Table 1: Slave River Water Quality Data: July, August and September 2020 compared to Historical Data

Lab Section	Parameter Name	Slave River at Fort Smith (2020)			Slave River at Fort Smith (maximum value measured between 1982-2019)			
		15-Jul-20	25-Aug-20	15-Sep-20	July	August	Sept	Overall
Nutrients	Nitrogen, Dissolved (mg/L)	0.64	0.33	0.34	0.42	0.24	0.483	0.483
	Nitrogen, Total (mg/L)	2.07	0.45	0.53	1.36	0.37	0.96	1.36
	Organic Carbon, Dissolved (mg/L)	16	9.2	11.2	12.4	10.1	14.1	14.6
	Organic Carbon, Total (mg/L)	16.9	9.2	10.5	13.8	10.8	13.9	13.9
	Ortho-Phosphate as Phosphorus (mg/L)	0.006	0.009	0.005	0.018	0.011	0.0065	0.024
	Phosphorous, Dissolved (mg/L)	0.009	0.014	0.01	0.0143	0.013	0.0593	0.01975
	Phosphorous, Total (mg/L)	1.74	0.104	0.202	4.4	0.127	0.499	4.4
Inorganics - Physicals	Alkalinity, Total (as CaCO3) (mg/L)	95.5	82.4	74	130	85.5	100	130
	Conductivity, Specific (uS/cm)	247	210	194	230	226	238	340
	pH (pH units)	7.92	7.89	7.84	8.19	8.19	8.2	8.4
	Solids, Total Dissolved (mg/L)	381	147	147	200	200	175	240
	Solids, Total Suspended (mg/L)	1830	81	191	2800	119	572	2800
	Turbidity (NTU)	3310	55.7	87.3	1500	110	551	1870
Major Ions (mg?L(	Calcium(mg/L)	34	29.6	27.4	34	29.4	33.8	34
	Chloride (mg/L)	1.83	2.24	5.5	4.9	5.6	6.81	12
	Hardness, as CaCO3 (mg/L)	117	105	97.2	126	102	118	152
	Magnesium (mg/L)	7.78	7.48	6.98	9.9	7.1	8.2	9.9
	Potassium (mg/L)	1.99	1.13	1.29	1.2	1.5	1.2	1.5
	Sodium (mg/L)	5.8	5.16	7.6	7.3	7	7.1	8.2
	Sulphate (mg/L)	29.6	18.8	16	25	23	25	61
	Chlorophyll a (mg/L)	1	4	5	15.9	3.54	5.6	15.9
Trace Metals, Dissolved	Aluminum (ug/L)	10.2	3.6	3.4	99.1	73	52.5	129
	Antimony (ug/L)	0.3	0.1	0.1	0.3	0.4	0.4	1.1
	Arsenic (ug/L)	0.6	0.6	0.6	0.8	0.7	0.5	0.8
	Barium (ug/L)	65.4	47.1	42.2	65.3	50.8	59.6	65.3
	Beryllium (ug/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Bismuth (ug/L)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Boron (ug/L)	23.3	15.2	17.2	19.8	18.2	17.3	19.8
	Cadmium (ug/L)	0.04	0.04	0.04	0.44	0.05	0.05	0.44

Table 1: Slave River Water Quality Data: July, August and September 2020 compared to Historical Data (cont.)

