

From: [Erica Janes](#)
To: [Permits](#)
Cc: [Shannon Allerston](#)
Subject: FW: Porritt Landing Samples
Date: November 16, 2018 10:23:29 AM
Attachments: [image001.png](#)
[Sediment FINAL Tables August 2018.pdf](#)
[Sediment FINAL Tables August 2018 v2.pdf](#)
[Sediment PAH FINAL Tables.pdf](#)

Please post email and attachments to MV2018L7-0002 – Town of Hay River – Initial/Renewal App / Consultations-Reviews-Workplans – Sediment sampling results – Sept11-18

From: earled@northwestel.net <earled@northwestel.net>
Sent: Tuesday, September 11, 2018 7:50 AM
To: Erica Janes <ejanes@mvlwb.com>; 'Wendy Bidwell' <Wendy_Bidwell@gov.nt.ca>
Cc: Senior Administrative Officer <SAO@hayriver.com>
Subject: Porritt Landing Samples

Hi Erica/Wendy, here is the second set for review. Thanks

Earle Dumas(E&S Contracting, Consulting and Project Management)
Director of Projects and Planning
867-875-7030
earled@northwestel.net



2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	F1 C6-C10	F2c C10-C16	F3c C16-C34	F4c C34-C50
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Reported Detection Limit				0.005	0.02	0.005	0.03	10	50	50	100
18HA-01	0-15	17-Aug-18	6230855	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-02	35-50	17-Aug-18	6230857	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-03	0-15	17-Aug-18	6230858	<0.005	<0.02	<0.005	<0.03	<10	<50	90	<100
18HA-04	35-50	17-Aug-18	6230859	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-05	0-15	18-Aug-18	6230860	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-06	35-50	18-Aug-18	6230861	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-07	0-15	17-Aug-18	6230862	<0.005	<0.02	<0.005	<0.03	<10	<50	100	<100
18HA-08	35-50	18-Aug-18	6230863	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-09	0-15	18-Aug-18	6230864	<0.005	<0.02	<0.005	<0.03	<10	<50	180	<100
CCME-CEQG, Coarse-Grained Soils, Residential				0.03	0.37	0.082	11	---	---	---	---
PHC-CWS, Coarse-Grained Soils, Residential, < 3.0 m				---	---	---	---	30	150	300	2,800

Notes:

- Red and Underlined** - values do not meet Canadian Environmental Quality Guidelines (CEQGs), Canadian Council of Minister of the Environment
- CCME-CEQG - Canadian Council of Ministers of the Environment - Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health
- PHC-CWS - Canadian Council of Ministers of the Environment - Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (CCME 2008)

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Reported Detection Limit				0	0	1	0	0.20	0	1	0	1	0	0	1	1	0	0	0	1	1	0	1
18HA-01	0-15	17-Aug-18	6230855	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-02	35-50	17-Aug-18	6230857	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-03	0-15	17-Aug-18	6230858	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-04	35-50	17-Aug-18	6230859	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-05	0-15	18-Aug-18	6230860	0.3	<u>6.5</u>	144	0.3	0.77	0.34	10	6.3	11	7.2	<0.05	1.1	15.9	0.5	<0.10	0.11	<1.0	1.1	15.6	59
18HA-06	35-50	18-Aug-18	6230861	0.3	<u>7.2</u>	141	0.3	0.64	0.39	10.8	8.2	21.4	6.9	<0.05	1.5	19.1	0.6	0.1	0.13	<1.0	1.4	18.4	64
18HA-07	0-15	17-Aug-18	6230862	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-08	35-50	18-Aug-18	6230863	0.3	<u>8.3</u>	133	0.3	0.82	0.35	10.3	7.7	13.5	7	<0.05	1.2	16.9	0.5	<0.10	0.12	<1.0	1.1	17.2	65
18HA-09	0-15	18-Aug-18	6230864	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CCME-CEQG Soil Quality Guidelines, Residential/Parkland				20	12	500	4.0	---	10	64	50	63	140	6.6	10	45	1	20	1	50	23	130	250
CCME-CEQG Sediment Guidelines, ISQG				---	5.9	---	---	---	0.6	37.3	---	35.7	35.7	0.170	---	---	---	---	---	---	---	---	123
CCME-CEQG Sediment Guidelines, PEL				---	17	---	---	---	3.5	90	---	197	197	0.486	---	---	---	---	---	---	---	---	315

