B	11	Tongue Point C-345 (2.13m)	1.0U	0.87	15.9	22 2		16.7		0.18		111
1B	11	Tongue Point C-6/7 (2.31m)	1.0U	0 77	15	20.85		15.05		0.09		109.5
1B	11	Tongue Point CB-6a (0.61m)		0.5U	55	28	4100	8	60		27	81
1B	11	Cathlamet Bay 6a (2.1-2.2 m)		0 5U	55	28	41000	8	60		27	81
1B	11	Tongue Point TP-S-8	3 2		13	11		3 7		0.065	9.5	64
1B	11	Tongue Point TP-S-5	2.2	0 28	15	6 5		4.1		0.022	12	42
1B	11	Tongue Point TP-4	7.2	0.4	18	18		7.8		0.04U		70
1B	11	Tongue Point TP-6+7	6	0.52	16	18		7 5		0.06U		67
1B	11	Tongue Point TP-3	5.3	0.24	16	16		5.9		0.04U		57
1B	11	Tongue Point TP-9	6 3	0.36	14	15		6.3		0.03U		64
FINE/MEDIUM SAND												
1B	9	Columbia River I1 (0.63m)	7.5	1 2	8	8	16000	13	200	0.007		57
1B	9	Columbia River 6	4	10U			4300		65			
1B	9	Astoria A-II2	29	1.5	0 2	140		4		0.01U		64
1B	10	Columbia River K1 (0.09m)	7	1.3	12	6.9	16000	12	210	0.009		55
1B	10	Columbia River 7	4	10U			3500		80			
1B	11	Columbia River N1 (1.2m)	5.1	1.3	11	11	16000	9	200	0.011		51
1B	11	Tongue Point TP-S-3	2.9	0.12	18	8		3.7		0.017	13	46
1B	12	Tongue Point TP-10	5.88	0.13	13.6	8.86	14000	9.47	373	0.02	6.11	54.2
1B	11	Tongue Point TP-9	4.27	0.12	12 8	8.86	12700	9.61	319	0.02	6 64	52.7

TABLE B3. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 12 of 12)

River Seg.	Map Location	Station Location	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
FINE/MEDIUM SAND (continued)												
1B	12	Tongue Point TP-10	5.8	0.24	13	7.6		5.3		0.02U		52
1B	11	Columbia River 8	2	10U	2	2	2600	100U	70	0.02		22
SANDS												
1C	11	Columbia River P1 (1.02m)	4.4	1.1	14	11	15000	9	190	0.011		66
1C	14	Columbia River 1	4	1	2	5	5900	10	150		10	25

TABLE B4. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 2 SEDIMENTS
(Page 1 of 2)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)
ALL									
2A	17	CR-VC-11/12 Wauna	43.19	Channel-L	136, 94	5/10/90		1.4	0 052
2A	17	CR-VC-9/10 Wauna	43.19	Channel-C	136, 94	5/10/90	0.26	0.5	0.085
ALL									
2C	21	Mouth of Cowlitz R. (Cow-2A)	67.7	Shoal areas	136	Jan-91		0.8	0.097
2C	21	Old Mouth of Cowlitz (Cow-3), top	67.7	Shoal areas	136	Jan-91		0.6	0.13
2C	21	Old Mouth of Cowlitz (Cow-3), btm.	67.7	Shoal areas	136	Jan-91		0.7	0 13
2C	19	Longview - Weyco	64	Non-depositional	66	Sep-87	0.2		16 66% fines
2C	19	Longview - Weyco	64	Non-depositional	66	Sep-87	0.2		19.99% fines
2C	20	Longview	66.5	Non-depositional	66	Sep-87	0.1		2.77% fines
2C	18	Coal Cr. Slough	57	Non-depositional	66	Sep-87	0.03		25 42% fines
2C	19	Longview - Reynolds	63	Non-depositional	66	Sep-87	0 2		8.28% fines
2C	19	Col. R. Longview S-2	63.5	Sand - edge of ZID	157	Apr-90	0.031		97 1% sand
2C	19	Col. R. Longview S-1	63.5	Sands - outfall	157	Apr-90	0.024		98% sand
2C	19	Col. R. Longview S-3	63.5	Sand - background	157	Apr-90	0.019		98.2% sand

TABLE B4. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 2 SEDIMENTS
(Page 2 of 2)

River Seg.	Map Location	Station Location	Grain Size Class	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
ALL													
2A	17	CR-VC-11/12 Wauna	SILT	2.9		7.7	23 4		2.5		0.02	8	42.5
2A	17	CR-VC-9/10 Wauna	VFS	1.5		7	14.8		2.64		0 03	7	33.7
ALL													
2C	21	Mouth of Cowlitz R. (Cow-2A)	VFS	1	ND	5	14		ND		ND	5	18
2C	21	Old Mouth of Cowlitz (Cow-3), top	FS	1	ND	6	14		ND		ND	5	20
2C	21	Old Mouth of Cowlitz (Cow-3), btm.	FS	1	ND	6	18		ND		ND	4	20
2C	19	Longview - Weyco	SAND	1.1	0.5U	7	16	[illegible]000	10U	130	0.02U	5	28
2C	19	Longview - Weyco	SAND	1	0.5U	8	17	16000	10U	130	0 02	7	31
2C	20	Longview	SAND	0.8	0.5U	8	14	14000	10U	110	0.02U	7	27
2C	18	Coal Cr. Slough	SAND	1.3	0.5U	9	15	14000	10U	180	0 03	8	38
2C	19	Longview - Reynolds	SAND	1.1	0.5U	11	19	19000	10U	170	0.09	9	39
2C	19	Col R. Longview S-2	SAND	1.2	2U	7	11		2 3		0.1U	7	26
2C	19	Col. R. Longview S-1	SAND	0.7	2U	7	10		1.4		0.1U	8	25
2C	19	Col. R. Longview S-3	SAND	.5U	2U	6	15		1		0.1U	8	25

TABLE B5. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 3 SEDIMENTS
(Page 1 of 2)

River Seg	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)	Grain Size (median mm)
3A, ALL									
3A	22	Kalama	74.5	Non-depositional	66	Sep-87	0 2		1.27% fines
3A	23	St. Helens SH-VC-6	86.5	Channel RM2	136	4/13/89		0.7	0.35
3A	23	St. Helens SH-VC-5	86.5	Channel RM 2	136	4/13/89		0.8	0 36

TABLE B5. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 3 SEDIMENTS
(Page 2 of 2)

River Seg.	Map Location	Station Location	Grain Size Class	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
3A, ALL													
3A	22	Kalama	SAND	2.4	0.5U	11	8	13000	10U	230	0.06	9	59
3A	23	St. Helens SH-VC-6	MS	2.8	0.21	9.1	6.3		4.2		0.02	9 4	51
3A	23	St. Helens SH-VC-5	MS	2.6	0.16	7.2	6		3.9		0.02	7.7	48

TABLE B6. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 1 of 2)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	TOC (ppt)	TVS (%)
4A, ALL								
4A	24	Vancouver	102	Non-depositional	66	Sep-87	0.3	
4A	24	Oregon slough OS-1/2	102.2	Channel	136	9/7/88	0 54	2.9
4A	24	Oregon slough OS-4/6	102.2	Channel	136	9/7/88	0 371	1.7
4A	24	Col R. 1 mi. above Will. confl. 38127	102.5		145	Sep-84		
4A	24	Col. R. 1 mi. above Will. confl. 38128	102 5		145	Sep-84		
4A	25	Vancouver	105	Non-depositional	66	Sep-87	0.7	
4A	26	Hassalo Rock 4B	117	Center	160	Sep-89		
4A	27	Camas Slough	119	Non-depositional	66	Sep-87	2.8	
4A	27	Camas Slough	119	Non-depositional	66	Sep-87	1.6	
4A	27	Camas Outfall - below 3A	120	WA side	160	Sep-89		
4A	28	Parkers Landing 1A	121	WA side	160	Sep-89		
4A	28	Parkers Landing 1C	121	OR side	160	Sep-89		
4A, MISC.								
4A	25	Port of Vanc after clean-up Zone A	105	Grid - 4 stations	15	Aug-90		
4A	25	Port of Vanc. after clean-up Zone B	105	Grid - 30 stations	15	Aug-90		
4A	25	Port of Vancouver - Background	105	1 station	15	Aug-90		
4B, ALL								
4B	29	Reed Is.	124	Non-depositional	66	Sep-87	0 3	
4B	30	Warrendale	141		149	Mar-83	20	
4B	31	Col. R. - Bonneville	146	Powerhouse	46	Aug-80		
4B	31	Col R. - Bonneville	146	Powerhouse	46	Aug-80		

TABLE B6. METAL CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 2 of 2)

River Seg.	Map Location	Station Location	Grain Size (median mm)	Grain Size Class	As (ppm)	Cd (ppm)	Cr (ppm)	Cu (ppm)	Fe (ppm)	Pb (ppm)	Mn (ppm)	Hg (ppm)	Ni (ppm)	Zn (ppm)
4A, ALL														
4A	24	Vancouver	11.02% fines	SAND	3.4	0.5U	16	18	17000	10U	290	0.03	11	71
4A	24	Oregon slough OS-1/2	0.08	VFS	4.34	1.2	22	25.35		13.6		0.047	12.4	132 7
4A	24	Oregon slough OS-4/6	0.225	CS	3.21	0.435	16	16.13		6.01		0.023		1.05
4A	24	Col. R. 1 mi. above Will. confl. 38127		??	3.6	0.79	14.7	21.7		19.4		0.1	13.2	140
4A	24	Col. R. 1 mi above Will. confl. 38128		??	4.5	0.83	15.1	24.8		17.4		0 1	14.6	151
4A	25	Vancouver	7.56% fines	SAND	3.8	0.5U	13	54	16000	140	280	0.03	11	95
4A	26	Hassalo Rock 4B		SILT-VFS	ND	0 6	9.5	7.1		8 7	168	0.044	8.6	119
4A	27	Camas Slough	72.46% fines	SILT	7.2	0.8	22	30	24000	22	330	0.1	15	130
4A	27	Camas Slough	64.29% fines	SILT	7.2	0.9	22	31	25000	38	330	0 09	15	130
4A	27	Camas Outfall - below 3A		SILT-VFS	ND	0.14	8.1	2.2		41	131	0.01	7.8	68
4A	28	Parkers Landing 1A		SILT-VFS	ND	0.27	9.7	4.2		7.2	171	0.251	8.4	104
4A	28	Parkers Landing 1C		SILT-VFS	ND	0.23	8	3.4		5.4	144	0.029	7 5	80
4A, MISC.														
4A	25	Port of Vanc. after clean-up Zone A						474-9280						
4A	25	Port of Vanc. after clean-up Zone B						20-19100						
4A	25	Port of Vancouver - Background						25						
4B, ALL														
4B	29	Reed Is.	0.47% fines	SAND	2.1	0.5U	12	6	12000	10U	160	0.02U	9	40
4B	30	Warrendale		??	2	1	7	1	9800	10	240	0		98
4B	31	Col. R. - Bonneville		??	4	4	7	40	12000	10	500	0.07	20	41
4B	31	Col. R. - Bonneville		??	4	1	20	51	32000	10	550	0 08	20	63

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 1 of 16)

River Segment	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PAH, total (ppb)	Acenapth. (ppb)
		SEGMENT 1A						
1A	3	Columbia River B1 (0.81m)	0.5	Channel	136	10/6/86		100U
1A	2	Ilwaco 6-1	1.32	Channel	136	7/10/87		10U
1A	1	Ilwaco 2	2.5	Channel	136	7/31/87		400U
1A	1	Ilwaco 3	2.5	Channel	136	7/31/87		300U
1A	4	Chinook 1A	3	Channel	136	12/30/86		100U
1A	4	Chinook 2A	3	Channel	136	12/30/86		10U*
1A	4	Chinook 2B	3	Channel	136	12/30/86		10U*
1A	4	Chinook 3A/B	3	Channel	136	12/30/86		10U
1A	4	Chinook 4	3	Channel	136	12/30/86		10U
1A	4	Chinook 5	3	Channel	136	12/30/86	340	10U
1A	4	Chinook 7	3	Channel	136	12/30/86		10U
1A	4	Chinook 10	3	Channel	136	12/30/86		10U
1A	4	Chinook 11	3	Channel	136	12/30/86		10U
1A	4	Chinook Composite 2A-3A/B	3	Channel	136	12/30/86		100U
1A	4	Chinook Composite 4-5-6	3	Channel	136	12/30/86		100U
1A	4	Chinook Composite 7-8	3	Channel	136	12/30/86		100U
1A	4	Chinook 2	3	Channel	136	7/10/87		10.0U
1A	4	Chinook 3	3	Channel	136	7/10/87		10.0U
1A	4	Chinook 4A	3	Channel	136	7/10/87		10.0U
1A	4	Chinook 7	3	Channel	136	7/10/87		10 0U
1A	4	Chinook 10	3	Channel	136	7/10/87	552	10.0U
1A	1	Ilwaco 1	3.1	Channel	136	7/31/87		30U
1A	3	Columbia River 3	3.2	Channel	41, 136	8/3/82		
1A	5	Columbia River Area D-12	4	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-13	4.3	Reference	136	3/13/91	20U	20 0U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 2 of 16)

River Segment	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PAH, total (ppb)	Acenapth. (ppb)
1A	5	Columbia River Area D-14	4.5	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-7	5 2	Reference	136	3/13/91	20U	20 0U
1A	5	Columbia River Area D-10	5.4	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-8	5 5	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-4	5 6	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-1	5.7	Reference	136	3/13/91	20U	20 0U
1A	5	Columbia River Area D-11	5.8	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-5	5.9	Reference	136	3/13/91	20U	20 0U
1A	5	Columbia River Area D-9	5 9	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-2	6	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-6	6.2	Reference	136	3/13/91	20U	20.0U
1A	5	Columbia River Area D-3	6.4	Reference	136	3/13/91	20U	20.0U
1A	7	Columbia River F1 (1.8m)	10.5	Channel	136	10/6/86		100U
1A	7	Columbia River F2 (1.8m)	10.5	Channel	136	10/6/86		100U
1A	7	Columbia River F3 (5.28m)	10 5	Channel	136	10/6/86		100U
		SEGMENT 1B						
1B	9	Columbia River I1 (0.63m)	13	Channel	136	10/6/86		100U
1B	9	Columbia River I2 (1.53m)	13	Channel	136	10/6/86		100U
1B	10	Columbia River K2 (4.35m)	15	Channel	136	10/6/86		100U
1B	10	Cathlamet Bay 6b (.56-.76 m)	18	Reference	44, 136	9/27/84		7U
1B	11	Tongue Point C-6/7 (2m)	18	Bay/Harbor	161, 136	8/23/88	1059	
1B	11	Tongue Point C-345 (1.5m)	18	Bay/Harbor	161, 136	8/23/88	1022	
1B	11	Tongue Point C-1/2 (1.92m)	18	Bay/Harbor	161, 136	6/3/87	1000U	
1B	11	Tongue Point C-345 (2.13m)	18	Bay/Harbor	161, 136	6/3/87	1000U	
1B	11	Tongue Point C-6/7 (2.31m)	18	Bay/Harbor	161, 136	6/3/87	1000U	
1B	11	Tongue Point CB-6b (0 18m)	18	Bay/Harbor	136	8/1/84	1510	

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 3 of 16)

River Segment	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PAH, total (ppb)	Acenapth. (ppb)
1B	11	Tongue Point TP-1+2	18	Bay/Harbor	136	12/18/89	300U	75U
1B	11	Tongue Point TP-3	18	Bay/Harbor	136	12/18/89	300U	75U
1B	11	Tongue Point TP-4	18	Bay/Harbor	136	12/18/89	300U	75U
1B	11	Tongue Point TP-5	18	Bay/Harbor	136	12/18/89	300U	75U
1B	11	Tongue Point TP-6+7	18	Bay/Harbor	136	12/18/89	300U	75U
1B	11	Tongue Point TP-8	18	Bay/Harbor	136	12/18/89	300U	75U
1B	11	Tongue Point TP-9	18	Bay/Harbor	136	12/18/89	300U	75U
1B	12	Tongue Point TP-10	18	Bay/Harbor	136	12/18/89	300U	75U
1B	13	Tongue Point TP-11	18	Bay/Harbor	136	12/18/89	300U	75U
1B	13	Tongue Point TP-12-R1	18	Bay/Harbor	136	12/18/89	300U	75U*
1B	13	Tongue Point TP-12-R2	18	Bay/Harbor	136	12/18/89	300U	75U*
1B	12	Tongue Point LI-1+2	18	Bay/Harbor	136	12/18/89	300U	75U
1B	12	Tongue Point LI-3+4	18	Bay/Harbor	136	12/18/89	300U	150U
1B	12	Tongue Point LI-1+2	18	Bay/Harbor	136	7/25/89	130U	30U
1B	11	Tongue Point TP-S-1/2	18	Bay/Harbor	136	8/14/90	51.59	1U
1B	11	Tongue Point TP-S-2	18	Bay/Harbor	136	8/14/90	51.59	
1B	11	Tongue Point TP-S-3	18	Bay/Harbor	136	8/14/90	14	1U
1B	11	Tongue Point TP-S-4	18	Bay/Harbor	136	8/14/90	378.6	2
1B	11	Tongue Point TP-S-5	18	Bay/Harbor	136	8/14/90	95.8	1U
1B	11	Tongue Point TP-S-6	18	Bay/Harbor	136	8/14/90	235.6	2
1B	11	Tongue Point TP-S-8	18	Bay/Harbor	136	8/14/90	416.75	7
1B	12	Tongue Point LI-3+4	18	Bay/Harbor	136	7/25/89	130U	30U
1B	12	Tongue Point F B-2	18	Reference	136	7/10/89		30U
1B	12	Tongue Point F B-6	18	Reference	136	7/10/89		30U
1B	12	Tongue Point F C-5	18	Reference	136	7/10/89		30U
1B	12	Tongue Point F D-4	18	Reference	136	7/10/89		30U
1B	12	Tongue Point F E-3	18	Reference	136	7/10/89		30U
1B	12	Tongue Point F F-2	18	Reference	136	7/10/89		30U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 4 of 16)

River Segment	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PAH, total (ppb)	Acenapth. (ppb)
1B	12	Tongue Point F F-6	18	Reference	136	7/10/89		30U
1B	12	Tongue Point LI-SF-A4	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-B2	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-B6	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-C3	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-C5	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-D1	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-D4	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-D7	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-E3	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-E5	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-F2	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-F6	18	Bay/Harbor	136	3/1/90		50U
1B	12	Tongue Point LI-SF-G4	18	Bay/Harbor	136	3/1/90		50U
		SEGMENT 1C						
1C	11	Columbia River P1 (1.02m)	18.5	Channel	136	10/6/86		100U
1C	11	Columbia River P2 (1.92m)	18 5	Channel	136	10/6/86		100U
1C	11	Columbia River P3 (5.1m)	18.5	Channel	136	10/6/86		100U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 5 of 16)

River Segment	Map Location	Station Location	Acenapthy. (ppb)	Anthracene (ppb)	Benz(a)anthr (ppb)	Benz(b)fl (ppb)	Benz(k)fl (ppb)	Benz(g,h,i)pery (ppb)
		SEGMENT 1A						
1A	3	Columbia River B1 (0.81m)	100U	100U	100U	100U	100U	100U
1A	2	Ilwaco 6-1	10U	10U		10U	10U	10U
1A	1	Ilwaco 2	600U	1600U	2800U	6700U**	6700U**	10100U
1A	1	Ilwaco 3	500U	1200U	2100U	5100U**	5100U**	7700U
1A	4	Chinook 1A						
1A	4	Chinook 2A	10U*	10U*	10U*	10U*	10U*	10U*
1A	4	Chinook 2B	10U*	10U*	10U*	10U*	10U*	10U*
1A	4	Chinook 3A/B	10U	10U	10U	10U	10U	10U
1A	4	Chinook 4	10U	10U	10U	10U	10U	10U
1A	4	Chinook 5	10U	10U	10U	10U	10U	10U
1A	4	Chinook 7	10U	10U	10U	10U	10U	10U
1A	4	Chinook 10	10U	10U	10U	10U	10U	10U
1A	4	Chinook 11	10U	10U	10U	10U	10U	10U
1A	4	Chinook Composite 2A-3A/B	100U	100U	100U	100U	100U	100U
1A	4	Chinook Composite 4-5-6	100U	100U	100U	100U	100U	100U
1A	4	Chinook Composite 7-8	100U	100U	100U	100U	100U	100U
1A	4	Chinook 2	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U
1A	4	Chinook 3	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U
1A	4	Chinook 4A	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U
1A	4	Chinook 7	10.0U	10.0U	10 0U	10 0U	10.0U	10.0U
1A	4	Chinook 10	10.0U	10.0U	10.0U	10.0U	10 0U	10.0U
1A	1	Ilwaco 1	50U	1200U	2100U	5100U**	5100U**	7700U
1A	3	Columbia River 3						
1A	5	Columbia River Area D-12	20 0U	20.0U	20 0U	40 0U**	40.0U**	20.0U
1A	5	Columbia River Area D-13	20.0U	20.0U	20.0U	40 0U**	40.0U**	20 0U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 6 of 16)

River Segment	Map Location	Station Location	Acenapthy. (ppb)	Anthracene (ppb)	Benz(a)anthr (ppb)	Benz(b)fl (ppb)	Benz(k)fl (ppb)	Benz(g,h,i)pery (ppb)
1A	5	Columbia River Area D-14	20.0U	20.0U	20.0U	40.0U**	40.0U**	20 0U
1A	5	Columbia River Area D-7	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-10	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-8	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-4	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-1	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-11	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-5	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-9	20.0U	20.0U	20.0U	40.0U**	40 0U**	20.0U
1A	5	Columbia River Area D-2	20.0U	20.0U	20.0U	40 0U**	40 0U**	20.0U
1A	5	Columbia River Area D-6	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	5	Columbia River Area D-3	20.0U	20.0U	20.0U	40.0U**	40.0U**	20.0U
1A	7	Columbia River F1 (1.8m)	100U	100U	100U	100U	100U	100U
1A	7	Columbia River F2 (1.8m)	100U	100U	100U	100U	100U	100U
1A	7	Columbia River F3 (5.28m)	100U	100U	100U	100U	100U	100U
		SEGMENT 1B						
1B	9	Columbia River I1 (0.63m)	100U	100U	100U	100U	100U	100U
1B	9	Columbia River I2 (1.53m)	100U	100U	100U	100U	100U	100U
1B	10	Columbia River K2 (4.35m)	100U	100U	100U	100U	100U	100U
1B	10	Cathlamet Bay 6b (.56-.76 m)	6U	20U	159	127	134	173
1B	11	Tongue Point C-6/7 (2m)						
1B	11	Tongue Point C-345 (1.5m)						
1B	11	Tongue Point C-1/2 (1.92m)						
1B	11	Tongue Point C-345 (2.13m)						
1B	11	Tongue Point C-6/7 (2.31m)						
1B	11	Tongue Point CB-6b (0.18m)						

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 7 of 16)

River Segment	Map Location	Station Location	Acenapthy. (ppb)	Anthracene (ppb)	Benz(a)anthr (ppb)	Benz(b)fl (ppb)	Benz(k)fl (ppb)	Benz(g,h,i)pery (ppb)
1B	11	Tongue Point TP-1+2	75U	75U	75U	100U**	100U**	300U
1B	11	Tongue Point TP-3	75U	75U	75U	100U**	100U**	300U
1B	11	Tongue Point TP-4	75U	75U	75U	100U**	100U**	300U
1B	11	Tongue Point TP-5	75U	75U	120U	100U**	100U**	300U
1B	11	Tongue Point TP-6+7	75U	75U	75U	100U**	100U**	300U
1B	11	Tongue Point TP-8	75U	75U	75U	100U**	100U**	300U
1B	11	Tongue Point TP-9	75U	75U	75U	100U**	100U**	300U
1B	12	Tongue Point TP-10	75U	75U	75U	100U**	100U**	300U
1B	13	Tongue Point TP-11	75U	75U	75U	100U**	100U**	300U
1B	13	Tongue Point TP-12-R1	75U*	75U*	75U*	100U**/*	100U**/*	300U*
1B	13	Tongue Point TP-12-R2	75U*	75U*	75U*	100U**/*	100U**/*	300U*
1B	12	Tongue Point LI-1+2	75U	75U	75U	100U**	100U**	300U
1B	12	Tongue Point LI-3+4	150U	150U	220U	200U**	200U**	600U
1B	12	Tongue Point LI-1+2	30U	30U	30U	50U**	50U**	130U
1B	11	Tongue Point TP-S-1/2		1	6	10**	10**	5
1B	11	Tongue Point TP-S-2						
1B	11	Tongue Point TP-S-3		1U	2	2**	2**	2
1B	11	Tongue Point TP-S-4	2	3	29	68**	68**	41
1B	11	Tongue Point TP-S-5		1	6	14**	14**	14
1B	11	Tongue Point TP-S-6	2	2	26	44**	44**	20
1B	11	Tongue Point TP-S-8	2	5	29	63**	63**	45
1B	12	Tongue Point LI-3+4	30U	30U	30U	50U**	50U**	130U
1B	12	Tongue Point F B-2	30U	30U	30U	50U**	50U**	130U
1B	12	Tongue Point F B-6	30U	30U	30U	50U**	50U**	130U
1B	12	Tongue Point F C-5	30U	30U	30U	50U**	50U**	130U
1B	12	Tongue Point F D-4	30U	30U	30U	50U**	50U**	130U
1B	12	Tongue Point F E-3	30U	30U	30U	50U**	50U**	130U
1B	12	Tongue Point F F-2	30U	30U	30U	50U**	50U**	130U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 8 of 16)