Lab Section	Parameter Name	Slave River at Fort Smith (2020)			Slave River at Fort Smith (maximum value measured between 1982-2019)			
		15-Jul-20	25-Aug-20	15-Sep-20	July	August	Sept	Overall
	Cesium (ug/L)	0.1	0.1	0.1	0.2	0.1	0.1	0.2
	Chromium (ug/L)	0.1	0.1	0.1	0.4	0.3	0.4	0.4
	Cobalt (ug/L)	0.1	0.1	0.1	0.2	0.4	0.1	0.4
	Copper (ug/L)	4.5	1.3	1.4	5.6	2	4.4	5.6
	Iron (ug/L)	64	67	66	237	177	170	389
	Lead (ug/L)	0.1	0.1	0.1	1.4	0.6	0.2	1.4
	Lithium (ug/L)	5.5	4.8	5.1	5.8	5.6	5	5.9
	Manganese (ug/L)	0.6	0.7	1.7	2.6	4.5	1.8	11.5
	Mercury (ug/L)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Molybdenum (ug/L)	1.8	0.8	0.6	1.4	0.9	0.8	1.4
	Nickel (ug/L)	3.7	1.4	1.5	2.5	1.7	2.6	2.6
	Rubidium (ug/L)	0.7	0.7	0.7	0.9	0.9	0.6	0.9
	Selenium (ug/L)	0.4	0.3	0.3	0.4	0.6	0.3	0.7
	Silver (ug/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Strontium (ug/L)	144	135	121	155	139	152	155
	Thallium (ug/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Tin (ug/L)	0.1	0.1	0.1	3	0.2	0.1	3
	Titanium (ug/L)	0.9	0.3	0.3	3.9	2.8	4.7	4.7
	Uranium (ug/L)	1	0.4	0.3	0.6	0.4	0.6	0.6
	Vanadium (ug/L)	0.3	0.3	0.4	1.3	0.6	0.5	1.3
	Zinc (ug/L)	0.4	0.4	0.4	5.9	1.9	1.6	5.9
Trace Metals, Total	Aluminum (ug/L)	25800	1500	1950	13300	1210	3810	26700
	Antimony (ug/L)	0.6	0.2	0.2	0.4	0.5	0.2	4.4
	Arsenic (ug/L)	19.7	1.9	2.3	7.8	2.6	2.2	15.7
	Barium (ug/L)	1010	92.3	115	467	89.4	285	467
	Beryllium (ug/L)	1.9	0.1	0.2	1.3	0.1	0.4	2
	Bismuth (ug/L)	0.4	0.2	0.2	2.7	1.8	0.2	2.7
	Boron (ug/L)	57.8	18.7	21.1	37.6	23.9	21.3	37.6
	Cadmium (ug/L)	1.6	0.1	0.1	10	0.2	3	0.9

Table 1: Slave River Water Quality Data: July, August and September 2020 compared to Historical Data (cont.)

Lab Section	Parameter Name	Slave River at Fort Smith (2020)			Slave River at Fort Smith (maximum value measured between 1982-2019)			
		15-Jul-20	25-Aug-20	15-Sep-20	July	August	Sept	Overall
	Cesium (ug/L)	5.2	0.4	0.6	2.4	0.4	0.6	3.9
	Chromium (ug/L)	44.2	2.4	3.3	20.3	15	15.1	86
	Cobalt (ug/L)	23.9	1.4	2	12.9	2	5.3	16
	Copper (ug/L)	69.2	4.4	5.9	35.3	6	13.6	43
	Iron (ug/L)	61600	3470	4810	28100	4530	7970	28100
	Lead (ug/L)	32.9	1.8	2.6	17.4	3	7.1	22
	Lithium (ug/L)	41.6	6.7	7.9	27	7.3	12.1	28.7
	Manganese (ug/L)	885	93.2	102	567	72	223	567
	Mercury (ug/L)	0.18	0.02	0.03	0.11	0.03	0.05	0.22
	Molybdenum (ug/L)	2.9	0.7	0.7	1.3	0.9	0.9	6.5
	Nickel (ug/L)	77.7	5	6.9	38.7	7	16.6	57
	Rubidium (ug/L)	53.1	4.5	5.9	27	4.1	8.9	51.7
	Selenium (ug/L)	1.6	0.5	0.5	0.9	0.5	10	1.1
	Silver (ug/L)	0.5	0.1	0.1	1.3	0.4	0.1	1.3
	Strontium (ug/L)	290	149	135	228	146	185	228
	Thallium (ug/L)	0.6	0.1	0.1	0.3	0.1	0.1	0.467
	Tin (ug/L)	0.1	0.1	0.1	7.2	1.1	0.3	7.2
	Titanium (ug/L)	114	22.7	25.7	189	15.8	37.3	465
	Uranium (ug/L)	3.6	0.6	0.5	2.1	0.6	1.2	2.1
	Vanadium (ug/L)	86.7	5.4	7.1	37.1	5.7	10.8	88.7
	Zinc (ug/L)	258	13.3	19	116	18	52.3	162
Trace Metals, Ultra Low	Mercury, Dissolved (ng/L)	2.1	0.9	0.8	1.4	0.7	2.4	3.9
	Mercury, Total (ng/L)	100	8.8	11.3	57.5	7.1	40.8	57.5

Table 2: Hay River Water Quality Data: July, August and September 2020 compared to Historical Data

