



Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190297

- FINAL REPORT -

Prepared For: Town of Norman Wells

Address: Box 5

Norman Wells, NT

X0E 0V0

Attn: Hugo Pabke

Facsimile: (867) 587-3724

Final report has been reviewed and approved by:

Bruce Stuart

Manager

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
 - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
 - Environment Canada
 - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: June 20, 2019

Print Date: June 20, 2019

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Taiga Environmental Laboratory
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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190297

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 31-May-19
Sampling Date: 30-May-19
Sampling Time: 11:00
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	04-Jun-19	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	05-Jun-19	SM5210:B	
CBOD	3	2	mg/L	05-Jun-19	SM5210:B	
Nitrogen, Total	0.62	0.06	mg/L	01-Jun-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	20.3	0.5	mg/L	06-Jun-19	SM5310:B	
Phosphorous, Total	0.030	0.002	mg/L	04-Jun-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	316	0.4	µS/cm	31-May-19	SM2510:B	
pH	7.46		pH units	31-May-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	05-Jun-19	SM2540:D	
<u>Major Ions</u>						
Calcium	42.1	0.1	mg/L	03-Jun-19	SM4110:B	
Magnesium	12.4	0.1	mg/L	03-Jun-19	SM4110:B	
Nitrate as Nitrogen	0.33	0.01	mg/L	03-Jun-19	SM4110:B	

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Nitrate+Nitrite as Nitrogen	0.33	0.01	mg/L	03-Jun-19	SM4110:B
Nitrite as Nitrogen	< 0.01	0.01	mg/L	03-Jun-19	SM4110:B
Potassium	0.9	0.1	mg/L	03-Jun-19	SM4110:B
Sodium	6.3	0.1	mg/L	03-Jun-19	SM4110:B
Sulphate	49	1	mg/L	03-Jun-19	SM4110:B

Microbiology

Coliforms, Fecal	1	1	CFU/100mL	31-May-19	SM9222:D
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	31-May-19	EPA1664A	234
Oil and Grease, visible	Non-visible			06-Jun-19	Visual Exam	

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	08-Jun-19	AB ENV.06537
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Trace Metals, Total

Arsenic	0.5	0.2	µg/L	13-Jun-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	13-Jun-19	EPA200.8
Chromium	< 0.1	0.1	µg/L	13-Jun-19	EPA200.8
Copper	0.2	0.2	µg/L	13-Jun-19	EPA200.8
Iron	52	5	µg/L	13-Jun-19	EPA200.8
Lead	< 0.1	0.1	µg/L	13-Jun-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	13-Jun-19	EPA200.8
Nickel	0.7	0.1	µg/L	13-Jun-19	EPA200.8
Silver	< 0.1	0.1	µg/L	13-Jun-19	EPA200.8
Titanium	0.1	0.1	µg/L	13-Jun-19	EPA200.8
Zinc	< 5.0	5	µg/L	13-Jun-19	EPA200.8

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- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 31-May-19
Sampling Date: 30-May-19
Sampling Time: 11:00
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	04-Jun-19	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	05-Jun-19	SM5210:B	
CBOD	4	2	mg/L	05-Jun-19	SM5210:B	
Nitrogen, Total	0.69	0.06	mg/L	01-Jun-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	21.2	0.5	mg/L	06-Jun-19	SM5310:B	
Phosphorous, Total	0.023	0.002	mg/L	04-Jun-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	373	0.4	µS/cm	31-May-19	SM2510:B	
pH	8.01		pH units	31-May-19	SM4500-H:B	
Solids, Total Suspended	4	3	mg/L	05-Jun-19	SM2540:D	
<u>Major Ions</u>						
Calcium	46.3	0.1	mg/L	03-Jun-19	SM4110:B	
Magnesium	14.0	0.1	mg/L	03-Jun-19	SM4110:B	
Nitrate as Nitrogen	0.34	0.01	mg/L	03-Jun-19	SM4110:B	
Nitrate+Nitrite as Nitrogen	0.34	0.01	mg/L	03-Jun-19	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	03-Jun-19	SM4110:B	