River Segment	Map Location	Station Location	Acenapthy. (ppb)	Anthracene (ppb)	Benz(a)anthr (ppb)	Benz(b)fl (ppb)	Benz(k)fl (ppb)	Benz(g,h,i)pery (ppb)
1B	12	Tongue Point F F-6	30U	30U	30U	50U**	50U**	130U
1B	12	Tongue Point LI-SF-A4	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-B2	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-B6	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-C3	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-C5	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-D1	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-D4	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-D7	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-E3	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-E5	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-F2	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-F6	50U	50U	50U	150U**	150U**	200U
1B	12	Tongue Point LI-SF-G4	50U	50U	50U	150U**	150U**	200U
		SEGMENT 1C						
1C	11	Columbia River P1 (1.02m)	100U	100U	100U	100U	100U	100U
1C	11	Columbia River P2 (1.92m)	100U	100U	100U	100U	100U	100U
1C	11	Columbia River P3 (5.1m)	100U	100U	100U	100U	100U	100U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 9 of 16)

River Segment	Map Location	Station Location	Benz(a)pyr (ppb)	Chrysene (ppb)	Dibenz(a,h) anthr (ppb)	Fluoranth (ppb)	Fluorene (ppb)	Indeno-(1,2,3-cd)pyr (ppb)	Naphth (ppb)
		SEGMENT 1A							
1A	3	Columbia River B1 (0.81m)	100U	100U	100U	100U	100U	100U	100U
1A	2	Ilwaco 6-1	10U	10U	10U	10U	10U		10U
1A	1	Ilwaco 2	6700U	3000U	9500U	2400U	600U	9500U	600
1A	1	Ilwaco 3	5100U	2300U	7200U	1800U	500U	7200U	400
1A	4	Chinook 1A							
1A	4	Chinook 2A	10U*	10U*	10U*	10U*	10U*	10U*	10U*
1A	4	Chinook 2B	10U*	10U*	10U*	10U*	10U*	10U*	10U*
1A	4	Chinook 3A/B	10U	10U	10U	10U	10U		10U
1A	4	Chinook 4	10U	10U	10U	10U	10U	10U	10U
1A	4	Chinook 5	10U	10U	10U	10U	10U		10U
1A	4	Chinook 7	10U	10U	10U	10U	10U		10U
1A	4	Chinook 10	10U	10U	10U	10U	223		10U
1A	4	Chinook 11	10U	10U	10U	10U	140		10U
1A	4	Chinook Composite 2A-3A/B	100U	100U	100U	100U	100U	100U	100U
1A	4	Chinook Composite 4-5-6	100U	100U	100U	100U	100U	100U	100U
1A	4	Chinook Composite 7-8	100U	100U	100U	100U	100U	100U	100U
1A	4	Chinook 2	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10 0U
1A	4	Chinook 3	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U
1A	4	Chinook 4A	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U
1A	4	Chinook 7	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U	10.0U
1A	4	Chinook 10	10.0U	10.0U	10.0U	223	10.0U	10.0U	10.0U
1A	1	Ilwaco 1	5100U	2300U	7200U	1800U	500U	7200U	300U
1A	3	Columbia River 3							
1A	5	Columbia River Area D-12	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-13	20.0U	20.0U	20 0U	20 0U	20 0U	20.0U	20.0U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 10 of 16)

River Segment	Map Location	Station Location	Benz(a)pyr (ppb)	Chrysene (ppb)	Dibenz(a,h) anthr (ppb)	Fluoranth (ppb)	Fluorene (ppb)	Indeno-(1,2,3-cd)pyr (ppb)	Naphth (ppb)
1A	5	Columbia River Area D-14	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-7	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-10	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-8	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-4	20.0U	20.0U	20 0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-1	20.0U	20.0U	20.0U	20.0U	20 0U	20.0U	20.0U
1A	5	Columbia River Area D-11	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-5	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-9	20.0U	20.0U	20.0U	20.0U	20 0U	20.0U	20.0U
1A	5	Columbia River Area D-2	20 0U	20.0U	20.0U	20.0U	20 0U	20 0U	20 0U
1A	5	Columbia River Area D-6	20.0U	20.0U	20 0U	20.0U	20.0U	20.0U	20.0U
1A	5	Columbia River Area D-3	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U	20.0U
1A	7	Columbia River F1 (1.8m)	100U	100U	100U	100U	100U	100U	100U
1A	7	Columbia River F2 (1.8m)	100U	100U	100U	100U	100U	100U	100U
1A	7	Columbia River F3 (5.28m)	100U	100U	100U	100U	100U	100U	100U
		SEGMENT 1B							
1B	9	Columbia River I1 (0.63m)	100U	100U	100U	100U	100U	100U	100U
1B	9	Columbia River I2 (1.53m)	100U	100U	100U	100U	100U	100U	100U
1B	10	Columbia River K2 (4.35m)	100U	100U	100U	100U	100U	100U	100U
1B	10	Cathlamet Bay 6b (.56-.76 m)	223	76	200U	278	6U	132U	8
1B	11	Tongue Point C-6/7 (2m)							
1B	11	Tongue Point C-345 (1.5m)							
1B	11	Tongue Point C-1/2 (1.92m)							
1B	11	Tongue Point C-345 (2.13m)							
1B	11	Tongue Point C-6/7 (2.31m)							
1B	11	Tongue Point CB-6b (0.18m)							

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 11 of 16)

River Segment	Map Location	Station Location	Benz(a)pyr (ppb)	Chrysene (ppb)	Dibenz(a,h) anthr (ppb)	Fluoranth (ppb)	Fluorene (ppb)	Indeno-(1,2,3-cd)pyr (ppb)	Naphth (ppb)
1B	11	Tongue Point TP-1+2	200U	75U	300U	75U	75U	300U	75U
1B	11	Tongue Point TP-3	200U	75U	300U	75U	75U	300U	75U
1B	11	Tongue Point TP-4	200U	75U	300U	75U	75U	300U	75U
1B	11	Tongue Point TP-5	200U	75U	300U	75U	75U	300U	75U
1B	11	Tongue Point TP-6+7	200U	75U	300U	75U	75U	300U	75U
1B	11	Tongue Point TP-8	200U	160U	300U	75U	75U	300U	75U
1B	11	Tongue Point TP-9	200U	75U	300U	75U	75U	300U	75U
1B	12	Tongue Point TP-10	200U	75U	300U	75U	75U	300U	75U
1B	13	Tongue Point TP-11	200U	75U	300U	75U	75U	300U	75U
1B	13	Tongue Point TP-12-R1	200U*	75U*	300U*	75U*	75U*	300U*	75U*
1B	13	Tongue Point TP-12-R2	200U*	75U*	300U*	75U*	75U*	300U*	75U*
1B	12	Tongue Point LI-1+2	200U	75U	300U	75U	75U	300U	75U
1B	12	Tongue Point LI-3+4	400U	150U	600U	150U	150U	600U	150U
1B	12	Tongue Point LI-1+2	60U	30U	130U	30U	30U	130U	30U
1B	11	Tongue Point TP-S-1/2	4	9	1	5	1	3	3U
1B	11	Tongue Point TP-S-2							
1B	11	Tongue Point TP-S-3	1	2		2	1U	1	3U
1B	11	Tongue Point TP-S-4	32	49	4	48	4	23	3U
1B	11	Tongue Point TP-S-5	8	9	1	13	1U	7	3U
1B	11	Tongue Point TP-S-6	22	30	3	27	3	11	6
1B	11	Tongue Point TP-S-8	32	43	4	56	8	26	7
1B	12	Tongue Point LI-3+4	60U	30U	130U	30U	30U	130U	30U
1B	12	Tongue Point F B-2	60U	30U	130U	30U	30U	130U	30U
1B	12	Tongue Point F B-6	60U	30U	130U	30U	30U	130U	30U
1B	12	Tongue Point F C-5	60U	30U	130U	30U	30U	130U	30U
1B	12	Tongue Point F D-4	60U	30U	130U	30U	30U	130U	30U
1B	12	Tongue Point F E-3	60U	30U	130U	30U	30U	130U	30U
1B	12	Tongue Point F F-2	60U	30U	130U	30U	30U	130U	30U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 12 of 16)

River Segment	Map Location	Station Location	Benz(a)pyr (ppb)	Chrysene (ppb)	Dibenz(a,h) anthr (ppb)	Fluoranth (ppb)	Fluorene (ppb)	Indeno-(1,2,3-cd)pyr (ppb)	Naphth (ppb)
1B	12	Tongue Point F F-6	60U	30U	130U	30U	30U	130U	30U
1B	12	Tongue Point LI-SF-A4	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-B2	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-B6	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-C3	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-C5	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-D1	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-D4	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-D7	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-E3	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-E5	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-F2	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-F6	150U	50U	200U	50U	50U	200U	50U
1B	12	Tongue Point LI-SF-G4	150U	50U	200U	50U	50U	200U	50U
		SEGMENT 1C							
1C	11	Columbia River P1 (1.02m)	100U	100U	100U	100U	100U	100U	100U
1C	11	Columbia River P2 (1.92m)	100U	100U	100U	100U	100U	100U	100U
1C	11	Columbia River P3 (5 1m)	100U	100U	100U	100U	100U	100U	100U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 13 of 16)

River Segment	Map Location	Station Location	Phenanth (ppb)	Pyrene (ppb)	2-Methyl-napth (ppb)	Total LMW PAH (ppb)	Total HMW PAH (ppb)
		SEGMENT 1A					
1A	3	Columbia River B1 (0.81m)	100U	100U			
1A	2	Ilwaco 6-1	10U	10U			
1A	1	Ilwaco 2	1200U			600	
1A	1	Ilwaco 3	900U			400	
1A	4	Chinook 1A					
1A	4	Chinook 2A	10U*	10U*	10U*		
1A	4	Chinook 2B	10U*	10U*	10U*		
1A	4	Chinook 3A/B	10U	10U	10U		
1A	4	Chinook 4	10U	10U	10U		
1A	4	Chinook 5	10U	10U	10U		
1A	4	Chinook 7	10U	10U	10U		
1A	4	Chinook 10	10U	115	10U		338
1A	4	Chinook 11	10U	57U	10U		197
1A	4	Chinook Composite 2A-3A/B	100U	100U	10U		
1A	4	Chinook Composite 4-5-6	100U	100U	10U		
1A	4	Chinook Composite 7-8	100U	100U	10U		
1A	4	Chinook 2	10.0U	10.0U	10.0U		
1A	4	Chinook 3	10.0U	10.0U	10.0U		
1A	4	Chinook 4A	10.0U	10.0U	10.0U		
1A	4	Chinook 7	10.0U	10.0U	10.0U		
1A	4	Chinook 10	10.0U	115	10.0U		
1A	1	Ilwaco 1	900U				
1A	3	Columbia River 3					
1A	5	Columbia River Area D-12	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-13	20.0U	20.0U		20.0U	40.0U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 14 of 16)

River Segment	Map Location	Station Location	Phenanth (ppb)	Pyrene (ppb)	2-Methyl-napth (ppb)	Total LMW PAH (ppb)	Total HMW PAH (ppb)
1A	5	Columbia River Area D-14	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-7	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-10	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-8	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-4	20.0U	20.0U		20.0U	40 0U
1A	5	Columbia River Area D-1	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-11	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-5	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-9	20.0U	20.0U		20.0U	40 0U
1A	5	Columbia River Area D-2	20 0U	20.0U		20.0U	40 0U
1A	5	Columbia River Area D-6	20.0U	20.0U		20.0U	40.0U
1A	5	Columbia River Area D-3	20.0U	20.0U		20 0U	40.0U
1A	7	Columbia River F1 (1.8m)	100U	100U			
1A	7	Columbia River F2 (1.8m)	100U	100U			
1A	7	Columbia River F3 (5.28m)	100U	100U			
		SEGMENT 1B					
1B	9	Columbia River I1 (0.63m)	100U	100U			
1B	9	Columbia River I2 (1.53m)	100U	100U			
1B	10	Columbia River K2 (4.35m)	100U	100U			
1B	10	Cathlamet Bay 6b (.56-.76 m)	72	260			
1B	11	Tongue Point C-6/7 (2m)					
1B	11	Tongue Point C-345 (1.5m)					
1B	11	Tongue Point C-1/2 (1.92m)					
1B	11	Tongue Point C-345 (2.13m)					
1B	11	Tongue Point C-6/7 (2.31m)					
1B	11	Tongue Point CB-6b (0.18m)					

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 15 of 16)

River Segment	Map Location	Station Location	Phenanth (ppb)	Pyrene (ppb)	2-Methyl-napth (ppb)	Total LMW PAH (ppb)	Total HMW PAH (ppb)
1B	11	Tongue Point TP-1+2	75U	75U			300U
1B	11	Tongue Point TP-3	75U	75U			300U
1B	11	Tongue Point TP-4	75U	75U			300U
1B	11	Tongue Point TP-5	75U	75U			300U
1B	11	Tongue Point TP-6+7	75U	75U			300U
1B	11	Tongue Point TP-8	75U	75U			300U
1B	11	Tongue Point TP-9	75U	75U			300U
1B	12	Tongue Point TP-10	75U	75U			300U
1B	13	Tongue Point TP-11	75U	75U			300U
1B	13	Tongue Point TP-12-R1	75U*	75U*			300U
1B	13	Tongue Point TP-12-R2	75U*	75U*			300U
1B	12	Tongue Point LI-1+2	75U	75U			300U
1B	12	Tongue Point LI-3+4	150U	150U			600U
1B	12	Tongue Point LI-1+2	30U	30U		30U	130U
1B	11	Tongue Point TP-S-1/2	4	5		5	47
1B	11	Tongue Point TP-S-2					
1B	11	Tongue Point TP-S-3	1U	2			14
1B	11	Tongue Point TP-S-4	22	53		32	346
1B	11	Tongue Point TP-S-5	4	17		5	90
1B	11	Tongue Point TP-S-6	11	28		24	211
1B	11	Tongue Point TP-S-8	31	59		61	356
1B	12	Tongue Point LI-3+4	15	42		15	42
1B	12	Tongue Point F B-2	30U	30U		30U	130U
1B	12	Tongue Point F B-6	30U	30U		30U	130U
1B	12	Tongue Point F C-5	30U	30U		30U	130U
1B	12	Tongue Point F D-4	30U	30U		30U	130U
1B	12	Tongue Point F E-3	30U	30U		30U	130U
1B	12	Tongue Point F F-2	30U	30U		30U	130U

TABLE B7. PAH CONCENTRATION IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 16 of 16)

River Segment	Map Location	Station Location	Phenanth (ppb)	Pyrene (ppb)	2-Methyl-napth (ppb)	Total LMW PAH (ppb)	Total HMW PAH (ppb)
1B	12	Tongue Point F F-6	30U	30U		30U	130U
1B	12	Tongue Point LI-SF-A4	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-B2	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-B6	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-C3	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-C5	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-D1	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-D4	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-D7	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-E3	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-E5	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-F2	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-F6	50U	50U		50U	200U
1B	12	Tongue Point LI-SF-G4	50U	50U		50U	200U
		SEGMENT 1C					
1C	11	Columbia River P1 (1.02m)	100U	100U			
1C	11	Columbia River P2 (1.92m)	100U	100U			
1C	11	Columbia River P3 (5.1m)	100U	100U			

TABLE B8. PAH CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 2 SEDIMENTS
(Page 1 of 4)

River Segment	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PAH, total (ppb)
		SEGMENT 2A					
2A	17	CR-VC-9/10 Wauna	43.19	Channel-C	136, 94	5/10/90	200.0U
2A	17	CR-VC-11/12 Wauna	43.19	Channel-L	136, 94	5/10/90	200 0U
2A	17	CR-VC-9+10 Wauna	43.19	Channel	136, 94	5/10/90	200 0U
2A	17	CR-VC-11+12 Wauna	43.19	Channel	136, 94	6/11/90	200.0U
		SEGMENT 2C					
2C	18	Coal Cr. Slough	57	Non-depositional	66	Sep-87	220
2C	19	Longview - Reynolds	63	Non-depositional	66	Sep-87	19000
2C	19	Col. R. Longview S-1	63 5	Sands - outfall	157	Apr-90	
2C	19	Col. R. Longview S-2	63.5	Sand - edge of ZID	157	Apr-90	
2C	19	Col. R. Longview S-3	63.5	Sand - background	157	Apr-90	
2C	19	Longview - Weyco	64	Non-depositional	66	Sep-87	690
2C	19	Longview - Weyco	64	Non-depositional	66	Sep-87	400
2C	20	Longview	66.5	Non-depositional	66	Sep-87	270
2C	21	Old Mouth of Cowlitz (Cow-3), top	67.7	Shoal areas	136	Jan-91	ND
2C	21	Old Mouth of Cowlitz (Cow-3), btm	67.7	Shoal areas	136	Jan-91	ND
2C	21	Mouth of Cowlitz R (Cow-2A)	67.7	Shoal areas	136	Jan-91	ND
		SEGMENT 3A					
3A	22	Kalama	74.5	Non-depositional	66	Sep-87	26
3A	23	St. Helens SH-VC-5	86.5	Channel RM 2	136	4/13/89	979
3A	23	St. Helens SH-VC-6	86.5	Channel RM2	136	4/13/89	50

TABLE B8. PAH CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 2 SEDIMENTS
(Page 2 of 4)

River Segment	Map Location	Station Location	Acenapth. (ppb)	Acenapthy. (ppb)	Anthracene (ppb)	Benz(a)anthr (ppb)	Benz(b)fl (ppb)	Benz(k)fl (ppb)
		SEGMENT 2A						
2A	17	CR-VC-9/10 Wauna						
2A	17	CR-VC-11/12 Wauna						
2A	17	CR-VC-9+10 Wauna						
2A	17	CR-VC-11+12 Wauna						
		SEGMENT 2C						
2C	18	Coal Cr. Slough	140U	140U	140U	29J	22BJ	8BJ
2C	19	Longview - Reynolds	94J	530U	460J	2200	1800B	910B
2C	19	Col. R. Longview S-1	ND	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2	ND	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-3	ND	ND	ND	ND	ND	ND
2C	19	Longview - Weyco	6J	140U	6J	66J	41BJ	31BJ
2C	19	Longview - Weyco	5J	130U	4J	26J	14BJ	10BJ
2C	20	Longview	24J	130U	5J	21J	10BJ	8BJ
2C	21	Old Mouth of Cowlitz (Cow-3), top	20U	20U	20U	20U	20U	20U
2C	21	Old Mouth of Cowlitz (Cow-3), btm.	20U	20U	20U	20U	20U	20U
2C	21	Mouth of Cowlitz R. (Cow-2A)	20U	20U	20U	20U	20U	20U
		SEGMENT 3A						
3A	22	Kalama	110U	110U	110U	5J	110BJ	3BJ
3A	23	St. Helens SH-VC-5						
3A	23	St. Helens SH-VC-6						

TABLE B8. PAH CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 2 SEDIMENTS
(Page 3 of 4)

River Segment	Map Location	Station Location	Benz(g,h,i)pery (ppb)	Benz(a)pyr (ppb)	Chrysene (ppb)	Dibenz(a,h) anthr (ppb)	Fluoranth (ppb)	Fluorene (ppb)
		SEGMENT 2A						
2A	17	CR-VC-9/10 Wauna						
2A	17	CR-VC-11/12 Wauna						
2A	17	CR-VC-9+10 Wauna						
2A	17	CR-VC-11+12 Wauna						
		SEGMENT 2C						
2C	18	Coal Cr. Slough	140BU	140BU	37J	140BU	35J	2J
2C	19	Longview - Reynolds	1100B	1500B	4100	400BJ	2100	49J
2C	19	Col. R. Longview S-1	ND	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2	ND	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-3	ND	ND	ND	ND	ND	ND
2C	19	Longview - Weyco	51BJ	66BJ	73J	25BJ	98J	7J
2C	19	Longview - Weyco	17BJ	21BJ	23J	130BU	46J	5J
2C	20	Longview	8BJ	13BJ	15J	7BJ	40J	15J
2C	21	Old Mouth of Cowlitz (Cow-3), top	20U	20U	20U	20U	20U	20U
2C	21	Old Mouth of Cowlitz (Cow-3), btm.	20U	20U	20U	20U	20U	20U
2C	21	Mouth of Cowlitz R. (Cow-2A)	20U	20U	20U	20U	20U	20U
		SEGMENT 3A						
3A	22	Kalama	110BU	110BU	5J	110BU	4J	110U
3A	23	St. Helens SH-VC-5						
3A	23	St. Helens SH-VC-6						

TABLE B8. PAH CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 2 SEDIMENTS
(Page 4 of 4)

River Segment	Map Location	Station Location	Indeno-(1,2,3-cd)pyr (ppb)	Naphth (ppb)	Phenanth (ppb)	Pyrene (ppb)	2-Methyl-napth (ppb)
		SEGMENT 2A					
2A	17	CR-VC-9/10 Wauna					
2A	17	CR-VC-11/12 Wauna					
2A	17	CR-VC-9+10 Wauna					
2A	17	CR-VC-11+12 Wauna					
		SEGMENT 2C					
2C	18	Coal Cr. Slough	11J	140U	17J	51J	4J
2C	19	Longview - Reynolds	920	530U	580	2500	6J
2C	19	Col. R. Longview S-1	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-3	ND	ND	ND	ND	ND
2C	19	Longview - Weyco	42J	140U	41J	130J	3J
2C	19	Longview - Weyco	12J	130U	26J	50J	6J
2C	20	Longview	10J	130U	42J	50J	4J
2C	21	Old Mouth of Cowlitz (Cow-3), top	20U	20U	20U	20U	20U
2C	21	Old Mouth of Cowlitz (Cow-3), btm.	20U	20U	20U	20U	20U
2C	21	Mouth of Cowlitz R. (Cow-2A)	20U	20U	20U	20U	20U
		SEGMENT 3A					
3A	22	Kalama	110U	110J	3J	5J	1J
3A	23	St. Helens SH-VC-5					
3A	23	St. Helens SH-VC-6					

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 1 of 35)

River Segment	Map Location	Station Location	River Mile	Latitude/ Longitude	Area description
1A	4	Chinook 11	3	None	Channel
1A	4	Chinook 1A	3	None	Channel
1A	4	Chinook 10	3	None	Channel
1A	4	Chinook 9	3	None	Channel
1A	4	Chinook 8	3	46o15'58"/123o57'24"	Channel
1A	4	Chinook 8	3	None	Channel
1A	1	Ilwaco 3	2 5	None	Channel
1A	4	Chinook 7	3	None	Channel
1A	1	Ilwaco 1	3.1	None	Channel
1A	1	Baker Bay 6	2	46o17'46"/124o02'29"	Channel
1A	1	Ilwaco 2	2.5	None	Channel
1A	4	Chinook 6B	3	None	Channel
1A	4	Chinook 2B	3	None	Channel
1A	4	Chinook 5	3	None	Channel
1A	4	Chinook 4	3	None	Channel
1A	4	Chinook 6A	3	None	Channel
1A	8	Youngs Bay 14	2.5	46o10'07"/123o50'44"	Reference
1A	5	Columbia River Area D-3	6.4	None	Reference
1A	4	Chinook 2A	3	None	Channel
1A	4	Chinook 3A/B	3	None	Channel
1A	1	Baker Bay 8	2	46o17'50"/124o02'20"	Channel
1A	4	Chinook 1B	3	None	Channel
1A	5	Columbia River Area D-6	6.2	None	Reference
1A	2	Baker Bay 14	2	46o17'05"/124o01'13"	Disposal
1A	5	Columbia River Area D-5	5.9	None	Reference
1A	1	Baker Bay 4	2	46o17'51"/124o02'43"	Reference
1A	1	Baker Bay 12	2	46o18'03"/124o01'37"	Reference

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 2 of 35)

River Segment	Map Location	Station Location	River Mile	Latitude/ Longitude	Area description
1A	5	Columbia River Area D-13	4.3	None	Reference
1A	5	Columbia River Area D-2	6	None	Reference
1A	5	Columbia River Area D-7	5.2	None	Reference
1A	5	Columbia River Area D-12	4	None	Reference
1A	5	Columbia River Area D-4	5.6	None	Reference
1A	5	Columbia River D-1	7	None	Disposal
1A	5	Columbia River Area D-1	5.7	None	Reference
1A	5	Columbia River Area D-8	5.5	None	Reference
1A	5	Columbia River Area D-14	4 5	None	Reference
1A	9	Tansy Pt (Ast.) 4	10	46o11'32"/123o55'17"	Reference
1A	5	Columbia River Area D-11	5.8	None	Reference
1A	5	Columbia River Area D-10	5.4	None	Reference
1A	5	Columbia River Area D-9	5.9	None	Reference
1A	1	Ilwaco	3	None	Non-depositional
1B	12	Tongue Point LI-3+4	18	None	Bay/Harbor
1B	9	Astoria 7	13	46o11'20"/123o51'19"	Bay/Harbor
1B	12	Tongue Point LI-1+2	18	None	Bay/Harbor
1B	11	Tongue Point TP-8	18	None	Bay/Harbor
1B	12	Tongue Point LI-1+2	18	None	Bay/Harbor
1B	11	Tongue Point TP-5	18	None	Bay/Harbor
1B	11	Tongue Point TP-S-4	18	None	Bay/Harbor
1B	13	Tongue Point TP-12-R1	18	None	Bay/Harbor
1B	13	Tongue Point TP-12-R2	18	None	Bay/Harbor
1B	13	Tongue Point TP-12	18	None	Channel
1B	13	Tongue Point TP-11	18	None	Bay/Harbor

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 3 of 35)