Notes:

Red and Underlined - values do not meet Canadian Environmental Quality Guidelines (CEQGs), Canadian Council of Minister of the Environment

ISQG - Interim Sediment Quality Guideline

PEL - Probable Effects Level

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Arsenic	Boron	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Uranium	Zinc
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reported Detection Limit				0.002	0.2	0.001	0.005	0.1	0.1	0.050	0.001	0.050	0.002	0.005	0.001	0.005	0.100
18HA-01	0-15	17-Aug-18	6230855	0.002	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	0.053	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-02	35-50	17-Aug-18	6230857	0.004	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-03	0-15	17-Aug-18	6230858	<0.002	<0.2	<0.001	<0.005	<0.10	0.2	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-04	35-50	17-Aug-18	6230859	0.002	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-05	0-15	18-Aug-18	6230860	<0.002	<0.2	<0.001	<0.005	<0.10	0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-06	35-50	18-Aug-18	6230861	0.005	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-07	0-15	17-Aug-18	6230862	<0.002	<0.2	<u>0.002</u>	<0.005	<0.10	1.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<u>0.24</u>
18HA-08	35-50	18-Aug-18	6230863	0.003	<0.2	<0.001	<0.005	<0.10	0.9	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-09	0-15	18-Aug-18	6230864	<0.002	<0.2	<0.001	<0.005	<0.10	0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
Water Quality Guidelines for the Protection of Aquatic Life				0.005	1.5	0.001*	0.09	0.002	0.30	0.003	0.000026	0.096	0.001	0.00025	0.0008	0.015	0.03
Class II Industrial Landfill (Alberta Environmental Protection)				5.0	500	1.0	5.0	100	1,000	5.0	0.2	5.0	1.0	5.0	5.0	2.0	500

Notes:

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- * - short term; long term is 0.00009 mg/L
- Alberta Users Guide for Waste Managers (AEP, August 1996)

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Nitrate - N	Phosphorus	Potassium	Sulfate-S	Ammonium - N
				µg/g	µg/g	µg/g	mg/kg	mg/kg
Reported Detection Limit				2	5	25	1	0.3
18HA-01	0-15	17-Aug-18	6230855	<2	8	70	65	14
18HA-02	35-50	17-Aug-18	6230857	<2	6	64	22	6.1
18HA-03	0-15	17-Aug-18	6230858	<2	8	82	61	28
18HA-04	35-50	17-Aug-18	6230859	<2	<5	64	47	11.8
18HA-05	0-15	18-Aug-18	6230860	<2	6	59	34	19.1
18HA-06	35-50	18-Aug-18	6230861	<2	5	82	30	19.6
18HA-07	0-15	17-Aug-18	6230862	<2	5	110	63	33.2
18HA-08	35-50	18-Aug-18	6230863	<2	5	73	48	18
18HA-09	0-15	18-Aug-18	6230864	<2	8	64	20	19.6
No Guideline				---	---	---	---	---

Notes:

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Texture	75 micron sieve
					% by weight
Reported Detection Limit					0.10
18HA-03	0-15	17-Aug-18	6230858	Fine-Grained	41.5
18HA-06	35-50	18-Aug-18	6230861	Coarse-Grained	85.1
18HA-09	0-15	18-Aug-18	6230864	Coarse-Grained	66.1

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	F1 C6-C10	F2 C10-C16	F3 C16-C34	F4 C34-C50
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Reported Detection Limit				0.005	0.02	0.005	0.03	10	50	50	100
18HA-01	0-15	17-Aug-18	6230855	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-02	35-50	17-Aug-18	6230857	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-03	0-15	17-Aug-18	6230858	<0.005	<0.02	<0.005	<0.03	<10	<50	90	<100
18HA-04	35-50	17-Aug-18	6230859	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-05	0-15	18-Aug-18	6230860	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-06	35-50	18-Aug-18	6230861	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-07	0-15	17-Aug-18	6230862	<0.005	<0.02	<0.005	<0.03	<10	<50	100	<100
18HA-08	35-50	18-Aug-18	6230863	<0.005	<0.02	<0.005	<0.03	<10	<50	<50	<100
18HA-09	0-15	18-Aug-18	6230864	<0.005	<0.02	<0.005	<0.03	<10	<50	180	<100
CCME-CEQG, Coarse-Grained Soils, Residential				0.03	0.37	0.082	11	---	---	---	---
PHC-CWS, Coarse-Grained Soils, Residential, < 3.0 m				---	---	---	---	30	150	300	2,800