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Taiga Sample ID: 002

Potassium	0.8	0.1	mg/L	03-Jun-19	SM4110:B
Sodium	11.7	0.1	mg/L	03-Jun-19	SM4110:B
Sulphate	54	1	mg/L	03-Jun-19	SM4110:B

Microbiology

Coliforms, Fecal	3	1	CFU/100mL	31-May-19	SM9222:D
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	31-May-19	EPA1664A	234
Oil and Grease, visible	Non-visible			06-Jun-19	Visual Exam	

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	08-Jun-19	AB ENV.06537
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Trace Metals, Total

Arsenic	0.7	0.2	µg/L	13-Jun-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	13-Jun-19	EPA200.8
Chromium	0.2	0.1	µg/L	13-Jun-19	EPA200.8
Copper	0.6	0.2	µg/L	13-Jun-19	EPA200.8
Iron	277	5	µg/L	13-Jun-19	EPA200.8
Lead	0.1	0.1	µg/L	13-Jun-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	13-Jun-19	EPA200.8
Nickel	1.2	0.1	µg/L	13-Jun-19	EPA200.8
Silver	< 0.1	0.1	µg/L	13-Jun-19	EPA200.8
Titanium	1.9	0.1	µg/L	13-Jun-19	EPA200.8
Zinc	< 5.0	5	µg/L	13-Jun-19	EPA200.8

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Taiga Sample ID: 002

- DATA QUALIFIERS -

Data Qualifier Descriptions:

234 *Sample Received Unpreserved. Results may be biased low for indicated parameter(s).*

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency



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Taiga Batch No.:
190434

- FINAL REPORT -

Prepared For: Town of Norman Wells

Address: Box 5
Norman Wells, NT
X0E 0V0

Attn: Hugo Pabke

Facsimile: (867) 587-3724

Final report has been reviewed and approved by:

Glen Hudy
Quality Assurance Officer

NOTES:

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Taiga Batch No.:
190434

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 28-Jun-19
Sampling Date: 27-Jun-19
Sampling Time: 11:00
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	02-Jul-19	SM4500-NH3:G	
Biochemical Oxygen Demand	2	2	mg/L	28-Jun-19	SM5210:B	
CBOD	2	2	mg/L	28-Jun-19	SM5210:B	
Nitrogen, Total	0.67	0.06	mg/L	28-Jun-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	20.9	0.5	mg/L	04-Jul-19	SM5310:B	
Phosphorous, Total	0.025	0.002	mg/L	05-Jul-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	503	0.4	µS/cm	28-Jun-19	SM2510:B	
pH	7.66		pH units	28-Jun-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	03-Jul-19	SM2540:D	
<u>Major Ions</u>						
Calcium	64.5	0.1	mg/L	28-Jun-19	SM4110:B	
Magnesium	18.7	0.1	mg/L	28-Jun-19	SM4110:B	
Nitrate as Nitrogen	0.40	0.01	mg/L	28-Jun-19	SM4110:B	

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Taiga Sample ID: 001

Nitrite as Nitrogen	< 0.01	0.01	mg/L	28-Jun-19	SM4110:B
Potassium	0.7	0.1	mg/L	28-Jun-19	SM4110:B
Sodium	11.1	0.1	mg/L	28-Jun-19	SM4110:B
Sulphate	113	1	mg/L	28-Jun-19	SM4110:B

Microbiology

Coliforms, Fecal	< 1	1	CFU/100mL	28-Jun-19	SM9222:D
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	04-Jul-19	EPA1664A
Oil and Grease, visible	Non-visible			28-Jun-19	Visual Exam

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	09-Jul-19	AB ENV.06537
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Trace Metals, Total

Arsenic	0.5	0.2	µg/L	10-Jul-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Chromium	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Copper	0.2	0.2	µg/L	10-Jul-19	EPA200.8
Iron	37	5	µg/L	10-Jul-19	EPA200.8
Lead	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	10-Jul-19	EPA200.8
Nickel	0.8	0.1	µg/L	10-Jul-19	EPA200.8
Silver	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Titanium	0.1	0.1	µg/L	10-Jul-19	EPA200.8
Zinc	< 5.0	5	µg/L	10-Jul-19	EPA200.8