River Segment	Map Location	Station Location	River Mile	Latitude/ Longitude	Area description
1B	13	Tongue Point TP-11	18	None	Channel
1B	11	Tongue Point TP-S-1/2	18	None	Bay/Harbor
1B	12	Tongue Point LI-3+4	18	None	Bay/Harbor
1B	11	Tongue Point TP-1+2	18	None	Bay/Harbor
1B	11	Tongue Point TP-S-6	18	None	Bay/Harbor
1B	11	Tongue Point TP-S-8	18	None	Bay/Harbor
1B	11	Tongue Point TP-S-5	18	None	Bay/Harbor
1B	11	Tongue Point TP-4	18	None	Bay/Harbor
1B	11	Tongue Point TP-6+7	18	None	Bay/Harbor
1B	11	Tongue Point TP-S-2	18	None	Bay/Harbor
1B	11	Tongue Point TP-3	18	None	Bay/Harbor
1B	11	Tongue Point TP-9	18	None	Bay/Harbor
1B	9	Astoria A-II2	13 15	None	Channel
1B	11	Tongue Point TP-S-3	18	None	Bay/Harbor
1B	12	Tongue Point TP-10	18	None	Channel
1B	11	Tongue Point TP-9	18	None	Channel
1B	12	Tongue Point TP-10	18	None	Bay/Harbor
1B	11	Cathlamet Bay 6a (0-0.9 m)	18	46o11'13"/123o54'20"	Reference
1B	11	Cathlamet Bay 6b (.56-.76 m)	18	46o11'13"/123o54'20"	Reference
1B	11	Tongue Point C-6/7 (2m)	18	None	Bay/Harbor
1B	11	Tongue Point C-345 (1.5m)	18	None	Bay/Harbor
1B	11	Tongue Point C-1/2 (1.92m)	18	None	Bay/Harbor
1B	11	Tongue Point C-345 (2.13m)	18	None	Bay/Harbor
1B	11	Tongue Point C-6/7 (2.31m)	18	None	Bay/Harbor
1B	11	Tongue Point CB-6a (0.33m)	18	None	Bay/Harbor
1B	11	Tongue Point CB-6b (0.18m)	18	None	Bay/Harbor

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 4 of 35)

River Segment	Map Location	Station Location	River Mile	Latitude/ Longitude	Area description
2A	17	CR-VC-11/12 Wauna	43.19	None	Channel-L
2A	17	CR-VC-9/10 Wauna	43.19	None	Channel-C
2C	21	Mouth of Cowlitz R. (Cow-2A)	67.7	None	Shoal areas
2C	21	Col. R -Old Mouth of Cowlitz (Cow-3), top	67.7	None	Shoal areas
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-3), bottom	67.7	None	Shoal areas
2C	19	Longview - Weyco	64	None	Non-depositional
2C	19	Longview - Weyco	64	None	Non-depositional
2C	20	Longview	66.5	None	Non-depositional
2C	18	Coal Cr. Slough	57	None	Non-depositional
2C	19	Longview - Reynolds	63	None	Non-depositional
2C	19	Col. R. Longview S-2	63.5	None	Sand - edge of ZID
2C	19	Col. R. Longview S-1	63.5	None	Sands - outfall
2C	19	Col. R. Longview S-3	63.5	None	Sand - background
3A	22	Kalama	74.5	None	Non-depositional
4A	24	Vancouver	102	None	Non-depositional
4A	24	Oregon slough OS-1/2	102.2	None	Channel
4A	24	Oregon slough OS-4/6	102.2	None	Channel
4A	24	Col. R. 1 mi. above Will. confl 38127	102.5	45o38'40"/122o44'50"	

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 5 of 35)

River Segment	Map Location	Station Location	River Mile	Latitude/ Longitude	Area description
4A	24	Col. R. 1 mi. above Will. confl. 38128	102.5	45o38'40"/122o44'50"	
4A	25	Vancouver	105	None	Non-depositional
4A	26	Hassalo Rock 4B	117	None	Center
4A	27	Camas Slough	119	None	Non-depositional
4A	27	Camas Slough	119	None	Non-depositional
4A	27	Camas Outfall - below 3A	120	None	WA side
4A	28	Parkers Landing 1A	121	None	WA side
4A	28	Parkers Landing 1C	121	None	OR side
4B	29	Reed Is.	124	None	Non-depositional
4B	31	Col. R - Bonneville	146	45o38'54"/121o56'36"	Powerhouse
4B	31	Col. R. - Bonneville	146	45o38'55"/121o56'32"	Powerhouse

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 6 of 35)

River Segment	Map Location	Station Location	Study reference	Sample Date	Grain Size
1A	4	Chinook 11	136	12/30/86	0 007
1A	4	Chinook 1A	136	12/30/86	0 008
1A	4	Chinook 10	136	12/30/86	0.008
1A	4	Chinook 9	136	12/30/86	0.009
1A	4	Chinook 8	46, 136	8/20/80	0.011
1A	4	Chinook 8	136	12/30/86	0.012
1A	1	Ilwaco 3	136	7/31/87	0 013
1A	4	Chinook 7	136	12/30/86	0 013
1A	1	Ilwaco 1	136	7/31/87	0.016
1A	1	Baker Bay 6	46, 136	7/23/80	0.018
1A	1	Ilwaco 2	136	7/31/87	0.018
1A	4	Chinook 6B	136	12/30/86	0.028
1A	4	Chinook 2B	136	12/30/86	0.029
1A	4	Chinook 5	136	12/30/86	0.032
1A	4	Chinook 4	136	12/30/86	0 033
1A	4	Chinook 6A	136	12/30/86	0.04
1A	8	Youngs Bay 14	46, 136	7/22/80	0.042
1A	5	Columbia River Area D-3	136	3/13/91	0.043
1A	4	Chinook 2A	136	12/30/86	0.05
1A	4	Chinook 3A/B	136	12/30/86	0.07
1A	1	Baker Bay 8	46, 136	7/23/80	0.075
1A	4	Chinook 1B	136	12/30/86	0.15
1A	5	Columbia River Area D-6	136	3/13/91	0.15
1A	2	Baker Bay 14	46, 136	7/23/80	0.175
1A	5	Columbia River Area D-5	136	3/13/91	0 18
1A	1	Baker Bay 4	46, 136	7/23/80	0 2
1A	1	Baker Bay 12	46, 136	7/25/80	0.2

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 7 of 35)

River Segment	Map Location	Station Location	Study reference	Sample Date	Grain Size
1A	5	Columbia River Area D-13	136	3/13/91	0.23
1A	5	Columbia River Area D-2	136	3/13/91	0.26
1A	5	Columbia River Area D-7	136	3/13/91	0 27
1A	5	Columbia River Area D-12	136	3/13/91	0 28
1A	5	Columbia River Area D-4	136	3/13/91	0 3
1A	5	Columbia River D-1	136	12/30/86	0.33
1A	5	Columbia River Area D-1	136	3/13/91	0.35
1A	5	Columbia River Area D-8	136	3/13/91	0.36
1A	5	Columbia River Area D-14	136	3/13/91	0.37
1A	9	Tansy Pt (Ast.) 4	46, 136	8/19/80	0 4
1A	5	Columbia River Area D-11	136	3/13/91	0 43
1A	5	Columbia River Area D-10	136	3/13/91	0.5
1A	5	Columbia River Area D-9	136	3/13/91	0.63
1A	1	Ilwaco	66	Sep-87	
1B	12	Tongue Point LI-3+4	136	12/18/89	0.011
1B	9	Astoria 7	46, 136	12/2/80	0.015
1B	12	Tongue Point LI-1+2	136	7/25/89	0.017
1B	11	Tongue Point TP-8	136	12/18/89	0.024
1B	12	Tongue Point LI-1+2	136	12/18/89	0.024
1B	11	Tongue Point TP-5	136	12/18/89	0.029
1B	11	Tongue Point TP-S-4	136	8/14/90	0 036
1B	13	Tongue Point TP-12-R1	136	12/18/89	0.038
1B	13	Tongue Point TP-12-R2	136	12/18/89	0.038
1B	13	Tongue Point TP-12	136	9/13/88	0.039
1B	13	Tongue Point TP-11	136	12/18/89	0.041

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 8 of 35)

River Segment	Map Location	Station Location	Study reference	Sample Date	Grain Size
1B	13	Tongue Point TP-11	136	9/13/88	0 044
1B	11	Tongue Point TP-S-1/2	136	8/14/90	0.044
1B	12	Tongue Point LI-3+4	136	7/25/89	0.046
1B	11	Tongue Point TP-1+2	136	12/18/89	0.056
1B	11	Tongue Point TP-S-6	136	8/14/90	0.059
1B	11	Tongue Point TP-S-8	136	8/14/90	0.064
1B	11	Tongue Point TP-S-5	136	8/14/90	0.066
1B	11	Tongue Point TP-4	136	12/18/89	0.067
1B	11	Tongue Point TP-6+7	136	12/18/89	0 07
1B	11	Tongue Point TP-S-2	136	8/14/90	0.072
1B	11	Tongue Point TP-3	136	12/18/89	0.1
1B	11	Tongue Point TP-9	136	12/18/89	0.11
1B	9	Astoria A-II2	136	3/11/87	0.14
1B	11	Tongue Point TP-S-3	136	8/14/90	0 14
1B	12	Tongue Point TP-10	136	9/13/88	0.149
1B	11	Tongue Point TP-9	136	9/13/88	0.158
1B	12	Tongue Point TP-10	136	12/18/89	0 17
1B	11	Cathlamet Bay 6a (0-0.9 m)	44, 136	9/27/84	52% < 125 um
1B	11	Cathlamet Bay 6b (.56-.76 m)	44, 136	9/27/84	94% < 125 um
1B	11	Tongue Point C-6/7 (2m)	161, 136	8/23/88	
1B	11	Tongue Point C-345 (1.5m)	161, 136	8/23/88	
1B	11	Tongue Point C-1/2 (1.92m)	161, 136	6/3/87	
1B	11	Tongue Point C-345 (2.13m)	161, 136	6/3/87	
1B	11	Tongue Point C-6/7 (2.31m)	161, 136	6/3/87	
1B	11	Tongue Point CB-6a (0.33m)	136	8/1/84	
1B	11	Tongue Point CB-6b (0.18m)	136	8/1/84	

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 9 of 35)

River Segment	Map Location	Station Location	Study reference	Sample Date	Grain Size
2A	17	CR-VC-11/12 Wauna	136, 94	5/10/90	0 052
2A	17	CR-VC-9/10 Wauna	136, 94	5/10/90	0.085
2C	21	Mouth of Cowlitz R (Cow-2A)	136	Jan-91	0.097
2C	21	Col R.-Old Mouth of Cowlitz (Cow-3), top	136	Jan-91	0 13
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-3), bottom	136	Jan-91	0 13
2C	19	Longview - Weyco	66	Sep-87	16 66% fines (<4-62um)
2C	19	Longview - Weyco	66	Sep-87	19.99% fines (<4-62um)
2C	20	Longview	66	Sep-87	2 77% fines (<4-62um)
2C	18	Coal Cr. Slough	66	Sep-87	25.42% fines (<4-62um)
2C	19	Longview - Reynolds	66	Sep-87	8.28% fines (<4-62um)
2C	19	Col. R. Longview S-2	157	Apr-90	97 1% sand
2C	19	Col. R Longview S-1	157	Apr-90	98% sand
2C	19	Col. R. Longview S-3	157	Apr-90	98.2% sand
3A	22	Kalama	66	Sep-87	1 27% fines (<4-62um)
4A	24	Vancouver	66	Sep-87	11 02% fines (<4-62um)
4A	24	Oregon slough OS-1/2	136	9/7/88	0.08
4A	24	Oregon slough OS-4/6	136	9/7/88	0.225
4A	24	Col R 1 mi above Will. confl 38127	145	Sep-84	

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 10 of 35)

River Segment	Map Location	Station Location	Study reference	Sample Date	Grain Size
4A	24	Col. R. 1 mi. above Will. confl. 38128	145	Sep-84	
4A	25	Vancouver	66	Sep-87	7.56% fines (<4-62um)
4A	26	Hassalo Rock 4B	160, 136	Sep-89	
4A	27	Camas Slough	66	Sep-87	64.29% fines (<4-62um)
4A	27	Camas Slough	66	Sep-87	72.46% fines (<4-62um)
4A	27	Camas Outfall - below 3A	160	Sep-89	
4A	28	Parkers Landing 1A	160	Sep-89	
4A	28	Parkers Landing 1C	160	Sep-89	
4B	29	Reed Is.	66	Sep-87	0 47% fines (<4-62um)
4B	31	Col. R. - Bonneville	46	Aug-80	
4B	31	Col. R. - Bonneville	46	Aug-80	

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 11 of 35)

River Segment	Map Location	Station Location	Grain Size Class	DDD (ppb)	DDE (ppb)	DDT (ppb)	Aldrin (ppb) (ppb)	Chlordane (ppb) (ppb)
1A	4	Chinook 11		10U	10U	10U	10U	80U
1A	4	Chinook 1A		10U	10U	10U	10U	80U
1A	4	Chinook 10		10U	10U	10U	10U	80U
1A	4	Chinook 9		10U	10U	10U	10U	80U
1A	4	Chinook 8		5.9	5.6	.1U	.1U	4
1A	4	Chinook 8		10U	10U	10U	10U	80U
1A	1	Ilwaco 3		2.0U	2 0U	2.0U	1.0U	4.0U
1A	4	Chinook 7		10U	10U	10U	10U	80U
1A	1	Ilwaco 1		2 0U	2.0U	2 0U	1.0U	4 0U
1A	1	Baker Bay 6		0 3	2.3	0.1		2
1A	1	Ilwaco 2		2 0U	2.0U	2.0U	1.0U	1 0U
1A	4	Chinook 6B		10U	10U	10U	10U	80U
1A	4	Chinook 2B		10U	10U	10U	10U	80U
1A	4	Chinook 5		10U	10U	10U	10U	80U
1A	4	Chinook 4		10U	10U	10U	10U	80U
1A	4	Chinook 6A		10U	10U	10U	10U	80U
1A	8	Youngs Bay 14		0 1U	0 1U	0.1U	0.1U	1 0U
1A	5	Columbia River Area D-3		1 0U	1.0U	1.0U	1.0U	10U
1A	4	Chinook 2A		10U	10U	10U	10U	80U
1A	4	Chinook 3A/B		10U	10U	10U	10U	80U
1A	1	Baker Bay 8		0.4	3.5	0.1	1.5	2
1A	4	Chinook 1B		10U	10U	10U	10U	80U
1A	5	Columbia River Area D-6		1.0U	1.0U	1.0U	1.0U	10U
1A	2	Baker Bay 14		0 1U	0.1U	0.1U	0.1U	1U
1A	5	Columbia River Area D-5		1.0U	1 0U	1.0U	1.0U	10U
1A	1	Baker Bay 4		0 6	0 1U	0 1U	0.1U	1U
1A	1	Baker Bay 12		0 2	0.1	0 1	0 1U	1U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 12 of 35)

River Segment	Map Location	Station Location	Grain Size Class	DDD (ppb)	DDE (ppb)	DDT (ppb)	Aldrin (ppb) (ppb)	Chlordane (ppb) (ppb)
1A	5	Columbia River Area D-13		1.0U	1.0U	1.0U	1.0U	10U
1A	5	Columbia River Area D-2		1.0U	1.0U	1.0U	1.0U	10U
1A	5	Columbia River Area D-7		1.0U	1.0U	1.0U	1.0U	10U
1A	5	Columbia River Area D-12		1.0U	1.0U	1.0U	1.0U	10U
1A	5	Columbia River Area D-4		1.0U	1.0U	1.0U	1.0U	10U
1A	5	Columbia River D-1		10U	10U	10U	10U	80U
1A	5	Columbia River Area D-1		1.0U	1 0U	1.0U	1.0U	10U
1A	5	Columbia River Area D-8		1 0U	1 0U	1.0U	1 0U	10U
1A	5	Columbia River Area D-14		1.0U	1.0U	1.0U	1.0U	10U
1A	9	Tansy Pt. (Ast.) 4		2.5	0.7	1	0.1U	1.0U
1A	5	Columbia River Area D-11		1.0U	1.0U	1.0U	1.0U	10U
1A	5	Columbia River Area D-10		1.0U	1.0U	1.0U	1.0U	10U
1A	5	Columbia River Area D-9		1.0U	1.0U	1.0U	1.0U	10U
1A	1	Ilwaco						
1B	12	Tongue Point LI-3+4		12.0U	12.0U	12.0U	6.0U	10.0U
1B	9	Astoria 7		0.1U	2.9	0.1U	0.10U	0.1U
1B	12	Tongue Point LI-1+2		4.0U	4.0U	4.0U	2 0U	2.0U
1B	11	Tongue Point TP-8		6.0U	6.0U	6.0U	3.0U	5 0U
1B	12	Tongue Point LI-1+2		6.0U	6.0U	6.0U	3.0U	5.0U
1B	11	Tongue Point TP-5		3	6.0U	6.0U	3.0U	5.0U
1B	11	Tongue Point TP-S-4		3.4U	3.4U	3.4U	3.4U	3.4U
1B	13	Tongue Point TP-12-R1		6.0U	6.0U	6 0U	3 0U	5.0U
1B	13	Tongue Point TP-12-R2		6.0U	6.0U	6.0U	3.0U	5 0U
1B	13	Tongue Point TP-12		5.0U	5.0U	5.0U	5.0U	20U
1B	13	Tongue Point TP-11		6.0U	6.0U	6.0U	3.0U	5.0U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 13 of 35)

River Segment	Map Location	Station Location	Grain Size Class	DDD (ppb)	DDE (ppb)	DDT (ppb)	Aldrin (ppb) (ppb)	Chlordane (ppb) (ppb)
1B	13	Tongue Point TP-11		5.0U	5.0U	5.0U	5 0U	20U
1B	11	Tongue Point TP-S-1/2		2 7U	2.7U	2.7U	2 7U	2.7U
1B	12	Tongue Point LI-3+4		4.0U	4 0U	4.0U	2 0U	2 0U
1B	11	Tongue Point TP-1+2		6 0U	6 0U	6 0U	3.0U	5 0U
1B	11	Tongue Point TP-S-6		2.9U	2.9U	2.9U	2.9U	2.9U
1B	11	Tongue Point TP-S-8		3.3U	3.3U	3.3U	3.3U	3.3U
1B	11	Tongue Point TP-S-5		2.8U	2 8U	2.8U	2 8U	2 8U
1B	11	Tongue Point TP-4		6.0U	6.0U	6.0U	3 0U	5.0U
1B	11	Tongue Point TP-6+7		6 0U	6.0U	6.0U	3.0U	5.0U
1B	11	Tongue Point TP-S-2		2.7U	2.7U	2.7U	2.7U	2 7U
1B	11	Tongue Point TP-3		6 0U	6 0U	6.0U	3.0U	5.0U
1B	11	Tongue Point TP-9		6.0U	6 0U	6 0U	3 0U	5 0U
1B	9	Astoria A-II2		10 0U	10.0U	22.6	10 0U	80.0U
1B	11	Tongue Point TP-S-3		2 9U	2.9U	2.9U	2.9U	2.9U
1B	12	Tongue Point TP-10		5.0U	5.0U	5.0U	5.0U	20U
1B	11	Tongue Point TP-9		5.0U	5.0U	5.0U	5.0U	20U
1B	12	Tongue Point TP-10		6.0U	6 0U	6 0U	3.0U	5.0U
1B	11	Cathlamet Bay 6a (0-0.9 m)		1.3	0.4	0.1U	0.1U	0.1U
1B	11	Cathlamet Bay 6b (.56-.76 m)		8.9	0 9	0.2	0.1U	0 1U
1B	11	Tongue Point C-6/7 (2m)		4 0U	1 9	4.0U	2.0U	20U
1B	11	Tongue Point C-345 (1.5m)		4.0U	12.4	4.0U	2 0U	20U
1B	11	Tongue Point C-1/2 (1.92m)		15.0U	10.0U	15.0U	15.0U	20U
1B	11	Tongue Point C-345 (2.13m)		15.0U	10 0U	15.0U	15.0U	20U
1B	11	Tongue Point C-6/7 (2.31m)		15 0U	10.0U	15.0U	15.0U	20U
1B	11	Tongue Point CB-6a (0.33m)		1.3	0.4	0 1U	0.1U	1.0U
1B	11	Tongue Point CB-6b (0.18m)		8.9	0.9	0.2	0 1U	1.0U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 14 of 35)

River Segment	Map Location	Station Location	Grain Size Class	DDD (ppb)	DDE (ppb)	DDT (ppb)	Aldrin (ppb) (ppb)	Chlordane (ppb) (ppb)
2A	17	CR-VC-11/12 Wauna		6.0U	6.0U	6.0U	3.0U	5.0U
2A	17	CR-VC-9/10 Wauna		6.0U	6.0U	6.0U	3.0U	5.0U
2C	21	Mouth of Cowlitz R. (Cow-2A)		1U	1U	1U	1U	10U
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-3), top		1U	1U	1U	1U	10U
2C	21	Col R -Old Mouth of Cowlitz (Cow-3), bottom		1U	1U	1U	1U	10U
2C	19	Longview - Weyco		ND	ND	ND	ND	ND
2C	19	Longview - Weyco		ND	ND	ND	ND	ND
2C	20	Longview		ND	ND	ND	ND	ND
2C	18	Coal Cr. Slough		ND	ND	ND	ND	ND
2C	19	Longview - Reynolds		ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2		39U	39U	39U	20U	200U
2C	19	Col. R. Longview S-1		39U	39U	39U	19U	190U
2C	19	Col. R. Longview S-3		41U	41U	41U	20U	200U
3A	22	Kalama		ND	ND	ND	ND	ND
4A	24	Vancouver		ND	ND	ND	ND	ND
4A	24	Oregon slough OS-1/2		3.6	2.6	1 0U	0.5U	1.0U
4A	24	Oregon slough OS-4/6		1.6	1.4	1.0U	0.5U	1.0U
4A	24	Col. R. 1 mi. above Will. confl. 38127		38	9	50	1.0U	1.0U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 15 of 35)

River Segment	Map Location	Station Location	Grain Size Class	DDD (ppb)	DDE (ppb)	DDT (ppb)	Aldrin (ppb) (ppb)	Chlordane (ppb) (ppb)
4A	24	Col. R. 1 mi above Will confl. 38128		68	22	103	1 0U	1 0U
4A	25	Vancouver		ND	ND	ND	ND	ND
4A	26	Hassalo Rock 4B		ND	ND	ND	ND	ND
4A	27	Camas Slough		ND	ND	ND	ND	ND
4A	27	Camas Slough		ND	ND	ND	ND	ND
4A	27	Camas Outfall - below 3A		ND	ND	ND	ND	ND
4A	28	Parkers Landing 1A		ND	ND	ND	ND	ND
4A	28	Parkers Landing 1C		ND	ND	ND	ND	ND
4B	29	Reed Is		ND	ND	ND	ND	ND
4B	31	Col R - Bonneville		0.1U	0.1U	0.1U	0.1U	1.0U
4B	31	Col. R. - Bonneville		0.1U	0.1U	0.1U	0.1U	1.0U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 16 of 35)

River Segment	Map Location	Station Location	Dieldrin (ppb)	Endosulf. (ppb)	Endosulf. I (ppb)	Endosulf. II (ppb)	Endosulf. sulfate (ppb)	Endrin (ppb)
1A	4	Chinook 11	10U	10U	10U	10U	10U	10U
1A	4	Chinook 1A	10U	10U	10U	10U	10U	10U
1A	4	Chinook 10	10U	10U	10U	10U	10U	10U
1A	4	Chinook 9	10U	10U	10U	10U	10U	10U
1A	4	Chinook 8	0.4	.1U				.1U
1A	4	Chinook 8	10U	10U	10U	10U	10U	10U
1A	1	Ilwaco 3	2.0U	2.0U				2.0U
1A	4	Chinook 7	10U	10U	10U	10U	10U	10U
1A	1	Ilwaco 1	2.0U	2.0U				2 0U
1A	1	Baker Bay 6	0 1	0 1U				0.1U
1A	1	Ilwaco 2	2.0U	2 0U				2.0U
1A	4	Chinook 6B	10U	10U	10U	10U	10U	10U
1A	4	Chinook 2B	10U	10U	10U	10U	10U	10U
1A	4	Chinook 5	10U	10U	10U	10U	10U	10U
1A	4	Chinook 4	10U	10U	10U	10U	10U	10U
1A	4	Chinook 6A	10U	10U	10U	10U	10U	10U
1A	8	Youngs Bay 14	0 1U	0.1U				0.1U
1A	5	Columbia River Area D-3	1.0U	1 0U				1.0U
1A	4	Chinook 2A	10U	10U	10U	10U	10U	10U
1A	4	Chinook 3A/B	10U	10U	10U	10U	10U	10U
1A	1	Baker Bay 8	0.1	0.1U				0.1U
1A	4	Chinook 1B	10U	10U	10U	10U	10U	10U
1A	5	Columbia River Area D-6	1.0U	1.0U				1.0U
1A	2	Baker Bay 14	0.1U	0.1U				0.1U
1A	5	Columbia River Area D-5	1.0U	1.0U				1.0U
1A	1	Baker Bay 4	0.1U	0.1U				0.1U
1A	1	Baker Bay 12	0 1U	0.1U				0.1U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 17 of 35)

