

HATCH

SYSTRA
INTERNATIONAL
BRIDGE
TECHNOLOGIES

 **Kiewit**



City of Kingston - Third Crossing of the Cataraqui River -
Parks Canada Environmental Impact Analysis
Detailed Impact Analysis

Appendix C

Sediment Analysis Results 2010-2018

(Hatch - September 2019)



Table D-2: 2016 Sediment Analysis Results

2016 Borehole No.				BH16-101		BH16-102		BH16-103		BH16-104		BH16-105		BH16-106		
Client Sample ID				SA2	SA3	SA1	SA3	SA1	SA2B	SA1	SA2	SA1	SA3	SA1	SA2	
Parameter	Lowest Detection Limit	Units	CCME (CSQG)		Meters Below Sediment Level											
			ISQG (µg/g)	PEL (µg/g)	1.83-2.44	2.44-3.2	1.45-2.1	2.1-2.7	1.5-2.1	2.4-2.7	1.35-1.95	1.95-2.55	1.3-2	2.6-3	1.57-2.2	2.2-2.8
Metals																
Antimony (Sb)	1	ug/g	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic (As)	1	ug/g	5.9	17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium (Ba)	1	ug/g	-	-	173	204	179	425	151	504	185	76.3	129	250	187	202
Beryllium (Be)	0.5	ug/g	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (B)	5	ug/g	-	-	14.7	19.6	13.6	15.3	14.9	11.9	11.7	12.7	7.5	8.3	30.5	13.6
Cadmium (Cd)	0.5	ug/g	0.6	3.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (Cr)	1	ug/g	37.3	90	30.4	34	3.1	70.4	25.5	62.9	31.3	7.1	22.5	44.5	35.4	30
Cobalt (Co)	1	ug/g	-	-	9.8	11.6	9.6	17.3	7.4	15.8	10.7	2.7	7	12.1	11.5	11.3
Copper (Cu)	1	ug/g	35.7	197	28.3	33	26	92.7	23	13.6	31.6	9.2	18.4	25.2	31.5	28
Hexavalent Chromium			-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Lead (Pb)	1	ug/g	35	91.3	21.8	9.2	21.6	14.5	40.6	14.1	27.4	5	7	8.6	22.4	7.8
Mercury (Hg)		ug/g	0.17	0.486	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum (Mo)	1	ug/g	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel (Ni)	1	ug/g	-	-	19.1	22.9	18.7	41.4	15.8	30.5	22.3	8.1	14.8	24.1	21.7	22.2
Selenium (Se)	1	ug/g	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver (Ag)	0.2	ug/g	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium (Tl)	0.5	ug/g	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium (U)	1	ug/g	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium (V)	1	ug/g	-	-	34.2	38	33	67.8	24.9	76.9	35.4	12.4	32.8	54.1	36.2	33.8
Zinc (Zn)	5	ug/g	123	315	69	69.2	66.5	122	75.2	96.6	83.4	16.8	54.6	59.3	79.5	67.3
Hydrocarbons																
F2 (C10-C16)	10	ug/g	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
F3 (C16-C34)	50	ug/g	-	-	<8	<8	316	<8	52	<8	<8	<8	560	<8	<8	45
F4 (C34-C50)	50	ug/g	-	-	<6	<6	<6	<6	6	<6	<6	<6	282	<6	<6	<6
Polycyclic Aromatic Hydrocarbons (PAHs)																
Acenaphthene	0.05	ug/g	0.00671	0.0889	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Acenaphthylene	0.05	ug/g	0.00587	0.128	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Anthracene	0.05	ug/g	0.0469	0.245	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)anthracene	0.05	ug/g	0.0317	0.385	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	0.05	ug/g	0.0319	0.782	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(b)fluoranthene	0.05	ug/g	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(g,h,i)perylene	0.05	ug/g	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	0.05	ug/g	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chrysene	0.05	ug/g	0.0571	0.862	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dibenzo(ah)anthracene	0.05	ug/g	0.00622	0.135	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluoranthene	0.05	ug/g	0.111	2.355	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02
Fluorene	0.05	ug/g	0.0212	0.144	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Indeno(1,2,3-cd)pyrene	0.05	ug/g	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1-Methylnaphthalene	0.03	ug/g	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylnaphthalene	0.03	ug/g	0.0202	0.201	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methylnaphthalene		ug/g	-	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04