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Taiga Batch No.:
190434

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 28-Jun-19
Sampling Date: 27-Jun-19
Sampling Time: 11:00
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	02-Jul-19	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	28-Jun-19	SM5210:B	
CBOD	2	2	mg/L	28-Jun-19	SM5210:B	
Nitrogen, Total	0.79	0.06	mg/L	28-Jun-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	24.2	0.5	mg/L	04-Jul-19	SM5310:B	
Phosphorous, Total	0.044	0.002	mg/L	05-Jul-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	485	0.4	µS/cm	28-Jun-19	SM2510:B	
pH	8.14		pH units	28-Jun-19	SM4500-H:B	
Solids, Total Suspended	65	3	mg/L	03-Jul-19	SM2540:D	
<u>Major Ions</u>						
Calcium	60.4	0.1	mg/L	28-Jun-19	SM4110:B	
Magnesium	18.3	0.1	mg/L	28-Jun-19	SM4110:B	
Nitrate as Nitrogen	0.39	0.01	mg/L	28-Jun-19	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	28-Jun-19	SM4110:B	
Potassium	0.5	0.1	mg/L	28-Jun-19	SM4110:B	

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Taiga Sample ID: 002

Sodium	15.6	0.1	mg/L	28-Jun-19	SM4110:B
Sulphate	88	1	mg/L	28-Jun-19	SM4110:B

Microbiology

Coliforms, Fecal	19	1	CFU/100mL	28-Jun-19	SM9222:D
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	04-Jul-19	EPA1664A
Oil and Grease, visible	Non-visible			28-Jun-19	Visual Exam

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	09-Jul-19	AB ENV.06537
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Trace Metals, Total

Arsenic	1.2	0.2	µg/L	10-Jul-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Chromium	1.2	0.1	µg/L	10-Jul-19	EPA200.8
Copper	2.0	0.2	µg/L	10-Jul-19	EPA200.8
Iron	1530	5	µg/L	10-Jul-19	EPA200.8
Lead	0.8	0.1	µg/L	10-Jul-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	10-Jul-19	EPA200.8
Nickel	2.9	0.1	µg/L	10-Jul-19	EPA200.8
Silver	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	10-Jul-19	EPA200.8
Titanium	10.9	0.1	µg/L	10-Jul-19	EPA200.8
Zinc	7.1	5	µg/L	10-Jul-19	EPA200.8

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- FINAL REPORT -

Prepared For: Town of Norman Wells

Address: Box 5
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X0E 0V0

Attn: Hugo Pabke

Facsimile: (867) 587-3724

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Quality Assurance Officer

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190535

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 17-Jul-19
Sampling Date: 16-Jul-19
Sampling Time: 11:00
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	3	2	mg/L	17-Jul-19	SM5210:B	
CBOD	2	2	mg/L	17-Jul-19	SM5210:B	
Nitrogen, Total	0.79	0.06	mg/L	21-Jul-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	22.3	0.5	mg/L	20-Jul-19	SM5310:B	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	489	0.4	µS/cm	17-Jul-19	SM2510:B	
pH	7.48		pH units	17-Jul-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	22-Jul-19	SM2540:D	
<u>Major Ions</u>						
Calcium	64.7	0.1	mg/L	17-Jul-19	SM4110:B	
Magnesium	18.5	0.1	mg/L	17-Jul-19	SM4110:B	
Potassium	0.8	0.1	mg/L	17-Jul-19	SM4110:B	
Sodium	12.8	0.1	mg/L	17-Jul-19	SM4110:B	
Sulphate	85	1	mg/L	17-Jul-19	SM4110:B	
<u>Microbiology</u>						

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- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Coliforms, Fecal	5	1	CFU/100mL	17-Jul-19	SM9222:D
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	19-Jul-19	EPA1664A
Oil and Grease, visible	Non-visible			17-Jul-19	Visual Exam