River Segment	Map Location	Station Location	Dieldrin (ppb)	Endosulf. (ppb)	Endosulf. I (ppb)	Endosulf. II (ppb)	Endosulf sulfate (ppb)	Endrin (ppb)
1A	5	Columbia River Area D-13	1 0U	1 0U				1.0U
1A	5	Columbia River Area D-2	1.0U	1.0U				1.0U
1A	5	Columbia River Area D-7	1.0U	1.0U				1.0U
1A	5	Columbia River Area D-12	1 0U	1 0U				1.0U
1A	5	Columbia River Area D-4	1.0U	1 0U				1 0U
1A	5	Columbia River D-1	10U	10U				10U
1A	5	Columbia River Area D-1	1.0U	1.0U				1.0U
1A	5	Columbia River Area D-8	1.0U	1.0U				1.0U
1A	5	Columbia River Area D-14	1.0U	1 0U				1.0U
1A	9	Tansy Pt (Ast.) 4	0.1U					0 1U
1A	5	Columbia River Area D-11	1.0U	1 0U				1 0U
1A	5	Columbia River Area D-10	1.0U	1.0U				1 0U
1A	5	Columbia River Area D-9	1.0U	1.0U				1.0U
1A	1	Ilwaco						
1B	12	Tongue Point LI-3+4	12.0U	6.0U				12.0U
1B	9	Astoria 7	0.1	0 1U				0 1U
1B	12	Tongue Point LI-1+2	4.0U	4 0U				4.0U
1B	11	Tongue Point TP-8	3.0U	3.0U				6.0U
1B	12	Tongue Point LI-1+2	3.0U	3.0U				6 0U
1B	11	Tongue Point TP-5	3.0U	3.0U				6.0U
1B	11	Tongue Point TP-S-4	3.4U	3.4				3.4U
1B	13	Tongue Point TP-12-R1	3.0U	3 0U				6.0U
1B	13	Tongue Point TP-12-R2	3.0U	3.0U				6.0U
1B	13	Tongue Point TP-12	5.0U	5.0U				5.0U
1B	13	Tongue Point TP-11	3.0U	3.0U				6.0U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 18 of 35)

River Segment	Map Location	Station Location	Dieldrin (ppb)	Endosulf. (ppb)	Endosulf. I (ppb)	Endosulf. II (ppb)	Endosulf. sulfate (ppb)	Endrin (ppb)
1B	13	Tongue Point TP-11	5.0U	5.0U				5.0U
1B	11	Tongue Point TP-S-1/2	2 7U	2.7U				2.7U
1B	12	Tongue Point LI-3+4	4.0U	2.0U				4.0U
1B	11	Tongue Point TP-1+2	3 0U	6 0U				6.0U
1B	11	Tongue Point TP-S-6	2.9U	2.9U				2.9U
1B	11	Tongue Point TP-S-8	3.3U	3.3U				3.3U
1B	11	Tongue Point TP-S-5	2.8U	2.8U				2 8U
1B	11	Tongue Point TP-4	3.0U	3.0U				6.0U
1B	11	Tongue Point TP-6+7	3.0U	3.0U				6.0U
1B	11	Tongue Point TP-S-2	2.7U	2.7U				2.7U
1B	11	Tongue Point TP-3	3 0U	3 0U				6.0U
1B	11	Tongue Point TP-9	3.0U	3 0U				6.0U
1B	9	Astoria A-II2	10.0U	7.1				10.0U
1B	11	Tongue Point TP-S-3	2.9U	2.9U				2.9U
1B	12	Tongue Point TP-10	5.0U	5.0U				5.0U
1B	11	Tongue Point TP-9	5.0U	5.0U				5.0U
1B	12	Tongue Point TP-10	3.0U	3.0U				6.0U
1B	11	Cathlamet Bay 6a (0-0.9 m)	0.1U	0.1U				0.1U
1B	11	Cathlamet Bay 6b (.56-.76 m)	0.1U	0 1U				0.1U
1B	11	Tongue Point C-6/7 (2m)	4.0U	6.0U				4.0U
1B	11	Tongue Point C-345 (1.5m)	4.0U	6.0U				4.0U
1B	11	Tongue Point C-1/2 (1.92m)	15.0U	15.0U				5.0U
1B	11	Tongue Point C-345 (2.13m)	15.0U	15.0U				5.0U
1B	11	Tongue Point C-6/7 (2.31m)	15.0U	15.0U				5.0U
1B	11	Tongue Point CB-6a (0.33m)	0.1U	0.1U				0.1U
1B	11	Tongue Point CB-6b (0.18m)	0.1U	0.1U				0.1U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 19 of 35)

River Segment	Map Location	Station Location	Dieldrin (ppb)	Endosulf. (ppb)	Endosulf. I (ppb)	Endosulf. II (ppb)	Endosulf. sulfate (ppb)	Endrin (ppb)
2A	17	CR-VC-11/12 Wauna	6.0U	3.0U				6 0U
2A	17	CR-VC-9/10 Wauna	6.0U	3.0U				6.0U
2C	21	Mouth of Cowlitz R (Cow-2A)	1U		1U	1U	1U	1U
2C	21	Col R -Old Mouth of Cowlitz (Cow-3), top	1U		1U	1U	1U	1U
2C	21	Col R -Old Mouth of Cowlitz (Cow-3), bottom	1U		1U	1U	1U	1U
2C	19	Longview - Weyco	ND			ND	ND	ND
2C	19	Longview - Weyco	ND			ND	ND	ND
2C	20	Longview	ND			ND	ND	ND
2C	18	Coal Cr. Slough	ND			ND	ND	ND
2C	19	Longview - Reynolds	ND			ND	ND	ND
2C	19	Col. R. Longview S-2	39U		20U	39U	39U	39U
2C	19	Col. R. Longview S-1	39U		19U	39U	39U	39U
2C	19	Col R. Longview S-3	41U		20U	41U	41U	41U
3A	22	Kalama	ND			ND	ND	ND
4A	24	Vancouver	ND			ND	ND	ND
4A	24	Oregon slough OS-1/2	1.0U	1.0U				1.0U
4A	24	Oregon slough OS-4/6	1.0U	1 0U				1.0U
4A	24	Col. R 1 mi above Will confl. 38127	1.0U	1 0U				1.0U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 20 of 35)

River Segment	Map Location	Station Location	Dieldrin (ppb)	Endosulf. (ppb)	Endosulf. I (ppb)	Endosulf. II (ppb)	Endosulf. sulfate (ppb)	Endrin (ppb)
4A	24	Col. R. 1 mi. above Will. confl 38128	1.0U	1.0U				1.0U
4A	25	Vancouver	ND			ND	ND	ND
4A	26	Hassalo Rock 4B	ND	ND			ND	ND
4A	27	Camas Slough	ND			ND	ND	ND
4A	27	Camas Slough	ND			ND	ND	ND
4A	27	Camas Outfall - below 3A	ND	ND			ND	ND
4A	28	Parkers Landing 1A	ND	ND			ND	ND
4A	28	Parkers Landing 1C	ND	ND			ND	ND
4B	29	Reed Is.	ND			ND	ND	ND
4B	31	Col. R. - Bonneville	0.1U	0.1U				0.1U
4B	31	Col. R. - Bonneville	0.1U	0.1U				0.1U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 21 of 35)

River Segment	Map Location	Station Location	Endrin aldehyde (ppb)	Hepta-chlor (ppb)	Hepta-chlor epox (ppb)	Methoxy-chlor (ppb)	Mirex (ppb)	B-BHC (ppb)	D-BHC (ppb)
1A	4	Chinook 11	350	10U	10U	10U		10U	10U
1A	4	Chinook 1A	10U	10U	10U	10U		10U	10U
1A	4	Chinook 10	310	10U	10U	10U		10U	10U
1A	4	Chinook 9	280	10U	10U	10U		10U	10U
1A	4	Chinook 8		.1U	1U	.1U	.1U		
1A	4	Chinook 8	300	10U	10U	10U		10U	10U
1A	1	Ilwaco 3		1.0U		2 0U			
1A	4	Chinook 7	190	10U	10U	10U		10U	10U
1A	1	Ilwaco 1		1.0U		2 0U			
1A	1	Baker Bay 6		0.2	0.1U	0.1U	0.1U		
1A	1	Ilwaco 2		1.0U		2			
1A	4	Chinook 6B	7	10U	10U	10U		10U	10U
1A	4	Chinook 2B	10U	10U	10U	10U		10U	10U
1A	4	Chinook 5	60	10U	10U	10U		10U	10U
1A	4	Chinook 4	150	10U	10U	10U		10U	10U
1A	4	Chinook 6A	50	10U	10U	10U		10U	10U
1A	8	Youngs Bay 14		0 1U	0 1U	0.1U	0 1U		
1A	5	Columbia River Area D-3		1.0U		2.0U			
1A	4	Chinook 2A	10U	10U	10U	10U		10U	10U
1A	4	Chinook 3A/B	31	10U	10U	10U		10U	10U
1A	1	Baker Bay 8		0.1U	0 1U	0.1U	0.1U		
1A	4	Chinook 1B	10U	10U	10U	10U		10U	10U
1A	5	Columbia River Area D-6		1 0U		2.0U			
1A	2	Baker Bay 14		0.1U	0.1U	0.1U	0 1U		
1A	5	Columbia River Area D-5		1.0U		2.0U			
1A	1	Baker Bay 4		0.1U	0 1U	0 1U	0.1U		
1A	1	Baker Bay 12		0 1U	0.1U	0.1U	0 1U		

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 22 of 35)

River Segment	Map Location	Station Location	Endrin aldehyde	Hepta-chlor	Hepta-chlor epox.	Methoxy-chlor	Mirex (ppb)	B-BHC (ppb)	D-BHC (ppb)
			(ppb)	(ppb)	(ppb)	(ppb)			
1A	5	Columbia River Area D-13		1.0U		2.0U			
1A	5	Columbia River Area D-2		1.0U		2.0U			
1A	5	Columbia River Area D-7		1 0U		2 0U			
1A	5	Columbia River Area D-12		1.0U		2 0U			
1A	5	Columbia River Area D-4		1.0U		2.0U			
1A	5	Columbia River D-1		10U		10U			
1A	5	Columbia River Area D-1		1.0U		2.0U			
1A	5	Columbia River Area D-8		1 0U		2.0U			
1A	5	Columbia River Area D-14		1 0U		2 0U			
1A	9	Tansy Pt. (Ast) 4		0.1U	0.1U	0.1U			
1A	5	Columbia River Area D-11		1.0U		2 0U			
1A	5	Columbia River Area D-10		1.0U		2.0U			
1A	5	Columbia River Area D-9		1.0U		2 0U			
1A	1	Ilwaco						ND	ND
1B	12	Tongue Point LI-3+4		6.0U		24.0U			
1B	9	Astoria 7		0.1U	0.1U	0 1U	0 1U		
1B	12	Tongue Point LI-1+2		2 0U		8.0U			
1B	11	Tongue Point TP-8		3.0U		12.0U			
1B	12	Tongue Point LI-1+2		3.0U		12.0U			
1B	11	Tongue Point TP-5		3.0U		12.0U			
1B	11	Tongue Point TP-S-4		3.4U		33.8U			
1B	13	Tongue Point TP-12-R1		3.0U		12.0U			
1B	13	Tongue Point TP-12-R2		3.0U		12.0U			
1B	13	Tongue Point TP-12		5.0U		5.0U			
1B	13	Tongue Point TP-11		3.0U		12.0U			

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 23 of 35)

River Segment	Map Location	Station Location	Endrin aldehyde (ppb)	Hepta-chlor (ppb)	Hepta-chlor epox. (ppb)	Methoxy-chlor (ppb)	Mirex (ppb)	B-BHC (ppb)	D-BHC (ppb)
1B	13	Tongue Point TP-11		5.0U		5.0U			
1B	11	Tongue Point TP-S-1/2		2.7U		5.5U			
1B	12	Tongue Point LI-3+4		2.0U		8.0U			
1B	11	Tongue Point TP-1+2		3.0U		12.0U			
1B	11	Tongue Point TP-S-6		2.9U		29.2U			
1B	11	Tongue Point TP-S-8		3.3U		6.5U			
1B	11	Tongue Point TP-S-5		2.8U		5.7U			
1B	11	Tongue Point TP-4		3.0U		12.0U			
1B	11	Tongue Point TP-6+7		3.0U		12.0U			
1B	11	Tongue Point TP-S-2		2.7U		5 5U			
1B	11	Tongue Point TP-3		3.0U		12.0U			
1B	11	Tongue Point TP-9		3.0U		12.0U			
1B	9	Astoria A-II2		10.0U		10.0U			
1B	11	Tongue Point TP-S-3		2.9U		7 8U			
1B	12	Tongue Point TP-10		5.0U		5.0U			
1B	11	Tongue Point TP-9		5.0U		5.0U			
1B	12	Tongue Point TP-10		3.0U		12 0U			
1B	11	Cathlamet Bay 6a (0-0.9 m)		0.1U	0.1U	0.1U	0 1U		
1B	11	Cathlamet Bay 6b (.56-.76 m)		0.1U	0.1U	0.1U	0.1U		
1B	11	Tongue Point C-6/7 (2m)		2.0U		8.0U			
1B	11	Tongue Point C-345 (1.5m)		2 0U		8.0U			
1B	11	Tongue Point C-1/2 (1.92m)		20.0U					
1B	11	Tongue Point C-345 (2.13m)		20.0U					
1B	11	Tongue Point C-6/7 (2.31m)		0.1U					
1B	11	Tongue Point CB-6a (0.33m)		0.1U		0.1U			
1B	11	Tongue Point CB-6b (0.18m)		3.0U		0.1U			

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 24 of 35)

River Segment	Map Location	Station Location	Endrin aldehyde (ppb)	Hepta-chlor (ppb)	Hepta-chlor epox. (ppb)	Methoxy-chlor (ppb)	Mirex (ppb)	B-BHC (ppb)	D-BHC (ppb)
2A	17	CR-VC-11/12 Wauna		3.0U		12.0U			
2A	17	CR-VC-9/10 Wauna		3.0U		12.0U			
2C	21	Mouth of Cowlitz R. (Cow-2A)	1U	1U	1U	2U		3U	1U
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-3), top	1U	1U	1U	2U		3U	1U
2C	21	Col. R -Old Mouth of Cowlitz (Cow-3), bottom	1U	1U	1U	2U		3U	1U
2C	19	Longview - Weyco	ND	ND	ND	ND		ND	ND
2C	19	Longview - Weyco	ND	ND	ND	ND		ND	ND
2C	20	Longview	ND	ND	ND	ND		ND	ND
2C	18	Coal Cr. Slough	ND	ND	ND	ND			
2C	19	Longview - Reynolds	ND	ND	ND	ND		ND	ND
2C	19	Col. R. Longview S-2		20U	20U	200U		20U	20U
2C	19	Col. R. Longview S-1		19U	19U	190U		19U	19U
2C	19	Col. R. Longview S-3		20U	20U	200U		20U	20U
3A	22	Kalama	ND	ND	ND	ND		ND	ND
4A	24	Vancouver	ND	ND	ND	ND		ND	ND
4A	24	Oregon slough OS-1/2		0.5U		2.0U			
4A	24	Oregon slough OS-4/6		0.5U		2 0U			
4A	24	Col. R. 1 mi. above Will. confl. 38127	1 0U	1.0U	1 0U			1.0U	1.0U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 25 of 35)

River Segment	Map Location	Station Location	Endrin aldehyde	Hepta-chlor	Hepta-chlor epox.	Methoxy-chlor	Mirex (ppb)	B-BHC (ppb)	D-BHC (ppb)
			(ppb)	(ppb)	(ppb)	(ppb)			
4A	24	Col. R. 1 mi. above Will. confl. 38128	1.0U	1.0U	1.0U			1 0U	1.0U
4A	25	Vancouver	ND	ND	ND	ND		ND	ND
4A	26	Hassalo Rock 4B	ND	ND	ND	ND		ND	ND
4A	27	Camas Slough	ND	ND	ND	ND		ND	ND
4A	27	Camas Slough	ND	ND	ND	ND		ND	ND
4A	27	Camas Outfall - below 3A	ND	ND	ND	ND		ND	ND
4A	28	Parkers Landing 1A	ND	ND	ND	ND		ND	ND
4A	28	Parkers Landing 1C	ND	ND	ND	ND		ND	ND
4B	29	Reed Is	ND	ND	ND	ND		ND	ND
4B	31	Col. R. - Bonneville		0.1U	0 1U	0 1U	0 1U		
4B	31	Col. R. - Bonneville		0.1U	0.1U	0 1U	0.1U		

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 26 of 35)

River Segment	Map Location	Station Location	A-BHC (ppb)	G-BHC (Lindane) (ppb)	Perthane (ppm)	Silvex (ppm)	Toxa-phene (ppm)	2,4-D (ppb)	2,4,5-T (ppb)	2,4-DP (ppb)
1A	4	Chinook 11	10U	10U			80U			
1A	4	Chinook 1A	10U	10U			80U			
1A	4	Chinook 10	10U	10U			80U			
1A	4	Chinook 9	10U	10U			80U			
1A	4	Chinook 8		0.4	1U	0.1U	1U	0.1U	0 1U	0.1U
1A	4	Chinook 8	10U	10U			80U			
1A	1	Ilwaco 3		1.0U						
1A	4	Chinook 7	10U	10U			80U			
1A	1	Ilwaco 1		1.0U						
1A	1	Baker Bay 6		0.1U	1U	0.1U	1U	0.1U	0.1U	0.1U
1A	1	Ilwaco 2		1.0U						
1A	4	Chinook 6B	10U	10U			80U			
1A	4	Chinook 2B	10U	10U			80U			
1A	4	Chinook 5	10U	10U			80U			
1A	4	Chinook 4	10U	10U			80U			
1A	4	Chinook 6A	10U	10U			80U			
1A	8	Youngs Bay 14		0.1U	1.0U	0.1U	1.0U	0.1U	0 1U	0.1U
1A	5	Columbia River Area D-3		1.0U						
1A	4	Chinook 2A	10U	10U			80U			
1A	4	Chinook 3A/B	10U	10U			80U			
1A	1	Baker Bay 8		0.1U	1U	0.1U	1U	0.1U	0 1U	0.1U
1A	4	Chinook 1B	10U	10U			80U			
1A	5	Columbia River Area D-6		1.0U						
1A	2	Baker Bay 14		0.1U	1U	0.1U	1U	0.1U	0.1U	0.1U
1A	5	Columbia River Area D-5		1.0U						
1A	1	Baker Bay 4		0.1U	1U	0.1U	1U	0.1U	0.1U	0.1U
1A	1	Baker Bay 12		0.1U	1U	0.1U	1U	0.1U	0.1U	0.1U

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 27 of 35)

River Segment	Map Location	Station Location	A-BHC (ppb)	G-BHC (Lindane) (ppb)	Perthane (ppm)	Silvex (ppm)	Toxaphene (ppm)	2,4-D (ppb)	2,4,5-T (ppb)	2,4-DP (ppb)
1A	5	Columbia River Area D-13		1.0U						
1A	5	Columbia River Area D-2		1.0U						
1A	5	Columbia River Area D-7		1.0U						
1A	5	Columbia River Area D-12		1.0U						
1A	5	Columbia River Area D-4		1.0U						
1A	5	Columbia River D-1		10U						
1A	5	Columbia River Area D-1		1.0U						
1A	5	Columbia River Area D-8		1.0U						
1A	5	Columbia River Area D-14		1 0U						
1A	9	Tansy Pt. (Ast.) 4		0.1U		0.1U	1.0U	0.1U	0.1U	
1A	5	Columbia River Area D-11		1 0U						
1A	5	Columbia River Area D-10		1 0U						
1A	5	Columbia River Area D-9		1.0U						
1A	1	Ilwaco	ND	ND			ND			
1B	12	Tongue Point LI-3+4		6.0U						
1B	9	Astoria 7		0 1U	1.0U	0.1U	1.0U	0.1U		0.1U
1B	12	Tongue Point LI-1+2		2.0U						
1B	11	Tongue Point TP-8		3.0U						
1B	12	Tongue Point LI-1+2		3.0U						
1B	11	Tongue Point TP-5		3.0U						
1B	11	Tongue Point TP-S-4		3.4U						
1B	13	Tongue Point TP-12-R1		3.0U						
1B	13	Tongue Point TP-12-R2		3.0U						
1B	13	Tongue Point TP-12		5.0U						
1B	13	Tongue Point TP-11		3 0U						

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 28 of 35)

River Segment	Map Location	Station Location	A-BHC (ppb)	G-BHC (Lindane) (ppb)	Perthane (ppm)	Silvex (ppm)	Toxaphene (ppm)	2,4-D (ppb)	2,4,5-T (ppb)	2,4-DP (ppb)
1B	13	Tongue Point TP-11		5.0U						
1B	11	Tongue Point TP-S-1/2		2.7U						
1B	12	Tongue Point LI-3+4		2.0U						
1B	11	Tongue Point TP-1+2		3.0U						
1B	11	Tongue Point TP-S-6		2 9U						
1B	11	Tongue Point TP-S-8		3.3U						
1B	11	Tongue Point TP-S-5		2.8U						
1B	11	Tongue Point TP-4		3 0U						
1B	11	Tongue Point TP-6+7		3 0U						
1B	11	Tongue Point TP-S-2		2 7U						
1B	11	Tongue Point TP-3		3 0U						
1B	11	Tongue Point TP-9		3 0U						
1B	9	Astoria A-II2		10.0U						
1B	11	Tongue Point TP-S-3		2 9U						
1B	12	Tongue Point TP-10		5.0U						
1B	11	Tongue Point TP-9		5.0U						
1B	12	Tongue Point TP-10		3.0U						
1B	11	Cathlamet Bay 6a (0-0 9 m)		0.1U	1.0U		10U			
1B	11	Cathlamet Bay 6b (.56-.76 m)		0.1U	1.0U		10U			
1B	11	Tongue Point C-6/7 (2m)		2.0U						
1B	11	Tongue Point C-345 (1.5m)		2.0U						
1B	11	Tongue Point C-1/2 (1.92m)		15.0U						
1B	11	Tongue Point C-345 (2.13m)		15.0U						
1B	11	Tongue Point C-6/7 (2.31m)		15.0U						
1B	11	Tongue Point CB-6a (0.33m)		0.1U						
1B	11	Tongue Point CB-6b (0.18m)		0.1U						

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 29 of 35)

River Segment	Map Location	Station Location	A-BHC (ppb)	G-BHC (Lindane) (ppb)	Perthane (ppm)	Silvex (ppm)	Toxa-phene (ppm)	2,4-D (ppb)	2,4,5-T (ppb)	2,4-DP (ppb)
2A	17	CR-VC-11/12 Wauna		3.0U						
2A	17	CR-VC-9/10 Wauna		3.0U						
2C	21	Mouth of Cowlitz R. (Cow-2A)	1U	1U			30U			
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-3), top	1U	1U			30U			
2C	21	Col R -Old Mouth of Cowlitz (Cow-3), bottom	1U	1U			30U			
2C	19	Longview - Weyco	ND	ND			ND			
2C	19	Longview - Weyco	ND	ND			ND			
2C	20	Longview	ND	ND			ND			
2C	18	Coal Cr. Slough								
2C	19	Longview - Reynolds	ND	ND			ND			
2C	19	Col. R. Longview S-2	20U	20U			390U			
2C	19	Col. R. Longview S-1	19U	19U			390U			
2C	19	Col R Longview S-3	20U	20U			410U			
3A	22	Kalama	ND	ND			ND			
4A	24	Vancouver	ND	ND			ND			
4A	24	Oregon slough OS-1/2		0.5U						
4A	24	Oregon slough OS-4/6		0.5U						
4A	24	Col. R 1 mi. above Will. confl. 38127	1.0U	1.0U			30U			

TABLE B10. PESTICIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 30 of 35)

River Segment	Map Location	Station Location	A-BHC (ppb)	G-BHC (Lindane) (ppb)	Perthane (ppm)	Silvex (ppm)	Toxa-phene (ppm)	2,4-D (ppb)	2,4,5-T (ppb)	2,4-DP (ppb)
4A	24	Col. R. 1 mi. above Will. confl. 38128	1.0U	1.0U			30U			
4A	25	Vancouver	ND	ND			ND			
4A	26	Hassalo Rock 4B	ND	ND			ND			
4A	27	Camas Slough	ND	ND			ND			
4A	27	Camas Slough	ND	ND			ND			
4A	27	Camas Outfall - below 3A	ND	ND			ND			
4A	28	Parkers Landing 1A	ND	ND			ND			
4A	28	Parkers Landing 1C	ND	ND			ND			
4B	29	Reed Is	ND	ND			ND			
4B	31	Col. R. - Bonneville		0 1U	0 1U	0.1U	1.0U	0.1U	0 1U	0 1U
4B	31	Col. R. - Bonneville		0.1U	0 1U	0.1U	1.0U	0.1U	0.1U	0.1U

TABLE B10. (Continued
(Page 31 of 35)

River Segment	Map Location	Station Location	Isophor. (ppb)
1A	4	Chinook 11	
1A	4	Chinook 1A	
1A	4	Chinook 10	
1A	4	Chinook 9	
1A	4	Chinook 8	
1A	4	Chinook 8	
1A	1	Ilwaco 3	
1A	4	Chinook 7	
1A	1	Ilwaco 1	
1A	1	Baker Bay 6	
1A	1	Ilwaco 2	
1A	4	Chinook 6B	
1A	4	Chinook 2B	
1A	4	Chinook 5	
1A	4	Chinook 4	
1A	4	Chinook 6A	
1A	8	Youngs Bay 14	
1A	5	Columbia River Area D-3	
1A	4	Chinook 2A	
1A	4	Chinook 3A/B	
1A	1	Baker Bay 8	
1A	4	Chinook 1B	
1A	5	Columbia River Area D-6	
1A	2	Baker Bay 14	
1A	5	Columbia River Area D-5	
1A	1	Baker Bay 4	
1A	1	Baker Bay 12	

TABLE B10. (Continued)
(Page 32 of 35)