2016 Borehole No.				BH16-101		BH16-102		BH16-103		BH16-104		BH16-105		BH16-106	
Client Sample ID				SA2	SA3	SA1	SA3	SA1	SA2B	SA1	SA2	SA1	SA3	SA1	SA2
Parameter	Lowest Detection Limit	Units	CCME (CSQG)		Meters Below Sediment Level										
			ISQG (µg/g)	PEL (µg/g)	1.83-2.44	2.44-3.2	1.45-2.1	2.1-2.7	1.5-2.1	2.4-2.7	1.35-1.95	1.95-2.55	1.3-2	2.6-3	1.57-2.2
Naphthalene	0.013	ug/g	0.0346	0.391	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Phenanthrene	0.046	ug/g	0.419	0.515	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pyrene	0.05	ug/g	0.053	0.875	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.02

Notes:

NV = No value derived, NA - Not analyzed. NC - Not calculated.

Exceeds CCME Interim Sediment Quality Guideline (ISQG)

Exceeds CCME Probable Effect Levels (PELs)

1: Canadian Council of Ministers of the Environment (CCME) Canadian Sediment Quality Guidelines (CEQG) for the Protection of Aquatic Life: Table 1. Interim freshwater sediment quality guidelines (updated 2002).



Table D-3: 2018 Sediment Analysis Results

2018 Borehole No.				BH18-101		BH18-102		BH18-103	BH18-104		BH18-105	
Client Sample ID				SS2	SS7	SS1	SS3	SS1	SS2	SS6	SS7	
Parameter	Lowest Detection Limit	Units	CCME (CSQG)		Meters Below Sediment Level							
			ISQG (µg/g)	PEL (µg/g)	0.72-1.44	5.24-5.96	0-0.3	1.2-1.8	0-0.6	0.6-1.2	3.6-4.2	4.8-5.4
Physical Tests												
Conductivity	0.004	mS/cm	NA	NA	NA	0.279	0.228	NA	NA	NA	NA	0.52
Moisture	0.1	%	NA	NA	86.7	32	88.9	25.5	89.4	81.8	23.4	24.3
pH	0.1	pH units	NA	NA	NA	7.88	6.53	NA	6.33	6.92	7.75	8.31
Redox Potential	-1000	mV	NA	NA	NA	102	270	NA	NA	NA	NA	143
Resistivity	1	ohm*cm	NA	NA	NA	3580	4390	NA	NA	NA	NA	1920
Leachable Anions & Nutrients												
Chloride	5	ug/g	NA	NA	NA	30.9	174	NA	NA	NA	NA	144
Anions and Nutrients												
Sulphate	20	mg/kg	NA	NA	NA	<20	263	NA	NA	NA	NA	100
Inorganic Parameters												
Acid Volatile Sulphides	2	mg/kg	NA	NA	NA	3.7	<1.0	NA	NA	NA	NA	<0.20
Metals												
Antimony (Sb)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	<1.0	<1.0	NA
Arsenic (As)	1	ug/g	5.9	17	NA	NA	NA	NA	NA	2.3	3.3	NA
Barium (Ba)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	264	346	NA
Beryllium (Be)	0.5	ug/g	NA	NA	NA	NA	NA	NA	NA	0.83	1.03	NA
Boron (B)	5	ug/g	NA	NA	NA	NA	NA	NA	NA	9.6	11.8	NA
Cadmium (Cd)	0.5	ug/g	0.6	3.5	NA	NA	NA	NA	NA	0.54	<0.50	NA
Chromium (Cr)	1	ug/g	37.3	90	NA	NA	NA	NA	NA	41.2	54.6	NA
Cobalt (Co)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	14.3	17.1	NA
Copper (Cu)	1	ug/g	35.7	197	NA	NA	NA	NA	NA	35.7	32.8	NA
Hexavalent Chromium			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (Fe)		ug/g	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Pb)	1	ug/g	35	91.3	NA	NA	NA	NA	NA	7.9	8.7	NA
Manganese (Mn)		ug/g	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (Hg)		ug/g	0.17	0.486	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum (Mo)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	1.1	<1.0	NA
Nickel (Ni)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	29.7	35.8	NA
Selenium (Se)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	<1.0	<1.0	NA
Silver (Ag)	0.2	ug/g	NA	NA	NA	NA	NA	NA	NA	<0.20	<0.20	NA
Thallium (Tl)	0.5	ug/g	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	NA
Uranium (U)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	1.3	<1.0	NA
Vanadium (V)	1	ug/g	NA	NA	NA	NA	NA	NA	NA	47	77.4	NA