Subcontracted Inorganics

Phosphorous, Total	0.0442	0.001	mg/L	07-Aug-19	APHA4500:P
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Subcontracted Nutrients

Ammonia as Nitrogen	< 0.0500	0.050	mg/L	24-Jul-19	SM4500 NH3
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Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	22-Jul-19	AB ENV.06537
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Trace Metals, Total

Aluminum	7.2	5	µg/L	26-Jul-19	EPA200.8
Antimony	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Arsenic	0.6	0.2	µg/L	26-Jul-19	EPA200.8
Barium	53.5	0.1	µg/L	26-Jul-19	EPA200.8
Beryllium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Bismuth	< 0.2	0.2	µg/L	26-Jul-19	EPA200.8
Boron	13.1	0.9	µg/L	26-Jul-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Cesium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Chromium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Cobalt	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Copper	< 0.2	0.2	µg/L	26-Jul-19	EPA200.8
Iron	58	5	µg/L	26-Jul-19	EPA200.8
Lead	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8

ReportDate: Friday, August 16, 2019

Print Date: Friday, August 16, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190535

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Lithium	5.2	0.2	µg/L	26-Jul-19	EPA200.8
Manganese	25.5	0.1	µg/L	26-Jul-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	26-Jul-19	EPA200.8
Molybdenum	1.2	0.1	µg/L	26-Jul-19	EPA200.8
Nickel	0.8	0.1	µg/L	26-Jul-19	EPA200.8
Rubidium	0.6	0.1	µg/L	26-Jul-19	EPA200.8
Selenium	< 0.5	0.5	µg/L	26-Jul-19	EPA200.8
Silver	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Strontium	176	0.1	µg/L	26-Jul-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Tin	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Titanium	0.1	0.1	µg/L	26-Jul-19	EPA200.8
Uranium	0.4	0.1	µg/L	26-Jul-19	EPA200.8
Vanadium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Zinc	< 5.0	5	µg/L	26-Jul-19	EPA200.8

ReportDate: Friday, August 16, 2019
Print Date: Friday, August 16, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190535

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 17-Jul-19
Sampling Date: 16-Jul-19
Sampling Time: 11:00
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	3	2	mg/L	17-Jul-19	SM5210:B	
CBOD	2	2	mg/L	17-Jul-19	SM5210:B	
Nitrogen, Total	0.89	0.06	mg/L	21-Jul-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	23.7	0.5	mg/L	20-Jul-19	SM5310:B	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	534	0.4	µS/cm	17-Jul-19	SM2510:B	
pH	8.11		pH units	17-Jul-19	SM4500-H:B	
Solids, Total Suspended	8	3	mg/L	22-Jul-19	SM2540:D	
<u>Major Ions</u>						
Calcium	66.9	0.1	mg/L	17-Jul-19	SM4110:B	
Magnesium	21.1	0.1	mg/L	17-Jul-19	SM4110:B	
Potassium	0.6	0.1	mg/L	17-Jul-19	SM4110:B	
Sodium	17.8	0.1	mg/L	17-Jul-19	SM4110:B	
Sulphate	100	1	mg/L	17-Jul-19	SM4110:B	
<u>Microbiology</u>						
Coliforms, Fecal	1	1	CFU/100mL	17-Jul-19	SM9222:D	

ReportDate: Friday, August 16, 2019
Print Date: Friday, August 16, 2019



Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190535

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	19-Jul-19	EPA1664A
Oil and Grease, visible	Non-visible			17-Jul-19	Visual Exam

Subcontracted Inorganics

Phosphorous, Total	0.0141	0.001	mg/L	07-Aug-19	APHA4500:P
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Subcontracted Nutrients

Ammonia as Nitrogen	< 0.0500	0.050	mg/L	24-Jul-19	SM4500 NH3
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Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	22-Jul-19	AB ENV.06537
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Trace Metals, Total