River Segment	Map Location	Station Location	Isophor. (ppb)
1A	5	Columbia River Area D-13	
1A	5	Columbia River Area D-2	
1A	5	Columbia River Area D-7	
1A	5	Columbia River Area D-12	
1A	5	Columbia River Area D-4	
1A	5	Columbia River D-1	
1A	5	Columbia River Area D-1	
1A	5	Columbia River Area D-8	
1A	5	Columbia River Area D-14	
1A	9	Tansy Pt. (Ast) 4	
1A	5	Columbia River Area D-11	
1A	5	Columbia River Area D-10	
1A	5	Columbia River Area D-9	
1A	1	Ilwaco	1500U
1B	12	Tongue Point LI-3+4	
1B	9	Astoria 7	
1B	12	Tongue Point LI-1+2	
1B	11	Tongue Point TP-8	
1B	12	Tongue Point LI-1+2	
1B	11	Tongue Point TP-5	
1B	11	Tongue Point TP-S-4	
1B	13	Tongue Point TP-12-R1	
1B	13	Tongue Point TP-12-R2	
1B	13	Tongue Point TP-12	
1B	13	Tongue Point TP-11	

TABLE B10. (Continued)
(Page 33 of 35)

River Segment	Map Location	Station Location	Isophor. (ppb)
1B	13	Tongue Point TP-11	
1B	11	Tongue Point TP-S-1/2	
1B	12	Tongue Point LI-3+4	
1B	11	Tongue Point TP-1+2	
1B	11	Tongue Point TP-S-6	
1B	11	Tongue Point TP-S-8	
1B	11	Tongue Point TP-S-5	
1B	11	Tongue Point TP-4	
1B	11	Tongue Point TP-6+7	
1B	11	Tongue Point TP-S-2	
1B	11	Tongue Point TP-3	
1B	11	Tongue Point TP-9	
1B	9	Astoria A-II2	
1B	11	Tongue Point TP-S-3	
1B	12	Tongue Point TP-10	
1B	11	Tongue Point TP-9	
1B	12	Tongue Point TP-10	
1B	11	Cathlamet Bay 6a (0-0.9 m)	
1B	11	Cathlamet Bay 6b (.56-.76 m)	9U
1B	11	Tongue Point C-6/7 (2m)	
1B	11	Tongue Point C-345 (1.5m)	
1B	11	Tongue Point C-1/2 (1.92m)	
1B	11	Tongue Point C-345 (2.13m)	
1B	11	Tongue Point C-6/7 (2.31m)	
1B	11	Tongue Point CB-6a (0.33m)	
1B	11	Tongue Point CB-6b (0.18m)	

TABLE B10. (Continued)
(Page 34 of 35)

River Segment	Map Location	Station Location	Isophor (ppb)
2A	17	CR-VC-11/12 Wauna	
2A	17	CR-VC-9/10 Wauna	
2C	21	Mouth of Cowlitz R. (Cow-2A)	
2C	21	Col. R.-Old Mouth of Cowlitz (Cow-3), top	
2C	21	Col R -Old Mouth of Cowlitz (Cow-3), bottom	
2C	19	Longview - Weyco	140U
2C	19	Longview - Weyco	130U
2C	20	Longview	130U
2C	18	Coal Cr. Slough	
2C	19	Longview - Reynolds	530U
2C	19	Col. R. Longview S-2	810U
2C	19	Col. R. Longview S-1	810U
2C	19	Col. R. Longview S-3	830U
3A	22	Kalama	110U
4A	24	Vancouver	4J
4A	24	Oregon slough OS-1/2	
4A	24	Oregon slough OS-4/6	
4A	24	Col. R. 1 mi. above Will. confl. 38127	20U

TABLE B10. (Continued)
(Page 35 of 35)

River Segment	Map Location	Station Location	Isophor. (ppb)
4A	24	Col. R. 1 mi. above Will. confl. 38128	20U
4A	25	Vancouver	260U
4A	26	Hassalo Rock 4B	
4A	27	Camas Slough	190U
4A	27	Camas Slough	840U
4A	27	Camas Outfall - below 3A	
4A	28	Parkers Landing 1A	
4A	28	Parkers Landing 1C	
4B	29	Reed Is.	120U
4B	31	Col. R. - Bonneville	
4B	31	Col. R. - Bonneville	

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 1 of 8)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PCB, Tot. (ppb)	PCB-1016 (ppb)
		SEGMENT 1A						
1A	1	Baker Bay 4	2	Reference	46, 136	Jul-80	3	
1A	1	Baker Bay 6	2	Channel	46, 136	Jul-80	10	
1A	1	Baker Bay 8	2	Channel	46, 136	Jul-80	30	
1A	1	Baker Bay 12	2	Reference	46, 136	Jul-80	1U	
1A	2	Baker Bay 14	2	Disposal	46, 136	Jul-80	1U	
1A	1	Ilwaco 2	2.5	Channel	136	Jul-87	10U	
1A	1	Ilwaco 3	2.5	Channel	136	Jul-87	10U	
1A	8	Youngs Bay 14	2 5	Reference	46, 136	Jul-80	1 0U	
1A	4	Chinook 8	3	Channel	46, 136	Aug-80	15	
1A	4	Chinook 1A	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 1B	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 2A	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 2B	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 3A/B	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 4	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 5	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 6A	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 6B	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 7	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 8	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 9	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 10	3	Channel	136	Dec-86	80U	80U
1A	4	Chinook 11	3	Channel	136	Dec-86	80U	80U
1A	1	Ilwaco	3	Non-depositional	66	Sep-87		ND
1A	1	Ilwaco 1	3.1	Channel	136	Jul-87	14	
1A	5	Columbia River Area D-12	4	Reference	136	Mar-91	10U	

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 2 of 8)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PCB, Tot. (ppb)	PCB-1016 (ppb)
1A	5	Columbia River Area D-13	4.3	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-14	4.5	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-7	5.2	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-10	5.4	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-8	5.5	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-4	5.6	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-1	5 7	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-11	5.8	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-5	5 9	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-9	5 9	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-2	6	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-6	6.2	Reference	136	Mar-91	10U	
1A	5	Columbia River Area D-3	6.4	Reference	136	Mar-91	10U	
1A	5	Columbia River D-1	7	Disposal	136	Dec-86	80U	
1A	9	Tansy Pt. (Ast) 4	10	Reference	46, 136	Aug-80	1 0U	
		SEGMENT 1B						
1B	9	Astoria 7	13	Bay/Harbor	46, 136	Dec-80	11	
1B	9	Astoria A-II2	13 15	Channel	136	Mar-87	150U	
1B	11	Cathlamet Bay 6a (0-0.9 m)	18	Reference	44, 136	Sep-84	2	
1B	11	Cathlamet Bay 6a (0.9-3.7 m)	18	Reference	44, 136	Sep-84	1.0U	
1B	11	Cathlamet Bay 6b (.56-.76 m)	18	Reference	44, 136	Sep-84	15	
1B	11	Cathlamet Bay 6b (1.78-1.98 m)	18	Reference	44, 136	Sep-84	1 0U	
1B	11	Cathlamet Bay 6b (2.58-2.76 m)	18	Reference	44, 136	Sep-84	1.0U	
1B	11	Cathlamet Bay 6b (3.1-3.2 m)	18	Reference	44, 136	Sep-84	1.0U	
1B	11	Cathlamet Bay 6b (3.23-3.44 m)	18	Reference	44, 136	Sep-84	1.0U	
1B	11	Cathlamet Bay 6b (3.64-3.82 m)	18	Reference	44, 136	Sep-84	1 0U	

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 3 of 8)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PCB, Tot (ppb)	PCB-1016 (ppb)
1B	11	Cathlamet Bay 6b (4.22-4.42 m)	18	Reference	44, 136	Sep-84	1.0U	
1B	11	Cathlamet Bay 6b (1.17-1.4 m)	18	Reference	44, 136	Sep-84	1.0U	
1B	11	Tongue Point TP-9	18	Channel	136	Sep-88	40.0U	
1B	12	Tongue Point TP-10	18	Channel	136	Sep-88	40.0U	
1B	13	Tongue Point TP-12	18	Channel	136	Sep-88	40.0U	
1B	13	Tongue Point TP-11	18	Channel	136	Sep-88	40.0U	
1B	11	Tongue Point C-6/7 (2m)	18	Bay/Harbor	161, 136	Aug-88	40 0U	
1B	11	Tongue Point C-345 (1.5m)	18	Bay/Harbor	161, 136	Aug-88	40.0U	
1B	11	Tongue Point C-1/2 (1.92m)	18	Bay/Harbor	161, 136	Jun-87	500.0U	
1B	11	Tongue Point C-345 (2 13m)	18	Bay/Harbor	161, 136	Jun-87	500 0U	
1B	11	Tongue Point C-6/7 (2.31m)	18	Bay/Harbor	161, 136	Jun-87	500 0U	
1B	11	Tongue Point CB-6a (0.33m)	18	Bay/Harbor	136	Aug-84	2	
1B	11	Tongue Point CB-6a (0.61m)	18	Bay/Harbor	136	Aug-84	1.0U	
1B	11	Tongue Point CB-6b (0.18m)	18	Bay/Harbor	136	Aug-84	1.0U	
1B	11	Tongue Point TP-1+2	18	Bay/Harbor	136	Dec-89	60.0U	
1B	11	Tongue Point TP-3	18	Bay/Harbor	136	Dec-89	60.0U	
1B	11	Tongue Point TP-4	18	Bay/Harbor	136	Dec-89	60.0U	
1B	11	Tongue Point TP-5	18	Bay/Harbor	136	Dec-89	60 0U	
1B	11	Tongue Point TP-6+7	18	Bay/Harbor	136	Dec-89	60.0U	
1B	11	Tongue Point TP-8	18	Bay/Harbor	136	Dec-89	60.0U	
1B	11	Tongue Point TP-9	18	Bay/Harbor	136	Dec-89	60.0U	
1B	12	Tongue Point TP-10	18	Bay/Harbor	136	Dec-89	60.0U	
1B	13	Tongue Point TP-11	18	Bay/Harbor	136	Dec-89	60 0U	
1B	13	Tongue Point TP-12-R1	18	Bay/Harbor	136	Dec-89	60.0U	
1B	13	Tongue Point TP-12-R2	18	Bay/Harbor	136	Dec-89	60.0U	
1B	12	Tongue Point LI-1+2	18	Bay/Harbor	136	Dec-89	60.0U	
1B	12	Tongue Point LI-3+4	18	Bay/Harbor	136	Dec-89	120.0U	
1B	12	Tongue Point LI-1+2	18	Bay/Harbor	136	Jul-89	40 0U	

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 4 of 8)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PCB, Tot (ppb)	PCB-1016 (ppb)
1B	11	Tongue Point TP-S-1/2	18	Bay/Harbor	136	Aug-90	27.4U	
1B	11	Tongue Point TP-S-2	18	Bay/Harbor	136	Aug-90	27.4U	
1B	11	Tongue Point TP-S-3	18	Bay/Harbor	136	Aug-90	28.6U	
1B	11	Tongue Point TP-S-4	18	Bay/Harbor	136	Aug-90	33.8U	
1B	11	Tongue Point TP-S-5	18	Bay/Harbor	136	Aug-90	28.4U	
1B	11	Tongue Point TP-S-6	18	Bay/Harbor	136	Aug-90	29.2U	
1B	11	Tongue Point TP-S-8	18	Bay/Harbor	136	Aug-90	32.6U	
1B	12	Tongue Point LI-3+4	18	Bay/Harbor	136	Jul-89	40.0U	

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 5 of 8)

River Seg.	Map Location	Station Location	PCB-1221 (ppb)	PCB-1232 (ppb)	PCB-1242 (ppb)	PCB-1248 (ppb)	PCB-1254 (ppb)	PCB-1260 (ppb)	PCN
		SEGMENT 1A							
1A	1	Baker Bay 4							
1A	1	Baker Bay 6							
1A	1	Baker Bay 8							
1A	1	Baker Bay 12							1U
1A	2	Baker Bay 14							1U
1A	1	Ilwaco 2							
1A	1	Ilwaco 3							
1A	8	Youngs Bay 14							1 0U
1A	4	Chinook 8							
1A	4	Chinook 1A	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 1B	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 2A	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 2B	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 3A/B	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 4	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 5	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 6A	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 6B	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 7	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 8	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 9	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 10	80U	80U	80U	80U	100U	100U	
1A	4	Chinook 11	80U	80U	80U	80U	100U	100U	
1A	1	Ilwaco			ND	ND	20U	ND	
1A	1	Ilwaco 1							
1A	5	Columbia River Area D-12							

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 6 of 8)

River Seg.	Map Location	Station Location	PCB-1221 (ppb)	PCB-1232 (ppb)	PCB-1242 (ppb)	PCB-1248 (ppb)	PCB-1254 (ppb)	PCB-1260 (ppb)	PCN
1A	5	Columbia River Area D-13							
1A	5	Columbia River Area D-14							
1A	5	Columbia River Area D-7							
1A	5	Columbia River Area D-10							
1A	5	Columbia River Area D-8							
1A	5	Columbia River Area D-4							
1A	5	Columbia River Area D-1							
1A	5	Columbia River Area D-11							
1A	5	Columbia River Area D-5							
1A	5	Columbia River Area D-9							
1A	5	Columbia River Area D-2							
1A	5	Columbia River Area D-6							
1A	5	Columbia River Area D-3							
1A	5	Columbia River D-1							
1A	9	Tansy Pt. (Ast.) 4							
		SEGMENT 1B							
1B	9	Astoria 7							
1B	9	Astoria A-II2							
1B	11	Cathlamet Bay 6a (0-0.9 m)							1.0U
1B	11	Cathlamet Bay 6a (0.9-3.7 m)							1.0U
1B	11	Cathlamet Bay 6b (.56-.76 m)							1
1B	11	Cathlamet Bay 6b (1.78-1.98 m)							1.0U
1B	11	Cathlamet Bay 6b (2.58-2.76 m)							1.0U
1B	11	Cathlamet Bay 6b (3.1-3.2 m)							1.0U
1B	11	Cathlamet Bay 6b (3.23-3.44 m)							1.0U
1B	11	Cathlamet Bay 6b (3.64-3.82 m)							1.0U

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 7 of 8)

River Seg.	Map Location	Station Location	PCB-1221 (ppb)	PCB-1232 (ppb)	PCB-1242 (ppb)	PCB-1248 (ppb)	PCB-1254 (ppb)	PCB-1260 (ppb)	PCN
1B	11	Cathlamet Bay 6b (4.22-4.42 m)							1.0U
1B	11	Cathlamet Bay 6b (1.17-1.4 m)							1 0U
1B	11	Tongue Point TP-9							
1B	12	Tongue Point TP-10							
1B	13	Tongue Point TP-12							
1B	13	Tongue Point TP-11							
1B	11	Tongue Point C-6/7 (2m)							
1B	11	Tongue Point C-345 (1.5m)							
1B	11	Tongue Point C-1/2 (1 92m)							
1B	11	Tongue Point C-345 (2.13m)							
1B	11	Tongue Point C-6/7 (2 31m)							
1B	11	Tongue Point CB-6a (0.33m)							
1B	11	Tongue Point CB-6a (0.61m)							
1B	11	Tongue Point CB-6b (0 18m)							
1B	11	Tongue Point TP-1+2							
1B	11	Tongue Point TP-3							
1B	11	Tongue Point TP-4							
1B	11	Tongue Point TP-5							
1B	11	Tongue Point TP-6+7							
1B	11	Tongue Point TP-8							
1B	11	Tongue Point TP-9							
1B	12	Tongue Point TP-10							
1B	13	Tongue Point TP-11							
1B	13	Tongue Point TP-12-R1							
1B	13	Tongue Point TP-12-R2							
1B	12	Tongue Point LI-1+2							
1B	12	Tongue Point LI-3+4							
1B	12	Tongue Point LI-1+2							

TABLE B11. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 8 of 8)

River Seg.	Map Location	Station Location	PCB-1221 (ppb)	PCB-1232 (ppb)	PCB-1242 (ppb)	PCB-1248 (ppb)	PCB-1254 (ppb)	PCB-1260 (ppb)	PCN
1B	11	Tongue Point TP-S-1/2							
1B	11	Tongue Point TP-S-2							
1B	11	Tongue Point TP-S-3							
1B	11	Tongue Point TP-S-4							
1B	11	Tongue Point TP-S-5							
1B	11	Tongue Point TP-S-6							
1B	11	Tongue Point TP-S-8							
1B	12	Tongue Point LI-3+4							

TABLE B12. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENTS 2 AND 3 SEDIMENTS
(Page 1 of 2)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PCB, Tot. (ppb)	PCB-1016 (ppb)
		SEGMENT 2A						
2A	17	CR-VC-9/10 Wauna	43.19	Channel-C	136, 94	May-90	50U	
2A	17	CR-VC-11/12 Wauna	43.19	Channel-L	136, 94	May-90	50U	
2A	17	CR-VC-9+10 Wauna	43.19	Channel	136, 94	May-90	50U	
2A	17	CR-VC-11+12 Wauna	43.19	Channel	136, 94	Jun-90	50U	
		SEGMENT 2C						
2C	18	Coal Cr. Slough	57	Non-depositional	66	Sep-87		ND
2C	19	Longview - Reynolds	63	Non-depositional	66	Sep-87		ND
2C	19	Col. R. Longview S-1	63.5	Sands - outfall	157	Apr-90		190U
2C	19	Col. R. Longview S-2	63.5	Sand - edge of ZID	157	Apr-90		200U
2C	19	Col. R. Longview S-3	63.5	Sand - background	157	Apr-90		200U
2C	19	Longview - Weyco	64	Non-depositional	66	Sep-87		ND
2C	19	Longview - Weyco	64	Non-depositional	66	Sep-87		ND
2C	20	Longview	66.5	Non-depositional	66	Sep-87		ND
2C	21	Old Mouth of Cowlitz (Cow-3), top	67.7	Shoal areas	136	Jan-91		10U
2C	21	Old Mouth of Cowlitz (Cow-3), btm	67.7	Shoal areas	136	Jan-91		10U
2C	21	Mouth of Cowlitz R. (Cow-2A)	67.7	Shoal areas	136	Jan-91		10U
		SEGMENT 3A						
3A	22	Kalama	74.5	Non-depositional	66	Sep-87		ND

TABLE B12. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENTS 2 AND 3 SEDIMENTS
(Page 2 of 2)

River Seg.	Map Location	Station Location	PCB-1221 (ppb)	PCB-1232 (ppb)	PCB-1242 (ppb)	PCB-1248 (ppb)	PCB-1254 (ppb)	PCB-1260 (ppb)	PCN
		SEGMENT 2A							
2A	17	CR-VC-9/10 Wauna							
2A	17	CR-VC-11/12 Wauna							
2A	17	CR-VC-9+10 Wauna							
2A	17	CR-VC-11+12 Wauna							
		SEGMENT 2C							
2C	18	Coal Cr. Slough			ND		ND	20U	ND
2C	19	Longview - Reynolds			ND		ND	73	ND
2C	19	Col. R. Longview S-1	190U	190U	190U	190U	190U	390U	390U
2C	19	Col. R. Longview S-2	200U	200U	200U	200U	200U	390U	390U
2C	19	Col. R. Longview S-3	200U	200U	200U	200U	200U	410U	410U
2C	19	Longview - Weyco			ND		ND	20U	ND
2C	19	Longview - Weyco			ND		ND	20U	ND
2C	20	Longview			ND		ND	20U	ND
2C	21	Old Mouth of Cowlitz (Cow-3), top	10U	10U	10U		10U	10U	10U
2C	21	Old Mouth of Cowlitz (Cow-3), btm.	10U	10U	10U		10U	10U	10U
2C	21	Mouth of Cowlitz R. (Cow-2A)	10U	10U	10U		10U	10U	10U
		SEGMENT 3A							
3A	22	Kalama			ND		ND	20U	ND

TABLE B13. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 1 of 3)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	PCB, Tot. (ppb)	PCB-1016 (ppb)
		SEGMENT 4A						
4A	24	Vancouver	102	Non-depositional	66	Sep-87		ND
4A	24	Oregon slough OS-1/2	102 2	Channel	136	Sep-88	3	
4A	24	Oregon slough OS-4/6	102.2	Channel	136	Sep-88	5U	
4A	24	Col. R. 1 mi. above Will. confl. 38127	102.5		145	Sep-84		10U
4A	24	Col. R. 1 mi. above Will. confl. 38128	102.5		145	Sep-84		10U
4A	25	Vancouver	105	Non-depositional	66	Sep-87		ND
4A	27	Camas Slough	119	Non-depositional	66	Sep-87		ND
4A	27	Camas Slough	119	Non-depositional	66	Sep-87		ND
		SEGMENT 4B						
4B	29	Reed Is.	124	Non-depositional	66	Sep-87		ND
4B	31	Col. R. - Bonneville	146	Powerhouse	46	Aug-80	1.0U	
4B	31	Col. R. - Bonneville	146	Powerhouse	46	Aug-80	1 0U	

TABLE B13. PCB CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 2 of 3)

River Seg.	Map Location	Station Location	PCB-1221 (ppb)	PCB-1232 (ppb)	PCB-1242 (ppb)	PCB-1242/1016 (ppb)	PCB-1248 (ppb)	PCB-1254 (ppb)
		SEGMENT 4A						
4A	24	Vancouver			ND			ND
4A	24	Oregon slough OS-1/2						
4A	24	Oregon slough OS-4/6						
4A	24	Col. R. 1 mi. above Will. confl. 38127	10U	10U	10U	10U	10U	10U
4A	24	Col. R. 1 mi. above Will. confl. 38128	10U	10U	10U	10U	10U	10U
4A	25	Vancouver				ND	ND	20U
4A	27	Camas Slough				ND	ND	20U
4A	27	Camas Slough				ND	ND	20U
		SEGMENT 4B						
4B	29	Reed Is.				ND	ND	20U
4B	31	Col. R. - Bonneville						
4B	31	Col. R. - Bonneville						

TABLE B13. (Continued)
(Page 3 of 3)

River Seg.	Map Location	Station Location	PCB-1260 (ppb)	PCN
		SEGMENT 4A		
4A	24	Vancouver	58	ND
4A	24	Oregon slough OS-1/2		
4A	24	Oregon slough OS-4/6		
4A	24	Col. R. 1 mi. above Will. confl. 38127	10U	
4A	24	Col. R. 1 mi. above Will. confl. 38128	10U	
4A	25	Vancouver	ND	
4A	27	Camas Slough	ND	
4A	27	Camas Slough	ND	
		SEGMENT 4B		
4B	29	Reed Is.	ND	
4B	31	Col. R. - Bonneville		1.0U
4B	31	Col. R. - Bonneville		1.0U

TABLE B14. DIOXIN AND FURAN CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS

River Segment	Map Location	Station Location	River Mile	Latitude/ Longitude	Area description	Study reference	Sample Date
2A	15	CR-GC-18 Wauna	39.4	None	Channel-R	136, 94	May-90
2A	15	CR-GC-17 Wauna	39.72	None	Channel-R	136, 94	May-90
2A	16	CR-GC-16 Wauna	40.9	None	Channel-L	136, 94	May-90
2A	16	CR-GC-15 Wauna	40.95	None	Channel-C	136, 94	May-90
2A	17	CR-VC-12A Wauna	43.19	None	Channel-L	136, 94	May-90
2A	17	CR-VC-12B Wauna	43.19	None	Channel-L	136, 94	May-90
2C	19	CR-GC-5 Longview	62.9	None	Channel-L	136, 94	May-90
2C	19	CR-GC-6 A+B Longview	62 9	None	Channel-R	136, 94	May-90
2C	19	Col R Longview S-1	63.5	None	Sands - outfall	157	Apr-90
2C	19	Col R Longview S-2	63.5	None	Sand - edge of ZID	157	Apr-90
2C	19	Col R Longview S-3	63.5	None	Sand - background	157	Apr-90
2C	19	CR-GC-2 Longview	63 9	None	Channel-R	136, 94	May-90
2C	19	CR-GC-4 Longview	63.9	None	Channel-C	136, 94	May-90
3A	23	CR-GC-24 St. Helens	85 98	None	Channel-L	136, 94	May-90
3A	23	CR-GC-23 St. Helens	86	None	Channel-L	136, 94	May-90
4A	27	CR-GC-25 Camas	118.5	None	Channel-R	136, 94	May-90
4A	27	CR-GC-26 Camas	118 5	None	Channel-R	136, 94	May-90

TABLE B14. DIOXIN AND FURAN CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS

River Segment	Map Location	Station Location	2,3,7,8-TCDF (pptr.)	TCDF, Tot. (pptr.)	2,3,7,8-TCDD (pptr.)	TCDD,Tot. (pptr.)	1,2,3,7,8-PeCDF (pptr.)
2A	15	CR-GC-18 Wauna	1.1*	1.1*	0.74U*	3.7*	0.83U*
2A	15	CR-GC-17 Wauna	1.1	1.1	0.74U	3.7	0.83U
2A	16	CR-GC-16 Wauna	0.58	1.2	0.98U	0.63	0.59U
2A	16	CR-GC-15 Wauna	0.8	0.8	0.7U	2.2	0.45U
2A	17	CR-VC-12A Wauna	0.89	2.9	0.42U	0.42	0.24
2A	17	CR-VC-12B Wauna	0.89*	2.9*	0.42U*	0.42*	0.24*
2C	19	CR-GC-5 Longview	0.37	0.37	0.32U	ND	0.13U
2C	19	CR-GC-6 A+B Longview	2	2	1.5U	ND	4.1
2C	19	Col. R. Longview S-1	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-3	ND	ND	ND	ND	ND
2C	19	CR-GC-2 Longview	2.0U	ND	5.4U	ND	2 0U
2C	19	CR-GC-4 Longview	0.8	1.1	0.38U	3.5	0.2U
3A	23	CR-GC-24 St. Helens	0.57U*	ND*	0.46U*	ND*	0.06U*
3A	23	CR-GC-23 St. Helens	0.57U	ND	0.46U	ND	0.06U
4A	27	CR-GC-25 Camas	0.43	0.43	0.45U	ND	0 09U
4A	27	CR-GC-26 Camas	0.43*	0.43*	0.45U*	ND*	0.09U*