Notes:

Red and Underlined - values do not meet Canadian Environmental Quality Guidelines (CEQGs), Canadian Council of Minister of the Environment

CCME-CEQG - Canadian Council of Ministers of the Environment - Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

PHC-CWS - Canadian Council of Ministers of the Environment - Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (CCME 2008)

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Reported Detection Limit				0	0	1	0	0.20	0	1	0	1	0	0	1	1	0	0	0	1	1	0	1
18HA-01	0-15	17-Aug-18	6230855	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-02	35-50	17-Aug-18	6230857	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-03	0-15	17-Aug-18	6230858	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-04	35-50	17-Aug-18	6230859	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18HA-05	0-15	18-Aug-18	6230860	0.3	<u>6.5</u>	144	0.3	0.77	0.34	10	6.3	11	7.2	<0.05	1.1	15.9	0.5	<0.10	0.11	<1.0	1.1	15.6	59
18HA-06	35-50	18-Aug-18	6230861	0.3	<u>7.2</u>	141	0.3	0.64	0.39	10.8	8.2	21.4	6.9	<0.05	1.5	19.1	0.6	0.1	0.13	<1.0	1.4	18.4	64
18HA-07	0-15	17-Aug-18	6230862	0.4	<u>8.8</u>	196	0.4	1.1	0.55	14.1	9.6	19.4	11.3	0.06	1.6	24.2	0.8	0.2	0.17	<1.0	1.1	23.1	96
18HA-08	35-50	18-Aug-18	6230863	0.3	<u>8.3</u>	133	0.3	0.82	0.35	10.3	7.7	13.5	7	<0.05	1.2	16.9	0.5	<0.10	0.12	<1.0	1.1	17.2	65
18HA-09	0-15	18-Aug-18	6230864	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CCME-CEQG Soil Quality Guidelines, Residential/Parkland				20	12	500	4.0	---	10	64	50	63	140	6.6	10	45	1	20	1	50	23	130	250
CCME-CEQG Sediment Guidelines, ISQG				---	5.9	---	---	---	0.6	37.3	---	35.7	35.7	0.170	---	---	---	---	---	---	---	---	123
CCME-CEQG Sediment Guidelines, PEL				---	17	---	---	---	3.5	90	---	197	197	0.486	---	---	---	---	---	---	---	---	315

Notes:

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ISQG - Interim Sediment Quality Guideline

PEL - Probable Effects Level

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Arsenic	Boron	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Uranium	Zinc
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reported Detection Limit				0.002	0.2	0.001	0.005	0.1	0.1	0.050	0.001	0.050	0.002	0.005	0.001	0.005	0.100
18HA-01	0-15	17-Aug-18	6230855	0.002	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	0.053	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-02	35-50	17-Aug-18	6230857	0.004	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-03	0-15	17-Aug-18	6230858	<0.002	<0.2	<0.001	<0.005	<0.10	0.2	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-04	35-50	17-Aug-18	6230859	0.002	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-05	0-15	18-Aug-18	6230860	<0.002	<0.2	<0.001	<0.005	<0.10	0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-06	35-50	18-Aug-18	6230861	0.005	<0.2	<0.001	<0.005	<0.10	<0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-07	0-15	17-Aug-18	6230862	<0.002	<0.2	0.002	<0.005	<0.10	1.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	0.24
18HA-08	35-50	18-Aug-18	6230863	0.003	<0.2	<0.001	<0.005	<0.10	0.9	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
18HA-09	0-15	18-Aug-18	6230864	<0.002	<0.2	<0.001	<0.005	<0.10	0.1	<0.050	<0.001	<0.050	<0.002	<0.005	<0.0005	<0.005	<0.10
Water Quality Guidelines for the Protection of Aquatic Life				0.005	1.5	0.001*	0.09	0.002	0.30	0.003	0.000026	0.096	0.001	0.00025	0.0008	0.015	0.03
Class II Industrial Landfill (Alberta Environmental Protection)				5.0	500	1.0	5.0	100	1,000	5.0	0.2	5.0	1.0	5.0	5.0	2.0	500