Aluminum	38.1	5	µg/L	26-Jul-19	EPA200.8
Antimony	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Arsenic	1.0	0.2	µg/L	26-Jul-19	EPA200.8
Barium	52.9	0.1	µg/L	26-Jul-19	EPA200.8
Beryllium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Bismuth	< 0.2	0.2	µg/L	26-Jul-19	EPA200.8
Boron	12.8	0.9	µg/L	26-Jul-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Cesium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Chromium	0.1	0.1	µg/L	26-Jul-19	EPA200.8
Cobalt	0.1	0.1	µg/L	26-Jul-19	EPA200.8
Copper	0.4	0.2	µg/L	26-Jul-19	EPA200.8
Iron	158	5	µg/L	26-Jul-19	EPA200.8
Lead	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Lithium	7.8	0.2	µg/L	26-Jul-19	EPA200.8

ReportDate: Friday, August 16, 2019

Print Date: Friday, August 16, 2019

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Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190535

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Manganese	21.1	0.1	µg/L	26-Jul-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	26-Jul-19	EPA200.8
Molybdenum	0.9	0.1	µg/L	26-Jul-19	EPA200.8
Nickel	1.1	0.1	µg/L	26-Jul-19	EPA200.8
Rubidium	0.4	0.1	µg/L	26-Jul-19	EPA200.8
Selenium	< 0.5	0.5	µg/L	26-Jul-19	EPA200.8
Silver	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Strontium	188	0.1	µg/L	26-Jul-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Tin	< 0.1	0.1	µg/L	26-Jul-19	EPA200.8
Titanium	0.7	0.1	µg/L	26-Jul-19	EPA200.8
Uranium	0.6	0.1	µg/L	26-Jul-19	EPA200.8
Vanadium	0.3	0.1	µg/L	26-Jul-19	EPA200.8
Zinc	< 5.0	5	µg/L	26-Jul-19	EPA200.8

ReportDate: Friday, August 16, 2019

Print Date: Friday, August 16, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190535

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

* Taiga analytical methods are based on the following standard analytical methods

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: Friday, August 16, 2019

Print Date: Friday, August 16, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190798

- FINAL REPORT -

Prepared For: Town of Norman Wells

Address: Box 5
Norman Wells, NT
X0E 0V0

Attn: Hugo Pabke

Facsimile: (867) 587-3724

Final report has been reviewed and approved by:

Glen Hudy
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
 - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
 - Environment Canada
 - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Wednesday, September 11, 2019
Print Date: Wednesday, September 11, 2019

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Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190798

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Client Project: S18L3-003

Sample Type: Freshwater

Received Date: 29-Aug-19

Sampling Date: 27-Aug-19

Sampling Time: 11:00

Location: Norman Wells

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	05-Sep-19	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	29-Aug-19	SM5210:B	
CBOD	3	2	mg/L	29-Aug-19	SM5210:B	
Nitrogen, Total	0.72	0.06	mg/L	01-Sep-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	23.3	0.5	mg/L	04-Sep-19	SM5310:B	
Phosphorous, Total	0.016	0.002	mg/L	06-Sep-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	406	0.4	µS/cm	29-Aug-19	SM2510:B	
pH	7.54		pH units	29-Aug-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	30-Aug-19	SM2540:D	
<u>Major Ions</u>						
Calcium	55.1	0.1	mg/L	29-Aug-19	SM4110:B	
Magnesium	16.2	0.1	mg/L	29-Aug-19	SM4110:B	
Nitrate as Nitrogen	0.27	0.01	mg/L	29-Aug-19	SM4110:B	

ReportDate: Wednesday, September 11, 2019

Print Date: Wednesday, September 11, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190798

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Nitrate+Nitrite as Nitrogen	0.27	0.01	mg/L	29-Aug-19	SM4110:B
Nitrite as Nitrogen	< 0.01	0.01	mg/L	29-Aug-19	SM4110:B
Potassium	0.6	0.1	mg/L	29-Aug-19	SM4110:B
Sodium	7.8	0.1	mg/L	29-Aug-19	SM4110:B
Sulphate	67	1	mg/L	29-Aug-19	SM4110:B