Lab Section	Parameter Name	Hay River near NWT/Alberta Border (2020)			Hay River near NWT/Alberta Border (maximum value measured between 1988-2019)			
		17-Jul-20	24-Aug-20	16-Sep-20	July	August	September	Overall
Nutrients	Nitrogen, Dissolved (mg/L)	0.96	1.07	1.06	0.998	1.16	1.26	3.4
	Nitrogen, Total (mg/L)	1.2	1.3	1.24	1.22	1.34	1.44	2.96
	Organic Carbon, Dissolved (mg/L)	32.4	34.6	38.6	38.7	40.4	35.2	72.2
	Organic Carbon, Total (mg/L)	32.6	35.1	37.6	31.8	29.6	27.7	73.01
	Ortho-Phosphate as Phosphorus (mg/L)	0.008	0.025	0.022	0.0176	0.002	0.0093	0.0176
	Phosphorous, Dissolved (mg/L)	0.036	0.036	0.037	0.04	0.06	0.092	0.447
	Phosphorous, Total (mg/L)	0.353	0.142	0.128	0.32	0.23	0.18	0.76
Inorganics - Physicals	Alkalinity, Total (as CaCO3) (mg/L)	67.9	101	107	129	128	389	389
	Conductivity, Specific (uS/cm)	283	353	380	400	434	453	860
	pH (pH units)	7.49	7.7	7.75	8.6	8.16	8.38	8.6
	Solids, Total Dissolved (mg/L)	323	270	305	708	320	386	708
	Solids, Total Suspended (mg/L)	287	72	43	143	72	50	774
	Turbidity (NTU)	245	38.1	25.9	108	52.9	49	590
Major Ions	Calcium(mg/L)	34.5	53	49.5	52.9	54.2	58	96.6
	Chloride (mg/L)	1.96	3.46	4.3	4.79	3.5	7.87	24.4
	Hardness, as CaCO3 (mg/L)	127	192	181	192	199	212	356
	Magnesium (mg/L)	9.87	14.4	14	14.6	15.4	16.2	28
	Potassium (mg/L)	1.47	1.63	1.8	2.78	3.4	2.69	3.47
	Sodium (mg/L)	11.6	15.2	17.9	17.2	16.6	16.1	33.4
	Sulphate (mg/L)	67.2	78.2	76	104	89	77.2	135
Organics	Chlorophyll a (mg/L)	1.4	5.1	5	6.43	7.11	2.06	7.11
Trace Metals, Dissolved	Aluminum (ug/L)	20	11.6	13.3	43.5	22.9	27.9	76.4
	Antimony (ug/L)	0.2	0.1	0.1	0.2	0.2	0.3	0.4
	Arsenic (ug/L)	0.8	0.9	0.8	1.12	1.17	1.57	8
	Barium (ug/L)	45.2	41.2	37.4	102	47	48.2	102
	Beryllium (ug/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Bismuth (ug/L)	0.2	0.2	0.2	1.1	0.2	0.2	1.1
	Boron (ug/L)	30.2	26.4	23.5	45.1	38.1	32.8	59.9
	Cadmium (ug/L)	0.04	0.04	0.04	0.059	0.05	0.05	0.186

Table 2: Hay River Water Quality Data: July, August and September 2020 compared to Historical Data (cont.)