TABLE B14. DIOXIN AND FURAN CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS

River Segment	Map Location	Station Location	1,2,3,6,7,8-HxCDF (pptr.)	1,2,3,7,8,9-HxCDF (pptr.) (pptr.)	2,3,4,6,7,8-HxCDF (pptr.)	HxCDF, Tot. (pptr.)	1,2,3,4,7,8-HxCDD (pptr.)
2A	15	CR-GC-18 Wauna	0.61U*	0.49*	0.69U*	0.49*	0.80U*
2A	15	CR-GC-17 Wauna	0.61U	0.49	0.69U	0.49	0.80U
2A	16	CR-GC-16 Wauna	0.75U	1.4U	1.5U	ND	0.88U
2A	16	CR-GC-15 Wauna	0.35U	0.57	0.61U	0.57	1.1U
2A	17	CR-VC-12A Wauna	0.33	0.37	0.14U	3.9	0.26
2A	17	CR-VC-12B Wauna	0.33*	0.37*	0.14U*	3.9*	0.26*
2C	19	CR-GC-5 Longview	0.29U	0.28	0.12U	0.28	0.18U
2C	19	CR-GC-6 A+B Longview	3.8	4.1	4.2	17	4 5
2C	19	Col R. Longview S-1	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-3	ND	ND	ND	ND	ND
2C	19	CR-GC-2 Longview	1.7U	2.0U	3.5U	5 1	1.6U
2C	19	CR-GC-4 Longview	0.22U	0.27	0.08U	0.49	0.11U
3A	23	CR-GC-24 St. Helens	0.18U*	0.28U*	0.27U*	ND*	0.43U*
3A	23	CR-GC-23 St. Helens	0.18U	0.28U	0.27U	ND	0.43U
4A	27	CR-GC-25 Camas	0.07U	0.22	0.1U	0.22	0.25U
4A	27	CR-GC-26 Camas	0.07U*	0.22*	0.1U*	0.22*	0.25U*

TABLE B14. DIOXIN AND FURAN CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS

River Segment	Map Location	Station Location	2,3,4,7,8-PeCDF (pptr.)	PeCDF,Tot. (pptr.)	1,2,3,7,8-PeCDD (pptr.)	PeCDD, Tot. (pptr.)	1,2,3,4,7,8-HxCDF (pptr.)
2A	15	CR-GC-18 Wauna	0.68U*	ND*	1.2U*	ND*	0.47U*
2A	15	CR-GC-17 Wauna	0.68U	ND	1.2U*	ND	0.47U
2A	16	CR-GC-16 Wauna	0.39U	ND	0.24U	ND	0.80U
2A	16	CR-GC-15 Wauna	0.70U	ND	0.54U	ND	0.23U
2A	17	CR-VC-12A Wauna	0.14U	2.2	0.18	0.48	0.48
2A	17	CR-VC-12B Wauna	0.14U*	2.2*	0.18*	0.48*	0.48*
2C	19	CR-GC-5 Longview	0.13U	ND	0.17U	ND	0.11U
2C	19	CR-GC-6 A+B Longview	3.6	7.7	3.8	3.8	4.5
2C	19	Col. R. Longview S-1	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-3	ND	ND	ND	ND	ND
2C	19	CR-GC-2 Longview	1.2U	ND	1.4U	ND	0.97U
2C	19	CR-GC-4 Longview	0.16U	ND	0.17U	ND	0.20U
3A	23	CR-GC-24 St. Helens	0.18U*	ND*	0.25U*	ND*	0.23U*
3A	23	CR-GC-23 St. Helens	0.18U	ND	0.25U	ND	0.23U
4A	27	CR-GC-25 Camas	0.10U	ND	0.05U	ND	0.13U
4A	27	CR-GC-26 Camas	0.10U*	ND*	0.05U*	ND*	0.13U*

TABLE B14. DIOXIN AND FURAN CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS

River Segment	Map Location	Station Location	HpCDF, Tot. (pptr.)	1,2,3,4,6,7,8-HpCDD (pptr.)	HpCDD, Tot (pptr.)	OCDF (pptr.)	OCDD (pptr.)
2A	15	CR-GC-18 Wauna	1.3*	4.1*	11*	1.6*	53*
2A	15	CR-GC-17 Wauna	1.3	4.1	11	1.6	53
2A	16	CR-GC-16 Wauna	ND	3.5	5.1	0.73	30
2A	16	CR-GC-15 Wauna	1.7	2.3	4.4	3.3	29
2A	17	CR-VC-12A Wauna	5.6	25	46	4.4	220
2A	17	CR-VC-12B Wauna	5.6*	25*	46*	4.4*	220*
2C	19	CR-GC-5 Longview	ND	1.3	2.8	0.67U	14
2C	19	CR-GC-6 A+B Longview	11	7.1	7.1	15	54
2C	19	Col R. Longview S-1	ND	ND	ND	ND	9 4
2C	19	Col R. Longview S-2	ND	ND	ND	ND	10.6
2C	19	Col. R Longview S-3	ND	ND	ND	ND	ND
2C	19	CR-GC-2 Longview	ND	9.7	20	21.0U	120
2C	19	CR-GC-4 Longview	1.3	2.9	5	0.66	25
3A	23	CR-GC-24 St. Helens	ND*	1.5*	1.5*	0.41U*	8.6*
3A	23	CR-GC-23 St. Helens	ND	1.5	1.5	0.41U	8.6
4A	27	CR-GC-25 Camas	0.67	2.8	5.8	0.97	45
4A	27	CR-GC-26 Camas	0.67*	2.8*	5.8*	0.97*	45*

TABLE B14. DIOXIN AND FURAN CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS							
River Segment	Map Location	Station Location	1,2,3,6,7,8-HxCDD (pptr.)	1,2,3,7,8,9-HxCDD (pptr.)	HxCDD, Tot. (pptr.)	1,2,3,4,6,7,8-HpCDF (pptr.)	1,2,3,4,7,8,9-HpCDF (pptr.)
2A	15	CR-GC-18 Wauna	1.0U*	0.85U*	ND*	0.47*	0.25U*
2A	15	CR-GC-17 Wauna	1.0U	0.85U	ND	0.47	0.25U
2A	16	CR-GC-16 Wauna	0.99U	1.9U	ND	0.74U	3.3U
2A	16	CR-GC-15 Wauna	0.93U	0.78U	ND	0.56	0.8U
2A	17	CR-VC-12A Wauna	2.1	0.77	11	1 8	0.56U
2A	17	CR-VC-12B Wauna	2.1*	0.77*	11*	1.8*	0.56U*
2C	19	CR-GC-5 Longview	0.23U	0.31U	0.93	0.25U	0.65U
2C	19	CR-GC-6 A+B Longview	3 5	2.3	10	5 4	5.5
2C	19	Col. R. Longview S-1	ND	ND	ND	ND	ND
2C	19	Col. R. Longview S-2	ND	ND	ND	ND	ND
2C	19	Col. R Longview S-3	ND	ND	ND	ND	ND
2C	19	CR-GC-2 Longview	3 2U	4.2U	ND	6.2U	7.1U
2C	19	CR-GC-4 Longview	0.28	0.27U	1.6	0.48	0.12U
3A	23	CR-GC-24 St. Helens	0.29U*	0.25U*	ND*	0.27U*	0.21U*
3A	23	CR-GC-23 St. Helens	0.29U	0.25U	ND	0.27U	0.21U
4A	27	CR-GC-25 Camas	0.22U	0.36U	0.31	0 62U	0.13U
4A	27	CR-GC-26 Camas	0.22U*	0.36U*	0.31*	0.62U*	0 13U*

TABLE B15. RESIN ACID CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 1 of 3)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Abietic acid (ppb)	Neoabietic acid (ppb)	Dehydro-abietic (ppb)
2C	19	Col. R. Longview S-1	63.5	Sands - outfall	157	Aug-00	160U	160U	160U
2C	19	Col. R. Longview S-2	63.5	Sand - edge of ZID	157	Apr-90	170U	170U	170U
2C	19	Col. R. Longview S-3	63.5	Sand - background	157	Apr-90	160U	160U	160U
2C	19	Longview - Weyco	64	Non-depositional	66	Sep-87	300	130U	500
4A	25	Vancouver	105	Non-depositional	66	Sep-87	110	100U	240
4A	27	Camas Slough	119	Non-depositional	66	Sep-87	500	300U	920
4B	29	Reed Is	124	Non-depositional	66	Sep-87	120U	120U	120U

TABLE B15. RESIN ACID CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 2 of 3)

River Seg.	Map Location	Station Location	Dichlorode-hydroabietic (ppb)	12-Chlorode-hydroabietic (ppb)	14-Chlorode-hydroabietic (ppb)	Pimaric acid (ppb)	Isopimaric acid (ppb)	Sandaraco-copimaric (ppb)	Levo-pimaric (ppb)
2C	19	Col. R. Longview S-1	160U	160U	160U	160U	160U	160U	
2C	19	Col. R. Longview S-2	170U	170U	170U	170U	170U	170U	
2C	19	Col. R. Longview S-3	160U	160U	160U	160U	160U	160U	
2C	19	Longview - Weyco	42J				340	130U	130U
4A	25	Vancouver	60J				130	32J	100U
4A	27	Camas Slough	300U				500	130J	300U
4B	29	Reed Is.	120U				120U	120U	120U

TABLE B15. RESIN ACID CONCENTRATIONS IN LOWER COLUMBIA RIVER SEDIMENTS
(Page 3 of 3)

River Seg.	Map Location	Station Location	Palustric acid (ppb)	Linoleic acid (ppb)	Olec acid (ppb)	Dichloro-stearic (ppb)	% O-methyl-podocarpic acid	% Hepta-decanoic acid	Resin acids Tot. (ppb)
2C	19	Col. R. Longview S-1	160U	160U	160U	160U	98	93	
2C	19	Col. R. Longview S-2	170U	170U	170U	170U	100	106	
2C	19	Col. R. Longview S-3	160U	160U	160U	160U	104	99	
2C	19	Longview - Weyco	170						1400
4A	25	Vancouver	100U						570
4A	27	Camas Slough	300U						2000
4B	29	Reed Is	120U						ND

TABLE B16. RADIONUCLIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 1 SEDIMENTS
(Page 1 of 2)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
		RIVER SEGMENT 2						
1A	R1	Col. R. (X-section composite)	2	River X-section	64	1973	3.8	1.6
1A	R2	Col. R. (X-section composite)	6	River X-section	64	1973	111.2	22.9
1B	R3	Col. R. (X-section composite)	14	River X-section	64	1973	97	20.7
1B	R4	Col. R. (X-section composite)	18	River X-section	64	1973	53.4	35
1C	R5	Col. R (X-section composite)	23	River X-section	64	1973	133.9	33.9
1C	R6	Col R. (X-section composite)	27	River X-section	64	1973	170 7	66
1C	R7	Col R (X-section composite)	31	River X-section	64	1973	106.9	37 8

TABLE B16. (Continued)
(Page 2 of 2)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)	K-40 (pCi/g)
		RIVER SEGMENT 2						
1A	R1	Col. R. (X-section composite)	0.2	0.2	0.2	0 2	0.2	12.1
1A	R2	Col. R. (X-section composite)	2.3	0.8	0.6	0.5	2	14 2
1B	R3	Col. R. (X-section composite)	2.2	0.9	0.8	0.5	1.4	14.8
1B	R4	Col. R. (X-section composite)	2 9	1	1.3	0.8	1.3	13.2
1C	R5	Col. R. (X-section composite)	4	0.8	1.3	0.8	1.6	13 4
1C	R6	Col. R. (X-section composite)	8.5	2 1	2 2	1.6	4.2	18.6
1C	R7	Col. R (X-section composite)	3.8	0 9	1.3	0 7	1.7	12.9

TABLE B17. RADIONUCLIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 2 SEDIMENTS
(Page 1 of 4)

River Seg	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
		RIVER SEGMENT 2						
2A	R8	Col. R. (X-section composite)	38	River X-section	64	1973	56 9	32 5
2A	R8.5	Col. R. (X-section composite)	42	River X-section	64	1973	110.5	30.9
2B	R9	Col. R. (X-section composite)	47	River X-section	64	1973	33 9	15
2B	R10	Col. R. (X-section composite)	50	River X-section	64	1973	11 4	11 2
2C	R11	Col. R. (X-section composite)	54	River X-section	64	1973	101	32.3
2C	R12	Col. R (X-section composite)	59	River X-section	64	1973	61	36
2C	R13	Col R. (X-section composite)	64	River X-section	64	1973	59 2	28
2C	R14	Columbia River	65 5	53-96% (0.062-0.50 um)	53	Apr-65	31.1-447	20.4-202
2C	R15	Columbia River (0-1 inch)	66.7		53	1963-65	9.9	6.3
2C	R15	Columbia River (1-2 inch)	66.7		53	1963-65	8.6	3 9
2C	R15	Columbia River (2-3 inch)	66.7		53	1963-65	2.7	4.6
2C	R15	Columbia River (3-4 inch)	66.7		53	1963-65	13.1	4.7
2C	R16	Columbia River (0-1 inch)	67.6		53	1963-65	204	105
2C	R16	Columbia River (1-2 inch)	67.6		53	1963-65	57 7	48 7
2C	R16	Columbia River (2-3 inch)	67.6		53	1963-65	84.7	60.8
2C	R16	Columbia River (4-5 inch)	67.6		53	1963-65	20.3	19 2
2C	R16	Columbia River (6-7 inch)	67.6		53	1963-65	7 7	8.2
2C	R16	Columbia River (8-9 inch)	67.6		53	1963-65	5U	5.8
2C	R16	Columbia River	67.7		53	Apr-65	254	133
2C	R16	Columbia River	67.9	52-100% (0 062-0 50 um)	53	Apr-65	12.8-44 6	1 52-18.5
2C	R17	Columbia River	68.8	43-99% (0.062-0.50 um)	53	Apr-65	47.1-407	18.3-210
2C	R17	Columbia River (0-1 inch)	69 1		53	1963-65	145	110
2C	R17	Columbia River (1-2 inch)	69.1		53	1963-65	32.4	75.8
2C	R17	Columbia River (2-3 inch)	69.1		53	1963-65	65.7	
2C	R17	Columbia River (3-4 inch)	69.1		53	1963-65	15.8	24

TABLE B17. (Continued)
(Page 2 of 4)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
2C	R17	Columbia River (4-5 inch)	69.1		53	1963-65	144	45 9
2C	R17	Columbia River (5-6 inch)	69.1		53	1963-65	68.5	47 2
2C	R17	Columbia River (6-7 inch)	69.1		53	1963-65	96.8	24.2
2C	R17	Columbia River (7-8 inch)	69.1		53	1963-65	10.8	9 5
2C	R18	Columbia River (0-1 inch)	71.6		53	1963-65	62.2	34
2C	R18	Columbia River (1-2 inch)	71.6		53	1963-65	16.7	10 8
2C	R18	Columbia River (2-3 inch)	71 6		53	1963-65	32.4	6.9
2C	R18	Columbia River (3-4 inch)	71.6		53	1963-65	12 6	6.9
2C	R18	Columbia River	71.6	26-96 % (0 062-0.50 um)	53	Apr-65	17 3-46.4	8 2-25.5

TABLE B17. (Continued)
(Page 3 of 4)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)	K-40 (pCi/g)
		RIVER SEGMENT 2						
2A	R8	Col. R. (X-section composite)	1.9	1 1	0.9	0.8	1.2	14 9
2A	R8.5	Col. R. (X-section composite)	3.4	0 8	1.2	0.7	1.4	12.3
2B	R9	Col. R. (X-section composite)	0.8	0.3	0.5	0.3	0 4	12
2B	R10	Col. R. (X-section composite)	0.2	0.3	0.3	0.2	0.3	13.3
2C	R11	Col. R. (X-section composite)	0.2	0.6	1	1	1.2	12.8
2C	R12	Col. R. (X-section composite)	3.1	1.5	0 8	0.7	0 9	12.8
2C	R13	Col. R. (X-section composite)	2.1	0 7	0.7	0 5	1.7	12.2
2C	R14	Columbia River	0.5U-2.91	0.5U-1.38	0.68-8.83			
2C	R15	Columbia River (0-1 inch)	0.2U	0.3	0.4	0.2U		
2C	R15	Columbia River (1-2 inch)	0.5	0.2	0.2U	0.2	1.1	
2C	R15	Columbia River (2-3 inch)	0.2U	0.3	0.2U	0.2U	0.2U	
2C	R15	Columbia River (3-4 inch)	0.2U	0.4	0.3	0.2U	0.2U	
2C	R16	Columbia River (0-1 inch)	6.2	1.6				
2C	R16	Columbia River (1-2 inch)	2.9	0.9	1.7			
2C	R16	Columbia River (2-3 inch)	3.2	1.1	2.2			
2C	R16	Columbia River (4-5 inch)	0.9	0.7	0.8			
2C	R16	Columbia River (6-7 inch)	0.5	0.5	0.5			
2C	R16	Columbia River (8-9 inch)	0.5U	0.5	0.5			
2C	R16	Columbia River	7.72	3.3	3.2			
2C	R16	Columbia River	0.5U-0.56	0.5	0.5U-0.95			
2C	R17	Columbia River	0.54-14.4	0.5U	0.6-7.09			
2C	R17	Columbia River (0-1 inch)	5.7	3.7	2.4			
2C	R17	Columbia River (1-2 inch)	1.7	5.4	1.2			
2C	R17	Columbia River (2-3 inch)	0.5	4.3	1.3			
2C	R17	Columbia River (3-4 inch)	0.5U	5	0.5U			

TABLE B17. (Continued)
(Page 4 of 4)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)	K-40 (pCi/g)
2C	R17	Columbia River (4-5 inch)	0.5U	11.5	1.8			
2C	R17	Columbia River (5-6 inch)	1.7	6.3	0.9			
2C	R17	Columbia River (6-7 inch)	0.5U	7.8	1.2			
2C	R17	Columbia River (7-8 inch)	0.5U	4.1	0.7			
2C	R18	Columbia River (0-1 inch)	0.9	1.4	0.7			
2C	R18	Columbia River (1-2 inch)	0 5U	0.5U	0.5			
2C	R18	Columbia River (2-3 inch)	0 5U	0.5U	0.5U			
2C	R18	Columbia River (3-4 inch)	0.5U	0.5U	0.5U			
2C	R18	Columbia River	0 5U-1.06	1.01	0.5U-1.24			

TABLE B18. RADIONUCLIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 3 SEDIMENTS
(Page 1 of 4)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
		RIVER SEGMENT 3						
3A	R19	Columbia River (0-1 inch)	75.2		53	1963-65	11.3	1.7
3A	R19	Columbia River (1-2 inch)	75.2		53	1963-65	2U	1 1
3A	R19	Columbia River (2-3 inch)	75.2		53	1963-65	4.1	0.7
3A	R19	Columbia River (3-4 inch)	75 2		53	1963-65	2U	0 9
3A	R19	Columbia River (4-5 inch)	75 2		53	1963-65	4.1	0 9
3A	R19	Columbia River	75 2	5-91% (0.062-0 50 um)	53	Apr-65	23.4-790	4 38-374
3A	R20	Columbia River	78	53-97% (0 062-0.50 um)	53	Apr-65	35.6-150	16-109
3A	R21	Columbia River	79.6	53% (0 062-0.50 um)	53	Apr-65	246	117
3A	R22	Columbia River	81.1	21% (0 062-0 50 um)	53	Apr-65	39.6	18.5
3A	R23	Columbia River	82.2	80-93% (0.062-0.50 um)	53	Apr-65	15.4-37.1	6.22-15 5
3A	R24	Columbia River (0-1 inch)	83.6		53	1963-65	24.8	18.4
3A	R24	Columbia River (1-2 inch)	83.6		53	1963-65	15 8	11.4
3A	R24	Columbia River (2-3 inch)	83.6		53	1963-65	13 1	11.2
3A	R24	Columbia River (3-4 inch)	83.6		53	1963-65	11 7	11 8
3A	R24	Columbia River (4-5 inch)	83.6		53	1963-65	11 7	11 6
3A	R24	Columbia River (5-6 inch)	83 6		53	1963-65	12.6	11 4
3A	R25	Columbia River	84.5	57% (0.062-0.50 um)	53	Apr-65	83.7	55.6
3A	R25	Columbia River (0-1 inch)	84.6		53	1963-65	194	123
3A	R25	Columbia River (1-2 inch)	84.6		53	1963-65	128	116
3A	R25	Columbia River (2-3 inch)	84.6		53	1963-65	182	96
3A	R25	Columbia River (3-4 inch)	84.6		53	1963-65	130	78.8
3A	R25	Columbia River (4-5 inch)	84.6		53	1963-65	5U	32.2
3A	R25	Columbia River (5-6 inch)	84.6		53	1963-65	11.3	2 5
3A	R26	Columbia River	85.1	83% (0.062-0 50 um)	53	Apr-65	143	82
3A	R26	Columbia River	85.8	69% (0 062-0.50 um)	53	Apr-65		

TABLE B18. (Continued)
(Page 1 of 4)

River Seg	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
3A	R27	Columbia River	86.5	36-96% (0.062-0.50 um)	53	Apr-65		
3A	R27	Columbia River	87.5	64-70% (0.062-0.50 um)	53	Apr-65		
3B	R29	Columbia River	91.6	56-86% (0.062-0.50 um)	53	Apr-65		
3B	R30	Columbia River	97.8	25-84% (0.062-0 50 um)	53	Apr-65		
3B	R31	Columbia River (0-1 inch)	101.5		53	1963-65	50	26.9
3B	R31	Columbia River (1-2 inch)	101.5		53	1963-65	7 2	29
3B	R31	Columbia River (2-3 inch)	101.5		53	1963-65	5.4	17 6
3B	R31	Columbia River (3-4 inch)	101 5		53	1963-65	6.7	0.2U
3B	R31	Columbia River (4-5 inch)	101.5		53	1963-65	2U	0 2U
3B	R31	Columbia River	101.5	56-89% (0.062-0.50 um)	53	Apr-65		

TABLE B18. (Continued)
(Page 1 of 4)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)
		RIVER SEGMENT 3					
3A	R19	Columbia River (0-1 inch)	0.2U	0.2U	0.2U	0.2U	0.8
3A	R19	Columbia River (1-2 inch)	0.2U	0 2U	0.2U	0.2U	0.2
3A	R19	Columbia River (2-3 inch)	0.2U	0.2U	0.2U	0.2U	0.8
3A	R19	Columbia River (3-4 inch)	0.2U	0 2U	0.2U	0.2U	0 2U
3A	R19	Columbia River (4-5 inch)	0 2U	0 3	0 2U	0 2U	0.2U
3A	R19	Columbia River	0.5U-30	1.98	0 5U-11.7		
3A	R20	Columbia River	0.5U-5.27	0.51	0.56-3 41		
3A	R21	Columbia River	6.56	0.5U-0.49	4.48		
3A	R22	Columbia River	0.61	1.12-1.96	0.72		
3A	R23	Columbia River	0.5U	0.5U-1.6	0.5U-0.53		
3A	R24	Columbia River (0-1 inch)	0.3	0.3	0.7	0 2U	0.2U
3A	R24	Columbia River (1-2 inch)	0.2U	0.2	0.5	0.2U	0.2U
3A	R24	Columbia River (2-3 inch)	0.2U	0.2U	0.7	0.2U	0.2U
3A	R24	Columbia River (3-4 inch)	0.2U	0.2U	0 5	0.2U	0.4
3A	R24	Columbia River (4-5 inch)	0.2U	0.4	0.4	0.2U	0.5
3A	R24	Columbia River (5-6 inch)	0.2U	0.2U	0.5	0.2U	0.2U
3A	R25	Columbia River	3.69	0.5U	1.84		
3A	R25	Columbia River (0-1 inch)	18.1	2	1.8		
3A	R25	Columbia River (1-2 inch)	9.2	2.4	1.5		
3A	R25	Columbia River (2-3 inch)	5.8	2	2.1		
3A	R25	Columbia River (3-4 inch)	5.1	1.5	2.2		
3A	R25	Columbia River (4-5 inch)	3.3	1.2	1.2		
3A	R25	Columbia River (5-6 inch)	0.5U	0.7	0.5U		
3A	R26	Columbia River	4.27	0.5U	2.71		
3A	R26	Columbia River		0.5U-3.39	0.99		

TABLE B18. (Continued)
(Page 1 of 4)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)
3A	R27	Columbia River		0.5U-1.93	0.48-0.61		
3A	R27	Columbia River		0.5U-1.35	1.96-3.6		
3B	R29	Columbia River		0.5U	0.5U-2.66		
3B	R30	Columbia River		0.51-2.11	0.5U-0.72		
3B	R31	Columbia River (0-1 inch)	1.3	0.6	0.8	0 3	0.2U
3B	R31	Columbia River (1-2 inch)	0.6	0.6	0.5	0.7	1.6
3B	R31	Columbia River (2-3 inch)	0.2U	0.5	0.8	0.2	0.2U
3B	R31	Columbia River (3-4 inch)	0.2U	0.2U	0.2U	0.2U	0 2U
3B	R31	Columbia River (4-5 inch)	0.2U	0.2U	0.2U	0.2U	0 2U
3B	R31	Columbia River		0.5U-1.78	0.05U-0.51		