Microbiology

Coliforms, Fecal		1	CFU/100mL	SM9222:D	105
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	05-Sep-19	EPA1664A
Oil and Grease, visible	Non-visible			29-Aug-19	Visual Exam

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	01-Sep-19	AB ENV.06537
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Trace Metals, Total

Arsenic	0.6	0.2	µg/L	06-Sep-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Chromium	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Copper	< 0.2	0.2	µg/L	06-Sep-19	EPA200.8
Iron	40	5	µg/L	06-Sep-19	EPA200.8
Lead	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	06-Sep-19	EPA200.8
Nickel	0.8	0.1	µg/L	06-Sep-19	EPA200.8
Silver	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Titanium	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Zinc	< 5.0	5	µg/L	06-Sep-19	EPA200.8

ReportDate: Wednesday, September 11, 2019

Print Date: Wednesday, September 11, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190798

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

ReportDate: Wednesday, September 11, 2019

Print Date: Wednesday, September 11, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190798

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 29-Aug-19
Sampling Date: 27-Aug-19
Sampling Time: 11:00
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	05-Sep-19	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	29-Aug-19	SM5210:B	
CBOD	3	2	mg/L	29-Aug-19	SM5210:B	
Nitrogen, Total	0.71	0.06	mg/L	01-Sep-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	23.0	0.5	mg/L	04-Sep-19	SM5310:B	
Phosphorous, Total	0.008	0.002	mg/L	06-Sep-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	501	0.4	µS/cm	29-Aug-19	SM2510:B	
pH	8.11		pH units	29-Aug-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	30-Aug-19	SM2540:D	
<u>Major Ions</u>						
Calcium	64.3	0.1	mg/L	29-Aug-19	SM4110:B	
Magnesium	19.7	0.1	mg/L	29-Aug-19	SM4110:B	
Nitrate as Nitrogen	0.27	0.01	mg/L	29-Aug-19	SM4110:B	
Nitrate+Nitrite as Nitrogen	0.27	0.01	mg/L	29-Aug-19	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	29-Aug-19	SM4110:B	

ReportDate: Wednesday, September 11, 2019
Print Date: Wednesday, September 11, 2019



Taiga Environmental Laboratory
 4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
 Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190798

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Potassium	0.6	0.1	mg/L	29-Aug-19	SM4110:B
Sodium	16.3	0.1	mg/L	29-Aug-19	SM4110:B
Sulphate	88	1	mg/L	29-Aug-19	SM4110:B

Microbiology

Coliforms, Fecal		1	CFU/100mL	SM9222:D	105
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	05-Sep-19	EPA1664A
Oil and Grease, visible	Non-visible			29-Aug-19	Visual Exam

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	01-Sep-19	AB ENV.06537
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Trace Metals, Total

Arsenic	0.9	0.2	µg/L	06-Sep-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Chromium	0.7	0.1	µg/L	06-Sep-19	EPA200.8
Copper	0.9	0.2	µg/L	06-Sep-19	EPA200.8
Iron	946	5	µg/L	06-Sep-19	EPA200.8
Lead	0.5	0.1	µg/L	06-Sep-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	06-Sep-19	EPA200.8
Nickel	2.0	0.1	µg/L	06-Sep-19	EPA200.8
Silver	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	06-Sep-19	EPA200.8
Titanium	6.6	0.1	µg/L	06-Sep-19	EPA200.8
Zinc	< 5.0	5	µg/L	06-Sep-19	EPA200.8

ReportDate: Wednesday, September 11, 2019

Print Date: Wednesday, September 11, 2019



Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190808

- FINAL REPORT -

Prepared For: Town of Norman Wells

Address: Box 5
Norman Wells, NT
X0E 0V0

Attn: Hugo Pabke

Facsimile: (867) 587-3724

Final report has been reviewed and approved by:

Glen Hudy
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
 - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
 - Environment Canada
 - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Wednesday, September 04, 2019

Print Date: Wednesday, September 04, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190808