2018 Borehole No.				BH18-101		BH18-102		BH18-103	BH18-104		BH18-105	
Client Sample ID				SS2	SS7	SS1	SS3	SS1	SS2	SS6	SS7	
Parameter	Lowest Detection Limit	Units	CCME (CSQG)		Meters Below Sediment Level							
			ISQG (µg/g)	PEL (µg/g)	0.72-1.44	5.24-5.96	0-0.3	1.2-1.8	0-0.6	0.6-1.2	3.6-4.2	4.8-5.4
Zinc (Zn)	5	ug/g	123	315	NA	NA	NA	NA	NA	93.3	96.2	NA
Volatile Organic Compounds (VOCs)												
Acetone	0.5	ug/g	NA	NA	<3.8	<0.50	NA	<0.50	NA	<2.0	<0.50	NA
Benzene	0.0068	ug/g	NA	NA	<0.051	<0.0068	NA	<0.0068	NA	<0.027	<0.0068	NA
Bromodichloromethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Bromoform	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Bromomethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Carbon tetrachloride	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Chlorobenzene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Dibromochloromethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Chloroform	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,2-Dibromoethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,2-Dichlorobenzene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,3-Dichlorobenzene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,4-Dichlorobenzene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Dichlorodifluoromethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,1-Dichloroethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,2-Dichloroethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,1-Dichloroethylene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
cis-1,2-Dichloroethylene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
trans-1,2-Dichloroethylene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Methylene Chloride	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,2-Dichloropropane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
cis-1,3-Dichloropropene	0.03	ug/g	NA	NA	<0.23	<0.030	NA	<0.030	NA	<0.12	<0.030	NA
trans-1,3-Dichloropropene	0.03	ug/g	NA	NA	<0.23	<0.030	NA	<0.030	NA	<0.12	<0.030	NA
1,3-Dichloropropene (cis & trans)	0.042	ug/g	NA	NA	<0.32	<0.042	NA	<0.042	NA	<0.17	<0.042	NA
Ethylbenzene	0.018	ug/g	NA	NA	<0.14	<0.018	NA	<0.018	NA	<0.070	<0.018	NA
n-Hexane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Methyl Ethyl Ketone	0.5	ug/g	NA	NA	<3.8	<0.50	NA	<0.50	NA	<2.0	<0.50	NA
Methyl Isobutyl Ketone	0.5	ug/g	NA	NA	<3.8	<0.50	NA	<0.50	NA	<2.0	<0.50	NA
MTBE	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Styrene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,1,1,2-Tetrachloroethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,1,2,2-Tetrachloroethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Tetrachloroethylene	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Toluene	0.08	ug/g	NA	NA	<0.60	<0.080	NA	<0.080	NA	<0.31	<0.080	NA