TABLE B19. RADIONUCLIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 1 of 8)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
		RIVER SEGMENT 4						
4A	R32	Columbia River (0-1 inch)	106.6		53	1963-65	134	90.6
4A	R32	Columbia River (1-2 inch)	106.6		53	1963-65	90	64.6
4A	R32	Columbia River (2-3 inch)	106.6		53	1963-65		69.8
4A	R32	Columbia River (3-4 inch)	106.6		53	1963-65	104	154
4A	R32	Columbia River (4-5 inch)	106.6		53	1963-65		78.2
4A	R32	Columbia River (5-6 inch)	106 6		53	1963-65	6 8	33.4
4A	R32	Columbia River (6-7 inch)	106 6		53	1963-65		28.7
4A	R32	Columbia River (7-8 inch)	106.6		53	1963-65	36	81
4A	R32	Columbia River (8-9 inch)	106.6		53	1963-65		64.1
4A	R32	Columbia River (9-10 inch)	106.6		53	1963-65	36.9	185
4A	R32	Columbia River (11-12 inch)	106.6		53	1963-65	13.5	50.6
4A	R32	Columbia River (13-14 inch)	106.6		53	1963-65	38.2	16.1
4A	R32	Columbia River	106.6	23-97% (0.062-0.50 um)	53	Apr-65		
4A	R32	Columbia River (0-1 inch)	107		53	1963-65	5 4	0.5
4A	R32	Columbia River (1-2 inch)	107		53	1963-65	10.8	0.2U
4A	R32	Columbia River (2-3 inch)	107		53	1963-65	8.6	0.2U
4A	R32	Columbia River (3-4 inch)	107		53	1963-65	2 3	0.2U
4A	R32	Columbia River (4-5 inch)	107		53	1963-65	10.4	0.2U
4A	R32	Columbia River (5-6 inch)	107		53	1963-65	2U	0.2U
4A	R32	Columbia River (0-1 inch)	107		53	1963-65	18.5	33.6
4A	R32	Columbia River (1-2 inch)	107		53	1963-65	14.9	13.3
4A	R32	Columbia River (2-3 inch)	107		53	1963-65	9	5
4A	R32	Columbia River (3-4 inch)	107		53	1963-65	5	4 2
4A	R32	Columbia River (4-5 inch)	107		53	1963-65	5.4	4.1
4A	R32	Columbia River (5-6 inch)	107		53	1963-65	6.8	3.5
4A	R32	Columbia River (7-8 inch)	107		53	1963-65	11 3	3 7

TABLE B19. RADIONUCLIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 2 of 8)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
4A	R32	Columbia River (0-1 inch)	107		53	1963-65	14.9	11.2
4A	R32	Columbia River (1-2 inch)	107		53	1963-65	11.7	8.3
4A	R32	Columbia River (2-3 inch)	107		53	1963-65	9.5	7
4A	R32	Columbia River (5-6 inch)	107		53	1963-65	4.5	7.5
4A	R32	Columbia River (0-1 inch)	107		53	1963-65	7.6	6.4
4A	R32	Columbia River (1-2 inch)	107		53	1963-65	3.6	4.9
4A	R32	Columbia River (2-3 inch)	107		53	1963-65	8.1	3.8
4A	R32	Columbia River (5-6 inch)	107		53	1963-65	7 6	8.1
4A	R32	Columbia River (11-12 inch)	107		53	1963-65	7.6	6.9
4A	R32	Columbia River (17-18 inch)	107		53	1963-65	34.2	6.1
4A	R33	Columbia River	110.2	17-91% (0.062-0.50 um)	53	Apr-65		
4A	R34	Columbia River (0-1 inch)	114.8		53	1963-65	12.6	10.6
4A	R34	Columbia River (1-2 inch)	114.8		53	1963-65	4.1	5 7
4A	R34	Columbia River (2-3 inch)	114.8		53	1963-65	9 9	5.8
4A	R34	Columbia River (3-4 inch)	114.8		53	1963-65	14.4	6.3
4A	R34	Columbia River (4-5 inch)	114.8		53	1963-65	4.1	6.7
4A	R34	Columbia River (5-6 inch)	114.8		53	1963-65	3.6	6.4
4A	R34	Columbia River (7-8 inch)	114.8		53	1963-65	2 7	7.5
4A	R34	Columbia River (9-10 inch)	114.8		53	1963-65	4 1	6.8
4A	R34	Columbia River	114.8	58% (0.062-0.50 um)	53	Apr-65		
4A	R34	Columbia River	114 8	34-54% (0.062-0.50 um)	53	Apr-65		
4A	R34	Columbia River (0-1 inch)	114.9		53	1963-65	90.9	102
4A	R34	Columbia River (1-2 inch)	114.9		53	1963-65	27.5	25.4
4A	R34	Columbia River (2-3 inch)	114 9		53	1963-65	44.6	22.5
4A	R34	Columbia River (3-4 inch)	114.9		53	1963-65	20.3	20.4
4A	R34	Columbia River (4-5 inch)	114.9		53	1963-65	66 2	36 9
4A	R34	Columbia River (5-6 inch)	114 9		53	1963-65	46.4	59 4

TABLE B19. RADIONUCLIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 3 of 8)

River Seg	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
4A	R35	Columbia River (0-1 inch)	120.5		53	1963-65	15.3	25.2
4A	R35	Columbia River (1-2 inch)	120.5		53	1963-65	8.1	13.6
4A	R35	Columbia River (2-3 inch)	120.5		53	1963-65	8.1	12.7
4A	R35	Columbia River (3-4 inch)	120.5		53	1963-65	7.6	12.9
4A	R35	Columbia River (5-6 inch)	120.5		53	1963-65	7.2	13 1
4A	R35	Columbia River (8-9 inch)	120.5		53	1963-65	2U	12 6
4A	R35	Columbia River	120.5	9-78% (0.062-0.50 um)	53	Apr-65		
4B	R36	Columbia River (0-1 inch)	123.7		53	1963-65	9.5	14.1
4B	R36	Columbia River (1-2 inch)	123.7		53	1963-65	11.7	13.5
4B	R36	Columbia River (2-3 inch)	123.7		53	1963-65	14.9	12.9
4B	R36	Columbia River (3-4 inch)	123 7		53	1963-65	18.5	12 3
4B	R36	Columbia River (4-5 inch)	123 7		53	1963-65	15.3	12 3
4B	R36	Columbia River (5-6 inch)	123.7		53	1963-65	14.4	14 5
4B	R36	Columbia River (7-8 inch)	123.7		53	1963-65	7.2	13.2
4B	R37	Columbia River	125.1	25-94% (0.062-0.50 um)	53	Apr-65		
4B	R38	Columbia River (0-1 inch)	128.9		53	1963-65	9	14.2
4B	R38	Columbia River (1-2 inch)	128.9		53	1963-65	9	12.5
4B	R38	Columbia River (2-3 inch)	128.9		53	1963-65	12.2	13
4B	R38	Columbia River (3-4 inch)	128 9		53	1963-65	18.5	13.9
4B	R38	Columbia River (4-5 inch)	128 9		53	1963-65	2.7	15.7
4B	R38	Columbia River (5-6 inch)	128.9		53	1963-65	14.4	15
4B	R38	Columbia River (7-8 inch)	128 9		53	1963-65	8.1	14.7
4B	R38	Columbia River (9-10 inch)	128 9		53	1963-65	11 3	10.5
4B	R38	Columbia River (11-12 inch)	128.9		53	1963-65	9	8
4B	R38	Columbia River (14-15 inch)	128.9		53	1963-65	3.6	10.5
4B	R38	Columbia River (16-18 inch)	128.9		53	1963-65	9.5	10
4B	R38	Columbia River (18-24 inch)	128 9		53	1963-65	2U	7.1

TABLE B19. RADIONUCLIDE CONCENTRATIONS IN LOWER COLUMBIA RIVER SEGMENT 4 SEDIMENTS
(Page 4 of 8)

River Seg.	Map Location	Station Location	River Mile	Area Description	Study Reference	Sample Date	Cr-51 (pCi/g)	Zn-65 (pCi/g)
4B	R38	Columbia River	128.9	12-89% (0.062-0.50 um)	53	Apr-65		
4B	R39	Columbia River	131.8	68-98% (0.062-0.50 um)	53	Apr-65		
4B	R40	Columbia River	137.9	63% (0.062-0.50 um)	53	Nov-64		

TABLE B19. (Continued)
(Page 5 of 8)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)
		RIVER SEGMENT 4					
4A	R32	Columbia River (0-1 inch)	3.5	1	1.4		
4A	R32	Columbia River (1-2 inch)	1.9	0.7	1.4		
4A	R32	Columbia River (2-3 inch)	2.1	0.9	2.1		
4A	R32	Columbia River (3-4 inch)	6.1	1.5	4.1		
4A	R32	Columbia River (4-5 inch)	4.2	1.1	2.5		
4A	R32	Columbia River (5-6 inch)	1.7	0.8	1		
4A	R32	Columbia River (6-7 inch)	2 7	0.9	1.7		
4A	R32	Columbia River (7-8 inch)	4	1.4	3.2		
4A	R32	Columbia River (8-9 inch)	3.5	1.6	3.4		
4A	R32	Columbia River (9-10 inch)	6.8	3.9	4.6		
4A	R32	Columbia River (11-12 inch)	2.1	1.8	1.4		
4A	R32	Columbia River (13-14 inch)	0.5	0.7	0.7		
4A	R32	Columbia River		0.48-1.89	0.5U-16.2		
4A	R32	Columbia River (0-1 inch)	0.2U	0.2U	0.2U	0.2U	0.2U
4A	R32	Columbia River (1-2 inch)	0.2U	0.2U	0.2U	0.2U	0.6
4A	R32	Columbia River (2-3 inch)	0.2U	0.2U	0.2U	0.2U	0.3
4A	R32	Columbia River (3-4 inch)	0.2U	0.2U	0.2U	0.2U	0.2U
4A	R32	Columbia River (4-5 inch)	0 2U	0.2U	0.2U	0.2U	0.2
4A	R32	Columbia River (5-6 inch)	0.2U	0.2U	0.2U	0.2U	0.5
4A	R32	Columbia River (0-1 inch)	0.8	1.5	0.8	0.9	0.3
4A	R32	Columbia River (1-2 inch)	0.2U	0.5	0.4	0.3	0.2U
4A	R32	Columbia River (2-3 inch)	0.2U	0.2U	0.2U	0.2U	0.3
4A	R32	Columbia River (3-4 inch)	0.2U	0.2U	0.2U	0.2U	0.2U
4A	R32	Columbia River (4-5 inch)	0.2U	0.2U	0.2U	0.2U	0.2U
4A	R32	Columbia River (5-6 inch)	0.2U	0.2U	0.2U	0.2U	0.7
4A	R32	Columbia River (7-8 inch)	0.2U	0.3	0.2U	0.2U	0.2U

TABLE B19. (Continued)
(Page 6 of 8)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)
4A	R32	Columbia River (0-1 inch)	0.2	0.5	0.3	0.2U	0.9
4A	R32	Columbia River (1-2 inch)	0.2U	0.3	0.2U	0.2U	0.6
4A	R32	Columbia River (2-3 inch)	0.2U	0.4	0.2U	0.2U	0.2U
4A	R32	Columbia River (5-6 inch)	0.2U	0.2U	0.2U	0.2U	0.2U
4A	R32	Columbia River (0-1 inch)	0.2U	0.2	0.2U	0.2U	0.2U
4A	R32	Columbia River (1-2 inch)	0.2U	0.3	0.2U	0.2U	0.2U
4A	R32	Columbia River (2-3 inch)	0.2U	0.2U	0.2U	0.2U	0.2U
4A	R32	Columbia River (5-6 inch)	0.2U	0.2	0.2U	0.2	0.2U
4A	R32	Columbia River (11-12 inch)	0 2U	0.2	0 2U	0.2U	1
4A	R32	Columbia River (17-18 inch)	0.8	0.2U	0.2U	0.2	1.3
4A	R33	Columbia River		0.5U-1.49	0.55-3.24		
4A	R34	Columbia River (0-1 inch)	0.2U	0.2	0.3	0.2U	0.3
4A	R34	Columbia River (1-2 inch)	0.2U	0.2U	0.2U	0.2U	0.4
4A	R34	Columbia River (2-3 inch)	0.2U	0.2U	0.3	0.2U	0.3
4A	R34	Columbia River (3-4 inch)	0.2U	0.2U	0.2U	0.2U	0.8
4A	R34	Columbia River (4-5 inch)	0.2U	0 3	0.2	0.2	0.2U
4A	R34	Columbia River (5-6 inch)	0.2U	0.2	0 2U	0.3	0.2U
4A	R34	Columbia River (7-8 inch)	0.2U	0.2U	0.2U	0.2U	0.2U
4A	R34	Columbia River (9-10 inch)	0.2U	0.2	0.2U	0.2U	0.2U
4A	R34	Columbia River			0.51-0.54		
4A	R34	Columbia River		3.27	0.51-2.02		
4A	R34	Columbia River (0-1 inch)	0.5U	2.9	2		
4A	R34	Columbia River (1-2 inch)	0.5U	0 9	0.6		
4A	R34	Columbia River (2-3 inch)	0.7	0.8	0.7		
4A	R34	Columbia River (3-4 inch)	1.8	0.7	0.6		
4A	R34	Columbia River (4-5 inch)	0.2U	0.5	0.9		
4A	R34	Columbia River (5-6 inch)	0.2U	0.7	1.6		

TABLE B19. (Continued)
(Page 7 of 8)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)
4A	R35	Columbia River (0-1 inch)	0.2U	0.5	0.6	0.5	0.2U
4A	R35	Columbia River (1-2 inch)	0.2U	0.2U	0.3	0.2U	0.2U
4A	R35	Columbia River (2-3 inch)	0.2U	0.3	0.2	0.2	0.7
4A	R35	Columbia River (3-4 inch)	0.2	0.3	0.2	0.3	0.2
4A	R35	Columbia River (5-6 inch)	2.4	0 3	0.4	0.2U	0.3
4A	R35	Columbia River (8-9 inch)	0.5U	0.3	0 4	0.2U	0.3
4A	R35	Columbia River			0.99-5.1		
4B	R36	Columbia River (0-1 inch)	0.2U	0.3	0 3	0.3	0.2U
4B	R36	Columbia River (1-2 inch)	0.2U	0 5	0.3	0.2	0.5
4B	R36	Columbia River (2-3 inch)	0.2U	0 4	0.3	0.2U	0.6
4B	R36	Columbia River (3-4 inch)	0.2U	0.2U	0.3	0 2	0.2U
4B	R36	Columbia River (4-5 inch)	0.2U	0.5	0.2	0 4	0.3
4B	R36	Columbia River (5-6 inch)	0.2U	0.4	0.4	0.2U	0.2U
4B	R36	Columbia River (7-8 inch)	0.2U	0.2	0.4	0.2U	0.3
4B	R37	Columbia River			0.5U-3.8		
4B	R38	Columbia River (0-1 inch)	0.2U	0.4	0.3	0.2	0.2U
4B	R38	Columbia River (1-2 inch)	0.2U	0.3	0.3	0.2	0.3
4B	R38	Columbia River (2-3 inch)	0 2U	0.2	0.3	0.3	0.2U
4B	R38	Columbia River (3-4 inch)	0.2U	0.4	0.2	0.3	0.6
4B	R38	Columbia River (4-5 inch)	0.2U	0.4	0.2U	0.4	0.2
4B	R38	Columbia River (5-6 inch)	0.2U	0.4	0.2	0.3	0.2U
4B	R38	Columbia River (7-8 inch)	0.2U	0.2U	0.3	0.3	0.2U
4B	R38	Columbia River (9-10 inch)	0.2U	0.3	0.2U	0.2	0.4
4B	R38	Columbia River (11-12 inch)	0.2U	0.2	0.2	0.2U	0.5
4B	R38	Columbia River (14-15 inch)	0.2U	0.2	0.3	0.2U	0.2U
4B	R38	Columbia River (16-18 inch)	0.2U	0.2	0.2U	0.4	0.3
4B	R38	Columbia River (18-24 inch)	0.2U	0.3	0.2	0.2U	0.2U

TABLE B19. (Continued)
(Page 8 of 8)

River Seg.	Map Location	Station Location	Sc-46 (pCi/g)	Co-60 (pCi/g)	Mn-54 (pCi/g)	Zr-95/ Nb-95 (pCi/g)	Ru-106 (pCi/g)
4B	R38	Columbia River			0.59-3.06		
4B	R39	Columbia River			0.55-1.23		
4B	R40	Columbia River			3.63		0.3

APPENDIX C

SELECTED BENTHIC INFAUNA DATA

APPENDIX C (cont.)

Station ID	River Segment	Lat/Long	River Mile	Doc. No.	Sampling Dates	Gear
T3	4A			99	May-84	Petite Ponar
T3	4A			99	Jul-84	Petite Ponar
T3	4A			99	Apr-84	Petite Ponar
T3	4A			99	May-84	Petite Ponar
T3	4A			99	Jul-84	Petite Ponar
T4	4A			99	Apr-84	Petite Ponar
T4	4A			99	May-84	Petite Ponar
T4	4A			99	Jul-84	Petite Ponar
T4	4A			99	Apr-84	Petite Ponar
T4	4A			99	May-84	Petite Ponar
T4	4A			99	Jul-84	Petite Ponar
T4	4A			99	Apr-84	Petite Ponar
T4	4A			99	May-84	Petite Ponar
T4	4A			99	Jul-84	Petite Ponar
T5	4A			99	Apr-84	Petite Ponar
T5	4A			99	May-84	Petite Ponar
T5	4A			99	Jul-84	Petite Ponar
T5	4A			99	Apr-84	Petite Ponar
T5	4A			99	May-84	Petite Ponar
T5	4A			99	Jul-84	Petite Ponar
T5	4A			99	Apr-84	Petite Ponar
T5	4A			99	May-84	Petite Ponar
T5	4A			99	Jul-84	Petite Ponar
T6	4A			99	Apr-84	Petite Ponar
T6	4A			99	May-84	Petite Ponar
T6	4A			99	Jul-84	Petite Ponar
T6	4A			99	Apr-84	Petite Ponar
T6	4A			99	May-84	Petite Ponar
T6	4A			99	Jul-84	Petite Ponar
T6	4A			99	Apr-84	Petite Ponar
T6	4A			99	May-84	Petite Ponar
T6	4A			99	Jul-84	Petite Ponar
7-mid chan	4B		127	83	Apr-89	Van Veen
127-OR	4B		127	83	Apr-89	Van Veen
7-mid chan	4B		127	83	Sep-89	Van Veen
127-OR	4B		127	83	Sep-89	Van Veen
131-WA	4B		131	83	Apr-89	Van Veen
1-mid chan	4B		131	83	Apr-89	Van Veen
131-OR	4B		131	83	Apr-89	Van Veen
131-WA	4B		131	83	Sep-89	Van Veen
1-mid chan	4B		131	83	Sep-89	Van Veen
131-OR	4B		131	83	Sep-89	Van Veen

APPENDIX C (cont.)

Station ID	River Segment	Grab Area	Water Z	Screen Size	No. Reps	ID Level	#/m2 ?	No. Taxa	Nemertea
1	2A	0.1-m2	2.7 m	0.500-mm	5	Species	Y	9	
2	2A	0.1-m2	5 8 m	0.500-mm	5	Species	Y	7	
3	2A	0.1-m2	1.8 m	0.500-mm	5	Species	Y	8	
4	2A	0.1-m2	1.2 m	0.500-mm	5	Species	Y	9	
5	2A	0.1-m2	2.7 m	0.500-mm	5	Species	Y	7	
CW11	2C	0.1-m2	4.9 m	0.500-mm	5	Species	Y	19	4.2
CW11	2C	0.1-m2	1.8 m	0.500-mm	5	Species	Y	14	8.4
CW21	2C	0.1-m2	13.4 m	0.500-mm	5	Species	Y	14	
CW21	2C	0.1-m2	13 4 m	0.500-mm	5	Species	Y	9	31.5
CW12	2C	0.1-m2	3.7 m	0.500-mm	5	Species	Y	17	2.1
CW12	2C	0.1-m2	4.3 m	0.500-mm	5	Species	Y	11	69.3
CW22	2C	0.1-m2	14.0 m	0 500-mm	5	Species	Y	15	
CW22	2C	0.1-m2	15.2 m	0 500-mm	5	Species	Y	11	52.5
CW13	2C	0.1-m2	4.0 m	0.500-mm	5	Species	Y	14	
CW13	2C	0.1-m2	4.3 m	0.500-mm	5	Species	Y	9	21
CW23	2C	0.1-m2	12.8 m	0.500-mm	5	Species	Y	17	
CW23	2C	0.1-m2	13.1 m	0.500-mm	5	Species	Y	12	31.5
14	2C	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
13	2C	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
12	3A	0.1-m2	>1m	0 595 mm	>1	Major Taxa	Y		0
11	3A	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
10	3A	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
75-1	3A	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
75-2	3A	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
75-1	3A	0.1-m2	>1 m	0.500 mm	10	Dom Species	Y		
75-2	3A	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
79-1	3A	0.1-m2	>1 m	0 500 mm	10	Dom. Species	Y		
79-2	3A	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
79-3	3A	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
79-1	3A	0.1-m2	>1 m	0 500 mm	10	Dom. Species	Y		
79-2	3A	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
79-3	3A	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
9 Sites	3B	0.1-m2	>1m	0.595 mm	9 sites	Major Taxa	Y		0
9	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
8	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
7	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
6	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
5	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
4	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
3	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0
2	3B	0.1-m2	>1m	0.595 mm	>1	Major Taxa	Y		0

APPENDIX C. BENTHIC INFAUNA DATA FOR RIVER SEGMENTS 2-4						
Station ID	River Segment	Lat/Long	River Mile	Doc. No.	Sampling Dates	Gear
1	2A	46 08 13 N 123 22 37 W	43.2	82	Aug-89	Van Veen
2	2A	46 08 40 N 123 23 04 W	43.2	82	Aug-89	Van Veen
3	2A	46 08 46 N 123 23 05 W	43.2	82	Aug-89	Van Veen
4	2A	46 08 50 N 123 23 03 W	43.2	82	Aug-89	Van Veen
5	2A	46 09 13 N 123 22 41 W	43.2	82	Aug-89	Van Veen
CW11	2C	46 05 28 N 122 54 59 W	69	81	Jul-88	Van Veen
CW11	2C	46 05 28 N 122 54 59 W	69	81	Dec-88	Van Veen
CW21	2C	46 05 26 N 122 55 00 W	69	81	Jul-88	Van Veen
CW21	2C	46 05 26 N 122 55 00 W	69	81	Dec-88	Van Veen
CW12	2C	46 04 51 N 122 53 45 W	69	81	Jul-88	Van Veen
CW12	2C	46 04 51 N 122 53 45 W	69	81	Dec-88	Van Veen
CW22	2C	46 04 50 N 122 53 48 W	69	81	Jul-88	Van Veen
CW22	2C	46 04 50 N 122 53 48 W	69	81	Dec-88	Van Veen
CW13	2C	46 04 06 N 122 53 04 W	69	81	Jul-88	Van Veen
CW13	2C	46 04 06 N 122 53 04 W	69	81	Dec-88	Van Veen
CW23	2C	46 04 05 N 122 53 06 W	69	81	Jul-88	Van Veen
CW23	2C	46 04 05 N 122 53 06 W	69	81	Dec-88	Van Veen
14	2C	46 08 25 N 123 18 36 W	46.5	7	Jul-78	Ponar Dredge
13	2C	46 09 14 N 123 17 50 W	47.1	7	Jul-78	Ponar Dredge
12	3A	45 59 38 N 122 50 27 W	76.4	7	Jul-78	Ponar Dredge
11	3A	45 51 25 N 122 50 37 W	76.5	7	Jul-78	Ponar Dredge
10	3A	45 59 24 N 122 50 15 W	77	7	Jul-78	Ponar Dredge
75-1	3A		75	83	Apr-89	Van Veen
75-2	3A		75	83	Apr-89	Van Veen
75-1	3A		75	83	Sep-89	Van Veen
75-2	3A		75	83	Sep-89	Van Veen
79-1	3A		79	83	Apr-89	Van Veen
79-2	3A		79	83	Apr-89	Van Veen
79-3	3A		79	83	Apr-89	Van Veen
79-1	3A		79	83	Sep-89	Van Veen
79-2	3A		79	83	Sep-89	Van Veen
79-3	3A		79	83	Sep-89	Van Veen
9 Sites	3B		99-105	7	Jul-78	Ponar Dredge
9	3B	45 40 55 N 122 46 06 W	99.6	7	Jul-78	Ponar Dredge
8	3B	45 50 18 N 122 46 21 W	100.2	7	Jul-78	Ponar Dredge
7	3B	45 39 50 N 122 45 38 W	100.9	7	Jul-78	Ponar Dredge
6	3B	45 39 19 N 122 45 13 W	101 6	7	Jul-78	Ponar Dredge
5	3B	45 38 56 N 122 45 30 W	101.9	7	Jul-78	Ponar Dredge
4	3B	45 38 51 N 122 45 10 W	102.1	7	Jul-78	Ponar Dredge
3	3B	45 38 44 N 122 45 09 W	102.3	7	Jul-78	Ponar Dredge
2	3B	45 38 11 N 122 43 03 W	105	7	Jul-78	Ponar Dredge

APPENDIX C (cont.)