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 001

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 30-Aug-19
Sampling Date: 29-Aug-19
Sampling Time: 11:30
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Microbiology</u>						
Coliforms, Fecal	< 1	1	CFU/100mL	30-Aug-19	SM9222:D	

ReportDate: Wednesday, September 04, 2019
Print Date: Wednesday, September 04, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190808

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 30-Aug-19
Sampling Date: 29-Aug-19
Sampling Time: 11:30
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Microbiology</u>						
Coliforms, Fecal	2	1	CFU/100mL	30-Aug-19	SM9222:D	

ReportDate: Wednesday, September 04, 2019
Print Date: Wednesday, September 04, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190808

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 002

* Taiga analytical methods are based on the following standard analytical methods

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: Wednesday, September 04, 2019

Print Date: Wednesday, September 04, 2019

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190977

- FINAL REPORT -

Prepared For: Town of Norman Wells

Address: Box 5
Norman Wells, NT
X0E 0V0

Attn: Hugo Pabke

Facsimile: (867) 587-3724

Final report has been reviewed and approved by:

Glen Hudy
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
 - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
 - Environment Canada
 - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Tuesday, October 22, 2019

Print Date: Tuesday, October 22, 2019

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Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190977

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(1)

Taiga Sample ID: 001

Client Project: S18L3-003

Sample Type: Greywater

Received Date: 09-Oct-19

Sampling Date: 08-Oct-19

Sampling Time: 11:30

Location: Norman Wells

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	10-Oct-19	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	09-Oct-19	SM5210:B	
CBOD	3	2	mg/L	09-Oct-19	SM5210:B	
Nitrogen, Total	1.09	0.06	mg/L	10-Oct-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	20.0	0.5	mg/L	12-Oct-19	SM5310:B	
Phosphorous, Total	0.125	0.002	mg/L	11-Oct-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	377	0.4	µS/cm	09-Oct-19	SM2510:B	
pH	7.71		pH units	09-Oct-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	09-Oct-19	SM2540:D	
<u>Major Ions</u>						
Nitrate as Nitrogen	0.33	0.01	mg/L	09-Oct-19	SM4110:B	
Nitrate+Nitrite as Nitrogen	0.33	0.01	mg/L	09-Oct-19	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	09-Oct-19	SM4110:B	
<u>Microbiology</u>						

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
190977

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(1)

Taiga Sample ID: 001

Coliforms, Fecal	3	1	CFU/100mL	09-Oct-19	SM9222:D
<u>Organics</u>					
Hexane Extractable Material	< 2.0	2.0	mg/L	18-Oct-19	EPA1664A
Oil and Grease, visible	Non-visible			17-Oct-19	Visual Exam

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Taiga Batch No.:
190977

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 002

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 09-Oct-19
Sampling Date: 08-Oct-19
Sampling Time: 11:30
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	10-Oct-19	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	09-Oct-19	SM5210:B	
CBOD	2	2	mg/L	09-Oct-19	SM5210:B	
Nitrogen, Total	0.60	0.06	mg/L	10-Oct-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	19.6	0.5	mg/L	12-Oct-19	SM5310:B	
Phosphorous, Total	0.019	0.002	mg/L	11-Oct-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	491	0.4	µS/cm	09-Oct-19	SM2510:B	
pH	7.73		pH units	09-Oct-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	09-Oct-19	SM2540:D	
<u>Major Ions</u>						
Calcium	64.1	0.1	mg/L	09-Oct-19	SM4110:B	
Magnesium	19.5	0.1	mg/L	09-Oct-19	SM4110:B	
Nitrate as Nitrogen	0.36	0.01	mg/L	09-Oct-19	SM4110:B	
Nitrate+Nitrite as Nitrogen	0.36	0.01	mg/L	09-Oct-19	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	09-Oct-19	SM4110:B	

ReportDate: Tuesday, October 22, 2019
Print Date: Tuesday, October 22, 2019



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Taiga Batch No.:
190977

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(2)