Notes:

Red and Underlined - values do not meet Canadian Environmental Quality Guidelines (CEQGs), Canadian Council of Minister of the Environment

* - short term; long term is 0.00009 mg/L

- Alberta Users Guide for Waste Managers (AEP, August 1996)

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Nitrate-N	Phosphorus	Potassium	Sulfate-S	Ammonium-N
				µg/g	µg/g	µg/g	mg/kg	mg/kg
Reported Detection Limit				2	5	25	1	0.3
18HA-01	0-15	17-Aug-18	6230855	<2	8	70	65	14
18HA-02	35-50	17-Aug-18	6230857	<2	6	64	22	6.1
18HA-03	0-15	17-Aug-18	6230858	<2	8	82	61	28
18HA-04	35-50	17-Aug-18	6230859	<2	<5	64	47	11.8
18HA-05	0-15	18-Aug-18	6230860	<2	6	59	34	19.1
18HA-06	35-50	18-Aug-18	6230861	<2	5	82	30	19.6
18HA-07	0-15	17-Aug-18	6230862	<2	5	110	63	33.2
18HA-08	35-50	18-Aug-18	6230863	<2	5	73	48	18
18HA-09	0-15	18-Aug-18	6230864	<2	8	64	20	19.6
No Guideline				---	---	---	---	---

Notes:

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Texture	75 micron sieve
					% by weight
Reported Detection Limit					0.10
18HA-03	0-15	17-Aug-18	6230858	Fine-Grained	41.5
18HA-06	35-50	18-Aug-18	6230861	Coarse-Grained	85.1
18HA-09	0-15	18-Aug-18	6230864	Coarse-Grained	66.1

2018 Sediment Sampling
Porritt Dredging Project
Town of Hay River

Sample Point	Depth (cm)	Sample Date	Sample Number	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Reported Detection Limit				0.01	0.050	0.05	0.05	0.01	0.00	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.05
18HA-01	0-15	17-Aug-18	6230855	<0.01	<0.05	<0.05	<0.05	0.01	<0.003	0.01	0.01	<0.01	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
18HA-02	35-50	17-Aug-18	6230857	<0.01	<0.05	<0.05	<0.05	<0.01	<0.003	<0.01	<0.01	<0.01	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
18HA-03	0-15	17-Aug-18	6230858	<0.01	<0.05	<0.05	<0.05	0.02	<0.003	0.03	0.03	<0.01	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
18HA-04	35-50	17-Aug-18	6230859	<0.01	<0.05	<0.05	<0.05	0.01	<0.003	0.01	0.01	<0.01	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
18HA-05	0-15	18-Aug-18	6230860	<0.01	<0.05	<0.05	<0.05	0.01	<0.003	0.01	0.02	<0.01	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
18HA-06	35-50	18-Aug-18	6230861	<0.01	<0.05	<0.05	<0.05	0.01	<0.003	0.01	0.02	<0.01	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
18HA-07	0-15	17-Aug-18	6230862	<0.01	<0.05	<0.05	<0.05	0.02	<0.003	0.03	0.04	0.01	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
18HA-09	0-15	18-Aug-18	6230864	<0.01	<0.05	<u>0.05</u>	<0.05	0.06	0.01	0.08	<u>0.06</u>	0.03	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05
CCME-CEQG Sediment Guidelines, ISQG				0.035	0.006	0.007	0.021	---	0.047	---	0.053	0.032	0.057	---	---	---	---	0.006
CCME-CEQG Sediment Guidelines, PEL				0.391	0.128	0.089	0.144	---	0.245	---	0.875	0.385	0.862	---	---	---	---	0.135

Notes:
Red and Underlined - values do not meet Canadian Environmental Quality Guidelines (CEQGs) , Canadian Council of Minister of the Environment
 ISQG - Interim Sediment Quality Guideline
 PEL - Probable Effects Level