2018 Borehole No.				BH18-101		BH18-102		BH18-103	BH18-104		BH18-105	
Client Sample ID				SS2	SS7	SS1	SS3	SS1	SS2	SS6	SS7	
Parameter	Lowest Detection Limit	Units	CCME (CSQG)		Meters Below Sediment Level							
			ISQG (µg/g)	PEL (µg/g)	0.72-1.44	5.24-5.96	0-0.3	1.2-1.8	0-0.6	0.6-1.2	3.6-4.2	4.8-5.4
1,1,1-Trichloroethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
1,1,2-Trichloroethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Trichloroethylene	0.01	ug/g	NA	NA	<0.075	<0.010	NA	<0.010	NA	<0.039	<0.010	NA
Trichlorofluoromethane	0.05	ug/g	NA	NA	<0.38	<0.050	NA	<0.050	NA	<0.20	<0.050	NA
Vinyl chloride	0.02	ug/g	NA	NA	<0.15	<0.020	NA	<0.020	NA	<0.078	<0.020	NA
o-Xylene	0.02	ug/g	NA	NA	<0.15	<0.020	NA	<0.020	NA	<0.078	<0.020	NA
m+p-Xylenes	0.03	ug/g	NA	NA	<0.23	<0.030	NA	<0.030	NA	<0.12	<0.030	NA
Xylenes (Total)	0.05	ug/g	NA	NA	<0.27	<0.050	NA	<0.050	NA	<0.14	<0.050	NA
4-Bromofluorobenzene		%	NA	NA	71.2	105.8	NA	98.7	NA	70.4	98.2	NA
1,4-Difluorobenzene		%	NA	NA	81	112.6	NA	111.2	NA	84.6	115.6	NA
Hydrocarbons												
F1 (C6-C10)	5	ug/g	NA	NA	<38	<5.0	NA	<5.0	NA	<20	<5.0	NA
F1-BTEX	5	ug/g	NA	NA	<38	<5.0	NA	<5.0	NA	<20	<5.0	NA
F2 (C10-C16)	10	ug/g	NA	NA	<75	<10	NA	<10	<75	<50	<10	NA
F2-Naphth	10	ug/g	NA	NA	NA	NA	NA	NA	NA	<50	<10	NA
F3 (C16-C34)	50	ug/g	NA	NA	<380	<50	NA	<50	<380	<250	<50	NA
F3-PAH	50	ug/g	NA	NA	NA	NA	NA	NA	NA	<250	<50	NA
F4 (C34-C50)	50	ug/g	NA	NA	<380	<50	NA	<50	<380	<250	<50	NA
Total Hydrocarbons (C6-C50)	72	ug/g	NA	NA	<540	<72	NA	<72	NA	<360	<72	NA
Chrom. to baseline at nC50		-	NA	NA	YES	YES	NA	YES	YES	YES	YES	NA
2-Bromobenzotrifluoride		%	NA	NA	94	91.1	NA	68.8	96.9	89.9	91.4	NA
3,4-Dichlorotoluene		%	NA	NA	53.8	93	NA	83.9	NA	57.8	81.7	NA
Polycyclic Aromatic Hydrocarbons (PAHs)												
Acenaphthene	0.05	ug/g	0.00671	0.0889	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Acenaphthylene	0.05	ug/g	0.00587	0.128	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Anthracene	0.05	ug/g	0.0469	0.245	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Benzo(a)anthracene	0.05	ug/g	0.0317	0.385	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Benzo(a)pyrene	0.05	ug/g	0.0319	0.782	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Benzo(b)fluoranthene	0.05	ug/g	-	-	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Benzo(g,h,i)perylene	0.05	ug/g	-	-	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Benzo(k)fluoranthene	0.05	ug/g	-	-	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Chrysene	0.05	ug/g	0.0571	0.862	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Dibenzo(ah)anthracene	0.05	ug/g	0.00622	0.135	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Fluoranthene	0.05	ug/g	0.111	2.355	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Fluorene	0.05	ug/g	0.0212	0.144	NA	NA	NA	NA	NA	<0.25	<0.050	NA
Indeno(1,2,3-cd)pyrene	0.05	ug/g	-	-	NA	NA	NA	NA	NA	<0.25	<0.050	NA



2018 Borehole No.			BH18-101		BH18-102		BH18-103	BH18-104		BH18-105		
Client Sample ID			SS2		SS7		SS1	SS3	SS1	SS2	SS6	SS7
Parameter	Lowest Detection Limit	Units	CCME (CSQG)		Meters Below Sediment Level							
			ISQG (µg/g)	PEL (µg/g)	0.72-1.44	5.24-5.96	0-0.3	1.2-1.8	0-0.6	0.6-1.2	3.6-4.2	4.8-5.4
1+2-Methylnaphthalenes	0.042	ug/g	-	-	NA	NA	NA	NA	NA	<0.21	<0.042	NA
1-Methylnaphthalene	0.03	ug/g	-	-	NA	NA	NA	NA	NA	<0.15	<0.030	NA
2-Methylnaphthalene	0.03	ug/g	0.0202	0.201	NA	NA	NA	NA	NA	<0.15	<0.030	NA
Naphthalene	0.013	ug/g	0.0346	0.391	NA	NA	NA	NA	NA	<0.065	<0.013	NA
Phenanthrene	0.046	ug/g	0.419	0.515	NA	NA	NA	NA	NA	<0.23	<0.046	NA
Pyrene	0.05	ug/g	0.053	0.875	NA	NA	NA	NA	NA	<0.25	<0.050	NA
2-Fluorobiphenyl		%	-	-	NA	NA	NA	NA	NA	77.5	80.1	NA
p-Terphenyl d14		%	-	-	NA	NA	NA	NA	NA	74.8	79.6	NA

Notes:

NV = No value derived, NA - Not analyzed. NC - Not calculated.

Exceeds CCME Interim Sediment Quality Guideline (ISQG)

Exceeds CCME Probable Effect Levels (PELs)

1: Canadian Council of Ministers of the Environment (CCME) Canadian Sediment Quality Guidelines (CEQG) for the Protection of Aquatic Life: Table 1. Interim freshwater sediment quality guidelines (updated 2002).