Lab Section	Parameter Name	Hay River near NWT/Alberta Border (2020)			Hay River near NWT/Alberta Border (maximum value measured between 1988-2019)			
		17-Jul-20	24-Aug-20	16-Sep-20	July	August	September	Overall
	Cesium (ug/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Chromium (ug/L)	0.2	0.1	0.1	0.3	0.184	0.204	0.4
	Cobalt (ug/L)	0.2	0.2	0.3	0.2	0.228	0.275	2.2
	Copper (ug/L)	2.8	1.4	1.1	6.6	2.54	3.9	6.6
	Iron (ug/L)	244	323	384	642	795	1350	3170
	Lead (ug/L)	0.1	0.1	0.1	0.4	0.184	0.241	0.533
	Lithium (ug/L)	9.6	13	13.8	14.6	17.1	14.3	30.7
	Manganese (ug/L)	16.6	3.6	29.7	40.1	35.2	60.7	696
	Mercury (ug/L)	0.01	0.01	0.01	0.11	0.01	0.02	0.11
	Molybdenum (ug/L)	1	0.6	0.5	1.5	1.4	1.43	1.5
	Nickel (ug/L)	5	2.8	2.5	3.86	3.69	3.5	7.78
	Rubidium (ug/L)	0.7	1	0.9	1.41	1.75	1.39	2.28
	Selenium (ug/L)	0.3	0.3	0.3	0.6	0.5	0.3	3
	Silver (ug/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Strontium (ug/L)	110	135	140	157	160	168	324
	Thallium (ug/L)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Tin (ug/L)	0.1	0.1	0.1	0.3	0.1	0.2	6
	Titanium (ug/L)	0.6	0.4	0.3	1.6	1.03	1.2	4.3
	Uranium (ug/L)	0.4	0.5	0.5	0.6	0.8	1.07	2
	Vanadium (ug/L)	0.3	0.4	0.3	0.53	0.508	0.687	0.687
	Zinc (ug/L)	0.8	0.7	0.8	33.2	1.34	2.7	33.2
Trace Metals, Total	Aluminum (ug/L)	5060	718	501	1980	910	659	7620
	Antimony (ug/L)	0.5	0.2	0.1	0.2	0.2	0.2	0.27
	Arsenic (ug/L)	6.6	2	1.6	2.9	2.1	1.98	5.92
	Barium (ug/L)	181	63	55.9	100	64.7	83.3	312
	Beryllium (ug/L)	0.4	0.1	0.1	0.2	0.1	0.1	0.562
	Bismuth (ug/L)	0.2	0.2	0.2	1.9	0.2	0.2	1.9
	Boron (ug/L)	42.4	29.4	25.5	52.7	41.5	34.6	61.4
	Cadmium (ug/L)	0.3	0.1	0.1	1.57	0.2	0.599	2.56

Table 2: Hay River Water Quality Data: July, August and September 2020 compared to Historical Data (cont.)

Lab Section	Parameter Name	Hay River near NWT/Alberta Border (2020)			Hay River near NWT/Alberta Border (maximum value measured between 1988-2019)			
		17-Jul-20	24-Aug-20	16-Sep-20	July	August	September	Overall
	Cesium (ug/L)	1.5	0.2	0.2	0.7	0.3	0.2	0.96
	Chromium (ug/L)	8.4	1.2	1	3.2	1.7	1.1	11.9
	Cobalt (ug/L)	4.8	1.1	0.9	2.1	1.3	1.1	8.96
	Copper (ug/L)	13.9	2.9	2.4	5.8	4.2	3.8	24.7
	Iron (ug/L)	11200	2480	2290	4660	2870	2610	21800
	Lead (ug/L)	6	0.9	0.8	2.4	1.4	1.1	11.3
	Lithium (ug/L)	16.2	13.9	14.4	16.7	17.9	14.3	30.1
	Manganese (ug/L)	205	108	83.2	151	112	118	718
	Mercury (ug/L)	0.06	0.02	0.01	0.35	0.01	0.01	0.35
	Molybdenum (ug/L)	1.8	0.8	0.6	1.9	1.4	1.41	1.9
	Nickel (ug/L)	16.5	4.3	3.9	8.4	5.7	4.5	26.9
	Rubidium (ug/L)	14.9	3.1	2.5	5.7	3.2	1.94	16.3
	Selenium (ug/L)	0.5	0.5	0.5	0.7	0.9	0.9	0.9
	Silver (ug/L)	0.1	0.1	0.1	0.6	0.1	0.1	0.6
	Strontium (ug/L)	133	139	143	162	162	211	304
	Thallium (ug/L)	0.2	0.1	0.1	0.1	0.1	0.1	0.209
	Tin (ug/L)	0.1	0.1	0.1	20.3	0.9	0.1	20.3
	Titanium (ug/L)	55.3	12.3	9.2	57	13.5	4.1	128
	Uranium (ug/L)	1.2	0.6	0.6	1.0	0.9	1.08	2.14
	Vanadium (ug/L)	19	3.2	2.3	7.3	4	2.1	23.3
	Zinc (ug/L)	48.5	9.7	7.8	17.8	12.5	12.8	93.3
Trace Metals, Ultra Low	Mercury, Dissolved (ng/L)	3.6	1.5	1.2	2.7	1.2	2	2.7
	Mercury, Total (ng/L)	31.3	5.1	4.6	12.8	2	6.1	19.4