Station ID	River Segment	Lat/Long	River Mile	Doc. No.	Sampling Dates	Gear
1	3B	45 38 11 N 122 43 03 W	105	7	Jul-78	Ponar Dredge
20 Sites	3B		99-105	7	May-78	Ponar Dredge
88-1	3B		88	83	Apr-89	Van Veen
88-1	3B		88	83	Apr-89	Van Veen
88-2	3B		88	83	Sep-89	Van Veen
88-2	3B		88	83	Sep-89	Van Veen
95-1	3B		95	83	Apr-89	Van Veen
95-2	3B		95	83	Apr-89	Van Veen
95-3	3B		95	83	Apr-89	Van Veen
95-1	3B		95	83	Sep-89	Van Veen
95-2	3B		95	83	Sep-89	Van Veen
95-3	3B		95	83	Sep-89	Van Veen
114-WA	4A		114	83	Apr-89	Van Veen
114-OR	4A		114	83	Apr-89	Van Veen
114-WA	4A		114	83	Sep-89	Van Veen
114-OR	4A		114	83	Sep-89	Van Veen
1	4A			14	Dec-88	Ponar Dredge
2	4A			14	Dec-88	Ponar Dredge
3	4A			14	Dec-88	Ponar Dredge
4	4A			14	Dec-88	Ponar Dredge
5	4A			14	Dec-88	Ponar Dredge
Reference	4A			14	Dec-88	Ponar Dredge
T1	4A			99	Apr-84	Petite Ponar
T1	4A			99	May-84	Petite Ponar
T1	4A			99	Jul-84	Petite Ponar
T1	4A			99	Apr-84	Petite Ponar
T1	4A			99	May-84	Petite Ponar
T1	4A			99	Jul-84	Petite Ponar
T1	4A			99	Apr-84	Petite Ponar
T1	4A			99	May-84	Petite Ponar
T1	4A			99	Jul-84	Petite Ponar
T2	4A			99	Apr-84	Petite Ponar
T2	4A			99	May-84	Petite Ponar
T2	4A			99	Jul-84	Petite Ponar
T2	4A			99	Apr-84	Petite Ponar
T2	4A			99	May-84	Petite Ponar
T2	4A			99	Jul-84	Petite Ponar
T2	4A			99	Apr-84	Petite Ponar
T2	4A			99	May-84	Petite Ponar
T2	4A			99	Jul-84	Petite Ponar
T3	4A			99	Apr-84	Petite Ponar
T3	4A			99	May-84	Petite Ponar
T3	4A			99	Jul-84	Petite Ponar
T3	4A			99	Apr-84	Petite Ponar

APPENDIX C (cont.)

Station ID	River Segment	Grab Area	Water Z	Screen Size	No. Reps	ID Level	#/m2 ?	No. Taxa	Nemertea
T3	4A	0.023-m2	6.1 m	0 600 mm	2	None	Y		
T3	4A	0.023-m2	6.1 m	0 600 mm	2	None	Y		
T3	4A	0.023-m2	12.2 m	0 600 mm	2	None	Y		
T3	4A	0 023-m2	12.2 m	0 600 mm	2	None	Y		
T3	4A	0.023-m2	12 2 m	0 600 mm	2	None	Y		
T4	4A	0 023-m2	3.1 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T4	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T5	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T5	4A	0.023-m2	3.1 m	0 600 mm	2	None	Y		
T5	4A	0.023-m2	3.1 m	0 600 mm	2	None	Y		
T5	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T5	4A	0.023-m2	6.1 m	0 600 mm	2	None	Y		
T5	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T5	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T5	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T5	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T6	4A	0 023-m2	3.1 m	0.600 mm	2	None	Y		
T6	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T6	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T6	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T6	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T6	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T6	4A	0.023-m2	12.2 m	0 600 mm	2	None	Y		
T6	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T6	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
7-mid chan	4B	0.1-m2	>1 m	0 500 mm	10	Dom. Species	Y		
127-OR	4B	0.1-m2	>1 m	0 500 mm	10	Dom. Species	Y		
7-mid chan	4B	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
127-OR	4B	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
131-WA	4B	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
1-mid chan	4B	0.1-m2	>1 m	0 500 mm	10	Dom. Species	Y		
131-OR	4B	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
131-WA	4B	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
1-mid chan	4B	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		
131-OR	4B	0.1-m2	>1 m	0.500 mm	10	Dom. Species	Y		

APPENDIX C (cont.)

Station ID	River Segment	Grab Area	Water Z	Screen Size	No. Reps	ID Level	#/m2 ?	No. Taxa	Nemertea
1	3B	0.1-m2	> 1m	0.595 mm	> 1	Major Taxa	Y		0
20 Sites	3B	0 1-m2	> 1m	0.595 mm	20 sites	Major Taxa	Y		0
88-1	3B	0 1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
88-1	3B	0.1-m2	> 1 m	0 500 mm	10	Dom. Species	Y		
88-2	3B	0.1-m2	> 1 m	0 500 mm	10	Dom Species	Y		
88-2	3B	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
95-1	3B	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
95-2	3B	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
95-3	3B	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
95-1	3B	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
95-2	3B	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
95-3	3B	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
114-WA	4A	0 1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
114-OR	4A	0.1-m2	> 1 m	0 500 mm	10	Dom. Species	Y		
114-WA	4A	0.1-m2	> 1 m	0.500 mm	10	Dom. Species	Y		
114-OR	4A	0.1-m2	> 1 m	0 500 mm	10	Dom. Species	Y		
1	4A	0.055-m2	15.1 m	0.297 mm	3	Major Taxa	Y		
2	4A	0.055-m2	15.3 m	0.297 mm	3	Major Taxa	Y		
3	4A	0.055-m2	14 0 m	0.297 mm	3	Major Taxa	Y		
4	4A	0.055-m2	9.2 m	0.297 mm	3	Major Taxa	Y		
5	4A	0.055-m2	6 7 m	0 297 mm	3	Major Taxa	Y		
Reference	4A	0.055-m2	8.2 m	0.297 mm	3	Major Taxa	Y		
T1	4A	0.023-m2	3.1 m	0 600 mm	2	None	Y		
T1	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T1	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T1	4A	0.023-m2	6.1 m	0 600 mm	2	None	Y		
T1	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T1	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T1	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T1	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T1	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	6.1 m	0 600 mm	2	None	Y		
T2	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T2	4A	0.023-m2	12.2 m	0.600 mm	2	None	Y		
T3	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T3	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T3	4A	0.023-m2	3.1 m	0.600 mm	2	None	Y		
T3	4A	0.023-m2	6.1 m	0.600 mm	2	None	Y		

APPENDIX C (cont.)

Station ID	River Segment	Nematoda	Polychaeta	Oligochaeta	Cirripedia	Bivalvia	Gastropoda
1	2A		2.1	216.3		18.9	2.1
2	2A		65.1	304.5		25.2	
3	2A		2.1	373.8		10.5	
4	2A	2 1	2.1	287.7		94.5	
5	2A			16.8		48.3	
CW11	2C	27.3	10.5	224.7		71.4	4.2
CW11	2C			105		92.4	
CW21	2C			67.2		128.1	
CW21	2C	4.2		35 7		464.1	
CW12	2C	10.5	8.4	1503.6		60.9	
CW12	2C	6.3		321.3		96.6	
CW22	2C	6.3		472.5		281.4	
CW22	2C	2.1		682.5		2337.3	
CW13	2C	8.4	2.1	445.2		79.8	2.1
CW13	2C	2.1		264.6		31.5	
CW23	2C	29.4		275.1		138.6	
CW23	2C			52.5		186.9	
14	2C	0	0	5	0	95	0
13	2C	0	0	0	0	50	0
12	3A	0	55	0	0	145	0
11	3A	0	0	0	0	195	0
10	3A	0	20	0	0	175	0
75-1	3A			56		48	
75-2	3A					21	
75-1	3A			61		100	
75-2	3A					303	
79-1	3A			238		18	
79-2	3A					26	
79-3	3A					6	
79-1	3A			464		392	
79-2	3A					366	
79-3	3A					332	
9 Sites	3B	0	21.7	2.2	0	46.1	0
9	3B	0	0	0	0	100	0
8	3B	0	0	0	0	70	0
7	3B	0	0	0	0	150	0
6	3B	0	30	5	0	15	0
5	3B	0	35	5	0	30	0
4	3B	0	65	0	0	10	0
3	3B	0	5	15	0	10	0
2	3B	0	10	0	0	20	0

APPENDIX C (cont.)

Station ID	River Segment	Nematoda	Polychaeta	Oligochaeta	Cirripedia	Bivalvia	Gastropoda
1	3B	0	50	0	0	10	0
20 Sites	3B	1.4	0	16.3	0	164.9	1.1
88-1	3B		21.7	27		14	
88-1	3B					72	
88-2	3B			16		105	
88-2	3B					103	
95-1	3B			751		699	
95-2	3B					104	
95-3	3B			22		98	
95-1	3B			670		174	
95-2	3B					183	
95-3	3B			12		116	
114-WA	4A			2		156	
114-OR	4A					48	
114-WA	4A			15		102	
114-OR	4A					36	
1	4A			1309.1		30.9	18.2
2	4A			4854.5		503 6	5.5
3	4A			4969.1		485.5	0
4	4A			727.3		18.2	0
5	4A			878.2		90.9	5.5
Reference	4A			345.5		332.7	0
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T3	4A						
T3	4A						
T3	4A						
T3	4A						

APPENDIX C (cont.)

Station ID	River Segment	Nematoda	Polychaeta	Oligochaeta	Cirripedia	Bivalvia	Gastropoda
T3	4A						
T3	4A						
T3	4A						
T3	4A						
T3	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T5	4A						
T5	4A						
T5	4A						
T5	4A						
T5	4A						
T5	4A						
T5	4A						
T5	4A						
T5	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
7-mid chan	4B						
127-OR	4B			290		35	
7-mid chan	4B						
127-OR	4B			443		648	
131-WA	4B			6		68	
1-mid chan	4B			15		52	
131-OR	4B			1078		120	
131-WA	4B			168		302	
1-mid chan	4B			19		26	
131-OR	4B			261		34	

APPENDIX C (cont.)

Station ID	River Segment	Mysidacea	Amphipoda	Cladocera	Copepoda	Ostracods	Diptera
1	2A	4.2	1270.5				
2	2A		2412.9			31.5	
3	2A	4.2	2461.2				
4	2A	2.1	1278.9				
5	2A		1701				4.2
CW11	2C	2.1	3927		23.1	84	2.1
CW11	2C		2108.4		2.1	4.2	2.1
CW21	2C		4340.7		12.6	8.4	6.3
CW21	2C		140.7				
CW12	2C	2.1	3811.5		23.1	2.1	8 4
CW12	2C		867 3				
CW22	2C		2127.3		16.8	2.1	16.8
CW22	2C		29.4				
CW13	2C		2494.8		6.3		4.2
CW13	2C		357		2.1		
CW23	2C		2417.1		10.5		
CW23	2C		281.4				
14	2C	0	1830	10	0		60
13	2C	0	75	5	0		25
12	3A	0	95	0	0		80
11	3A	0	2115	5	0		255
10	3A	0	2295	0	0		305
75-1	3A		2				
75-2	3A		7				
75-1	3A		49				
75-2	3A		40				
79-1	3A		2				
79-2	3A		1				
79-3	3A		1				
79-1	3A		79				
79-2	3A		41				
79-3	3A		756				
9 Sites	3B	0	628.3	0.6	0		85
9	3B	0	2620	0	0		0
8	3B	0	520	0	0		40
7	3B	0	265	0	0		30
6	3B	0	470	0	0		5
5	3B	0	1025	5	0		35
4	3B	0	125	0	0		0
3	3B	0	25	0	0		325
2	3B	0	175	0	0		3

APPENDIX C (cont.)

Station ID	River Segment	Mysidacea	Amphipoda	Cladocera	Copepoda	Ostracods	Diptera
1	3B	0	430	0	0		325
20 Sites	3B	0	32.3	15.3	24 2		73.2
88-1	3B		62				
88-1	3B		5				
88-2	3B		1059				
88-2	3B		4445				
95-1	3B		33				
95-2	3B		19				
95-3	3B		134				
95-1	3B		41				
95-2	3B		13				
95-3	3B		1177				
114-WA	4A		3				
114-OR	4A						
114-WA	4A		14				
114-OR	4A						
1	4A		200				
2	4A		140				
3	4A		96.4				
4	4A		121.8				
5	4A		67.3				
Reference	4A		41.8				
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T3	4A						
T3	4A						
T3	4A						
T3	4A						

APPENDIX C (cont.)

Station ID	River Segment	Mysidacea	Amphipoda	Cladocera	Copepoda	Ostracods	Diptera
T3	4A						
T3	4A						
T3	4A						
T3	4A						
T3	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
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T5	4A						
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T5	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
7-mid chan	4B		20				
127-OR	4B						
7-mid chan	4B		10				
127-OR	4B						
131-WA	4B		5				
1-mid chan	4B		54				
131-OR	4B		766				
131-WA	4B		80				
1-mid chan	4B		198				
131-OR	4B		205				

APPENDIX C (cont.)

Station ID	River Segment	Heleidae	Chironomidae	Arachnida	Turbellaria	Total Macrof.	SD	Neanthes limnicola
1	2A	12.6		1		1529	732	2.1
2	2A		14.7			2858	578	65.1
3	2A		8.4			2871	568	2.1
4	2A	2.1				1674	514	2.1
5	2A	50 4	8.4			1829	642	
CW11	2C	903	126		12.6	5450	2495	10.5
CW11	2C	60.9	4.2		12.6	2407	3052	
CW21	2C	867.3	71.4		6.3	5569	2618	
CW21	2C	136.5			4.2	817	377	
CW12	2C	984.9	63		4.2	6506	1978	8 4
CW12	2C	105	6.3		39 9	1514	1123	
CW22	2C	802.2	39.9	4.2	14.7	3780	1372	2.1
CW22	2C	336	2.1		94.5	3545	4213	
CW13	2C	777	149.1			3980	1844	2.1
CW13	2C	222.6			21	924	132	
CW23	2C	1176	31.5	2.1		4108	1033	
CW23	2C	79.8	2.1		21	666	600	
14	2C			0	0			
13	2C			0	0			
12	3A			0	0			
11	3A			0	0			
10	3A			0	0			
75-1	3A	489	14		43	663	342	
75-2	3A	99				148	118	
75-1	3A	326			2	550	409	
75-2	3A	401				760	414	
79-1	3A	546			91	902	837	
79-2	3A	219				262	216	
79-3	3A	49				68	38	
79-1	3A	322			30	1295	775	
79-2	3A	341				781	453	
79-3	3A	37				1146	619	
9 Sites	3B			0	0	784.5		
9	3B			0	0	2720		
8	3B			0	0	630		
7	3B			0	0	445		
6	3B			0	0	525		
5	3B			0	0	1135		
4	3B			0	0	200		
3	3B			0	0	380		
2	3B			0	0	208		

APPENDIX C (cont.)

Station ID	River Segment	Heleidae	Chironomidae	Arachnida	Turbellaria	Total Macrof.	SD	Neanthes limnicola
1	3B			0	0	815		
20 Sites	3B			0.3	0	329.7		
88-1	3B	100		0.6	0	206		
88-1	3B	275				372		
88-2	3B	63				1265		
88-2	3B	47				637		
95-1	3B	271				9126		
95-2	3B	171				308		
95-3	3B	337				600		
95-1	3B	88				983		
95-2	3B	383				635		
95-3	3B	180				1518		
114-WA	4A	275	43		14	501	257	
114-OR	4A	155	4			219	170	
114-WA	4A	256	2		6	401	190	
114-OR	4A	408	14			470	280	
1	4A		67.3			1630.9	158.7	
2	4A		667 3			6176.4	430.5	
3	4A		314.5			5878.2	1212	
4	4A		200			1090.9	519.6	
5	4A		121.8			1169.1	1091.6	
Reference	4A		327.3			1072.7	608	
T1	4A					1530		
T1	4A					1586		
T1	4A					283		
T1	4A					2173		
T1	4A					1044		
T1	4A					718		
T1	4A							
T1	4A					87		
T1	4A					131		
T2	4A					980		
T2	4A					1522		
T2	4A					2174		
T2	4A					2820		
T2	4A					3370		
T2	4A					1348		
T2	4A							
T2	4A					391		
T2	4A					260		
T3	4A					1480		
T3	4A					2108		
T3	4A					2652		
T3	4A					2020		

APPENDIX C (cont.)

Station ID	River Segment	Heleidae	Chironomidae	Arachnida	Turbellaria	Total Macrof.	SD	Neanthes limnicola
T3	4A					2501		
T3	4A					1043		
T3	4A					2540		
T3	4A					2108		
T3	4A					564		
T4	4A					940		
T4	4A							
T4	4A					1620		
T4	4A					1850		
T4	4A							
T4	4A					1460		
T4	4A					700		
T4	4A							
T4	4A					1420		
T5	4A					2350		
T5	4A					750		
T5	4A					690		
T5	4A					2100		
T5	4A					90		
T5	4A					550		
T5	4A					110		
T5	4A					250		
T5	4A					1490		
T6	4A					430		
T6	4A					240		
T6	4A					1120		
T6	4A					440		
T6	4A					250		
T6	4A					1010		
T6	4A							
T6	4A					260		
T6	4A					170		
7-mid chan	4B	24	3			59	37	
127-OR	4B	343				682	720	
7-mid chan	4B	315	64			434	235	
127-OR	4B	506				1638	1365	
131-WA	4B	105				194	79	
1-mid chan	4B	108	22			252	153	
131-OR	4B		89			2137	1090	
131-WA	4B	392				974	398	
1-mid chan	4B	88	35			374	150	
131-OR	4B		71			643	253	

APPENDIX C (cont.)

Station ID	River Segment	Corbicula manilensis	Corophium salmonis	C. spinicorne	Neomysis mercedis	Daphnia sp.	Med. Dia.
1	2A	18.9	1264.2		4.2		
2	2A	25.2	2412.9				
3	2A	10.5	2461.2		4		
4	2A	94.5	1278.9		2		
5	2A	48.3	1671.6				
CW11	2C	71.4	3912.3	14.7	2.1	16.8	
CW11	2C	92.4	2079	6.3			
CW21	2C	128.1	3387.3	779.1		60.9	
CW21	2C	464.1	132.3	4.2			
CW12	2C	60.9	3805.2	6.3	2.1	18.9	
CW12	2C	96.6	861	4.2			
CW22	2C	281.4	2112.6	4.2		10.5	
CW22	2C	2337.3	27.3	2.1			
CW13	2C	79.8	2480.1	14.7		8.4	
CW13	2C	31.5	357				
CW23	2C	138.6	2368.8	21		18.9	
CW23	2C	186.9	241.5	33.6			
14	2C						
13	2C						
12	3A						
11	3A						
10	3A						
75-1	3A	48	2				
75-2	3A	21	7				
75-1	3A	100	49				
75-2	3A	303	40				
79-1	3A	18	2				
79-2	3A	26	1				
79-3	3A	6	1				
79-1	3A	392	79				
79-2	3A	366	41				
79-3	3A	332	756				
9 Sites	3B						
9	3B						
8	3B						
7	3B						
6	3B						
5	3B						
4	3B						
3	3B						
2	3B						

APPENDIX C (cont.)

Station ID	River Segment	Corbicula manilensis	Corophium salmonis	C. spinicorne	Neomysis mercedis	Daphnia sp.	Med. Dia.
1	3B						
20 Sites	3B						
88-1	3B	14	62				
88-1	3B	72	5				
88-2	3B	105	1059				
88-2	3B	103	391	54			
95-1	3B	699	33				
95-2	3B	104	19				
95-3	3B	98	134				
95-1	3B	174	41				
95-2	3B	183	13				
95-3	3B	116	1177				
114-WA	4A	156	3				
114-OR	4A	48					
114-WA	4A	102	14				
114-OR	4A	36					
1	4A						~0.2 mm
2	4A						~0.2 mm
3	4A						~0.2 mm
4	4A						~0.2 mm
5	4A						~0.5 mm
Reference	4A						~0.2 mm
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T1	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T2	4A						
T3	4A						
T3	4A						
T3	4A						
T3	4A						

APPENDIX C (cont.)

Station ID	River Segment	Corbicula manilensis	Corophium salmonis	C. spinicorne	Neomysis mercedis	Daphnia sp.	Med. Dia.
T3	4A						
T3	4A						
T3	4A						
T3	4A						
T3	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
T4	4A						
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T5	4A						
T5	4A						
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T5	4A						
T5	4A						
T5	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
T6	4A						
7-mid chan	4B		20				
127-OR	4B	35					
7-mid chan	4B		10				
127-OR	4B	648					
131-WA	4B	68	5				
1-mid chan	4B	52	54				
131-OR	4B	120	766				
131-WA	4B	302	80				
1-mid chan	4B	26	198				
131-OR	4B	34	205				

APPENDIX C (cont.)

Station ID	River Segment	% Silt/Clay	Sed. Type	% TOC	% TVS
1	2A	13.2	sand		3.3
2	2A	61 9	silt/clay		2.6
3	2A	13.8	sand		1 1
4	2A	10.8	sand		0 6
5	2A	0.3	sand		0.6
CW11	2C	1	sand		?
CW11	2C	1.3	sand		0.6
CW21	2C	0	sand		0.3
CW21	2C	2.2	sand		0.3
CW12	2C	0	sand		0.3
CW12	2C	1.1	sand		0.4
CW22	2C	1	sand		0.4
CW22	2C	0.2	sand		0.3
CW13	2C	0	sand		0.6
CW13	2C	0.4	sand		0 4
CW23	2C	0	sand/gravel		0.5
CW23	2C	0	gravel		0.6
14	2C				
13	2C				
12	3A				
11	3A				
10	3A				
75-1	3A	<1	sand		1
75-2	3A	0-<1	sand		<1-1
75-1	3A	<1	sand		1
75-2	3A	<1	sand		1
79-1	3A	0-<1	sand		<1-1
79-2	3A	0-<1	sand		<1-1
79-3	3A	0-<1	sand		<1-1
79-1	3A	<1	sand		<1-1
79-2	3A	0-<1	sand		1
79-3	3A	<1	sand		1
9 Sites	3B				
9	3B	0.1	med. sand	Y	1.1
8	3B	0.3	med. sand	Y	0.2
7	3B	5.8	fine sand	Y	2
6	3B	0.3	med. sand	Y	1
5	3B	10.2	med. sand	Y	1.6
4	3B	2.7	med. sand	Y	1.3
3	3B	26.3	very fine sand	Y	3.5
2	3B	12.1	fine sand	Y	2.3

APPENDIX C (cont.)					
Station ID	River Segment	% Silt/Clay	Sed. Type	% TOC	% TVS
1	3B	6 6	med. sand	Y	1.8
20 Sites	3B				
88-1	3B	<1	sand		1
88-1	3B	0-<1	sand		1
88-2	3B	<1	sand		1
88-2	3B	<1-90	sand		1
95-1	3B	0	sand		1
95-2	3B	0-<1	sand		1
95-3	3B	0-<1	sand		1
95-1	3B	<1	sand		1
95-2	3B	0-<1	sand		1
95-3	3B	<1-1	sand		1
114-WA	4A	0-<1	sand & gravel		1
114-OR	4A	0-<1	sand		<1-1
114-WA	4A	<1	sand & gravel		1
114-OR	4A	<1	sand		1
1	4A		fine sand		
2	4A		fine sand		
3	4A		fine sand		
4	4A		fine sand		
5	4A		med sand		
Reference	4A		fine sand		
T1	4A		coarse sand		
T1	4A		coarse sand		
T1	4A		coarse sand		
T1	4A		coarse sand		
T1	4A		coarse sand		
T1	4A		coarse sand		
T1	4A		silt & sand		
T1	4A		silt & sand		
T1	4A		silt & sand		
T2	4A		coarse sand		
T2	4A		coarse sand		
T2	4A		coarse sand		
T2	4A		silt & detritus		
T2	4A		silt & detritus		
T2	4A		silt & detritus		
T2	4A		coarse sand		
T2	4A		coarse sand		
T2	4A		coarse sand		
T3	4A		silt & detritus		
T3	4A		silt & detritus		
T3	4A		silt & detritus		
T3	4A		silt & detritus		

APPENDIX C (cont.)

Station ID	River Segment	% Silt/Clay	Sed. Type	% TOC	% TVS
T3	4A		silt & detritus		
T3	4A		silt & detritus		
T3	4A		coarse sand		
T3	4A		coarse sand		
T3	4A		coarse sand		
T4	4A		coarse sand		
T4	4A		coarse sand		
T4	4A		coarse sand		
T4	4A		silt & detritus		
T4	4A		silt & detritus		
T4	4A		silt & detritus		
T4	4A		coarse sand		
T4	4A		coarse sand		
T4	4A		coarse sand		
T5	4A		fine sand		
T5	4A		fine sand		
T5	4A		fine sand		
T5	4A		fine sand		
T5	4A		fine sand		
T5	4A		fine sand		
T5	4A		coarse sand		
T5	4A		coarse sand		
T5	4A		coarse sand		
T6	4A		silt & sand		
T6	4A		silt & sand		
T6	4A		silt & sand		
T6	4A		coarse sand		
T6	4A		coarse sand		
T6	4A		coarse sand		
T6	4A		sand & cobbles		
T6	4A		sand & cobbles		
T6	4A		sand & cobbles		
7-mid chan	4B	<1	sand		<1-1
127-OR	4B	<1	sand & gravel		1
7-mid chan	4B	<1	sand		<1
127-OR	4B	0-<1	sand & gravel		1
131-WA	4B	0-<1	sand		1
1-mid chan	4B	<1	sand		<1-1
131-OR	4B	"2-3"	sand		2
131-WA	4B	0-<1	sand & gravel		"1-5"
1-mid chan	4B	<1-3	sand		1
131-OR	4B	"2-3"	sand		"1-2"