Taiga Sample ID: 002

Potassium	0.8	0.1	mg/L	09-Oct-19	SM4110:B
Sodium	10.7	0.1	mg/L	09-Oct-19	SM4110:B
Sulphate	97	1	mg/L	09-Oct-19	SM4110:B

Microbiology

Coliforms, Fecal	2	1	CFU/100mL	09-Oct-19	SM9222:D
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	18-Oct-19	EPA1664A
Oil and Grease, visible	Non-visible			17-Oct-19	Visual Exam

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	16-Oct-19	AB ENV.06537
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Trace Metals, Total

Antimony	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Arsenic	0.4	0.2	µg/L	16-Oct-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Chromium	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Copper	< 0.2	0.2	µg/L	16-Oct-19	EPA200.8
Iron	24	5	µg/L	16-Oct-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	16-Oct-19	EPA200.8
Nickel	0.7	0.1	µg/L	16-Oct-19	EPA200.8
Silver	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Zinc	< 5.0	5	µg/L	16-Oct-19	EPA200.8

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Taiga Batch No.:
190977

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 003

Client Project: S18L3-003
Sample Type: Freshwater
Received Date: 09-Oct-19
Sampling Date: 08-Oct-19
Sampling Time: 11:30
Location: Norman Wells
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	< 0.005	0.005	mg/L	10-Oct-19	SM4500-NH3:G	
Biochemical Oxygen Demand	2	2	mg/L	09-Oct-19	SM5210:B	
CBOD	3	2	mg/L	09-Oct-19	SM5210:B	
Nitrogen, Total	0.65	0.06	mg/L	10-Oct-19	ISO/TR 11905:1997(E)	
Organic Carbon, Total	19.7	0.5	mg/L	12-Oct-19	SM5310:B	
Phosphorous, Total	0.007	0.002	mg/L	11-Oct-19	SM4500-P:D	
<u>Inorganics - Physicals</u>						
Conductivity, Specific (@25C)	534	0.4	µS/cm	09-Oct-19	SM2510:B	
pH	8.18		pH units	09-Oct-19	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	09-Oct-19	SM2540:D	
<u>Major Ions</u>						
Calcium	64.2	0.1	mg/L	09-Oct-19	SM4110:B	
Magnesium	20.6	0.1	mg/L	09-Oct-19	SM4110:B	
Nitrate as Nitrogen	0.39	0.01	mg/L	09-Oct-19	SM4110:B	
Nitrate+Nitrite as Nitrogen	0.39	0.01	mg/L	09-Oct-19	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	09-Oct-19	SM4110:B	

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Taiga Batch No.:
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- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 003

Potassium	0.6	0.1	mg/L	09-Oct-19	SM4110:B
Sodium	21.4	0.1	mg/L	09-Oct-19	SM4110:B
Sulphate	89	1	mg/L	09-Oct-19	SM4110:B

Microbiology

Coliforms, Fecal	< 1	1	CFU/100mL	09-Oct-19	SM9222:D
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Organics

Hexane Extractable Material	< 2.0	2.0	mg/L	18-Oct-19	EPA1664A
Oil and Grease, visible	Non-visible			17-Oct-19	Visual Exam

Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	16-Oct-19	AB ENV.06537
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Trace Metals, Total

Antimony	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Arsenic	0.4	0.2	µg/L	16-Oct-19	EPA200.8
Cadmium	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Chromium	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Copper	0.3	0.2	µg/L	16-Oct-19	EPA200.8
Iron	64	5	µg/L	16-Oct-19	EPA200.8
Mercury	< 0.01	0.01	µg/L	16-Oct-19	EPA200.8
Nickel	0.8	0.1	µg/L	16-Oct-19	EPA200.8
Silver	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Thallium	< 0.1	0.1	µg/L	16-Oct-19	EPA200.8
Zinc	< 5.0	5	µg/L	16-Oct-19	EPA200.8

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190977

- CERTIFICATE OF ANALYSIS -

Client Sample ID: S18L3-003-(3)

Taiga Sample ID: 003

* Taiga analytical methods are based on the following standard analytical methods

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

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