

## ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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**YEAR BEING REPORTED: 2021**

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water License No. 3BM-TAL1926 and Amendment No 1 issued to the Municipality of Taloyoak.

- a) Quantity of freshwater (in cubic metres per month and per year) obtained from all sources;**
- b) Quantity of each and all Waste discharged (in cubic metres per month and per year), including the hazardous and non-hazardous Waste accepted at the Solid Waste Disposal Facility;**

Attached are quantities of water used as reported by the Municipality and the estimated discharge of sewage waste based on quantities used.

<b>Month Reported</b>	<b>Quantity of Water Obtained from all sources (m<sup>3</sup>)</b>	<b>Quantity of Sewage Waste Discharged (Estimated, m<sup>3</sup>)</b>
<b>January</b>	4146.38	Same
<b>February</b>	3845.21	Same
<b>March</b>	4272.01	Same
<b>April</b>	4020.81	Same
<b>May</b>	3865.30	Same
<b>June</b>	3090.82	Same
<b>July</b>	3325.58	Same
<b>August</b>	3566.50	Same
<b>September</b>	3523.14	Same
<b>October</b>	3654.38	Same
<b>November</b>	3767.05	Same
<b>December</b>	3863.60	Same
<b>ANNUAL TOTAL</b>	<b>44940.79</b>	<b>Same</b>

Note: Monthly sewage discharge volume is considered as equal to the monthly water consumption volume.

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- c) Tabular summaries of all data generated under the “Monitoring Program”;**
- Tables can be found in Appendix D
- d) Summary of modifications to the “Monitoring Program” in accordance with Part I, Item 14;**
- As per water license 3BM-TAL1926 – Amendment No. 1, the effluent criteria at TAL-3 have been removed. TAL-3 will continue to be monitored but is no longer a compliance point since it represents partially treated effluent.
  - As per water license 3BM-TAL1926 – Amendment No. 1, the acute toxicity sampling requirement was removed.
  - As per water license 3BM-TAL1926 – Amendment No. 1, the effluent quality criteria BOD<sub>5</sub> was changed to CBOD.
  - As per water license 3BM-TAL1926 – Amendment No. 1, the effluent quality criteria at compliance point TAL-6 changed from BOD<sub>5</sub>/TSS 25/25 mg/L to CBOD/TSS 100/120 mg/L.
- e) A list of unauthorized discharges and summary of follow-up action taken;**
- No unauthorized discharges for the infrastructure under license 3BM-TAL1926 occurred in 2021.
- f) Summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;**
- There were no modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities in 2021.
- g) Any updates or revisions for manuals and plans (*i.e., Operations and Maintenance, Abandonment and Restoration, QA/QC*) as required by changes in operation and/or technology;**
- An updated Spill Contingency Plan was submitted June 2021.
  - An updated Environmental Contingency Plan was submitted June 2021.
- h) Summary of any studies, reports, and plans requested by the Board that relate to Water use, Waste disposal, or reclamation, and a brief description of any future studies planned;**
- The initial planning study for the construction of a new Solid Waste Site was completed in 2020/21. The cost estimates have indicated that the current funding cannot support the

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construction of a state-of-the-art 20-year landfill in a new location. The focus of the project will shift to making improvements to the current site. A second planning contract to assess and prioritize the improvements to the current site is expected to begin in 2022.

- The lagoon project design phase is complete with IFT design drawings finalized in March 2022. Since the amendment for the new lagoon and effluent parameters is complete, the IFT drawings are being submitted as a notification alongside this 2021 Annual Report. The project is going to tender March 2022 and construction is expected to begin summer 2022 once the sealift arrives in late August or September.
- i) **Summary of any Abandonment and Restoration work completed during the year and an outline of any work anticipated for the following year;**
  - There was no Abandonment and Restoration work completed during 2021.
- j) **Any other details on Water use or Waste disposal requested by the Board by November 1st of the year being reported.**
  - There were no additional details on Water use or Waste disposal requested by the Board by November 1<sup>st</sup> of 2021.

### **ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:**

- Thaw began late in July. Freeze up began early September. The sampling season was limited and as such samples were limited to July and August. New staff conducted the August sampling and missed the TAL-6 location. CGS will undertake sampling training of municipal staff in 2022 to support the 2022 sampling program.

### **FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:**

- 2020 CIRNAC Inspection noted the TAL-1 and Sewage Lagoon signage had been removed and must be re-installed. There are plans to replace the sign after thaw in 2022.
- 2020 CIRNAC Inspection noted the requirement for the License Holder to remove and reclaim the old Water Intake Pump House and Utilidor System. The Inspection notes the license holder must find appropriate funding and complete Reclamation of the old Water Intake Pump House and Utilidor System prior to July 31, 2021, or the Inspector may have to consider further Enforcement Action. The Hamlet maintains they do not have the funds.

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### **List of Appendices**

**Appendix A: TAL-6 Effluent Quality Limits – 1 page**

**Appendix B: Laboratory Certificate of Analysis**

- **Certificate of Analysis 07/15/2021 - 10 pages**
- **Certificate of Analysis 08/23/2021 – 6 pages**

**Appendix C: Hazardous Materials Spill Database, Taloyoak 2021 – 1 page**

**Appendix D: Taloyoak 2021 Sampling Summary – 1 page**

**Appendix E : CIRNAC Inspection Report - 1 pages**

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**Appendix A: TAL-6 Effluent Quality Limits**

**3BM-TAL1926 Taloyoak Monitoring Program Results 2021 for Effluent Quality**

Parameter	Maximum concentration of Any Grab Sample	TAL-6
		July 15 2021
CBOD	100 mg/L	6
Total Suspended Solids	120 mg/L	32
Fecal Coliforms	1x10 <sup>4</sup> CFU/100mL	21
Oil + Grease	No visible sheen	Non-visible
pH	between 6 and 9	8.63
Un-ionized Ammonia NH <sub>3</sub>	1.25 mg/L at 15 °C	0.032

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## Appendix B: Laboratory Certificate of Analysis



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

**Taiga Batch No.:**  
**211566**

### - FINAL REPORT -

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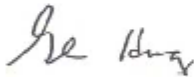
**Prepared For:** Hamlet of Taloyoak

**Address:** P.O. Box 8  
Taloyoak, NU, X0E 1B0

**Attn:** Janice Anderson

**Facsimile:** 867-561-5057

**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:** September-10-21  
**Print Date:** September-10-21

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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.:**  
**211190**

## - CERTIFICATE OF ANALYSIS -

**Client Sample ID:** TAL-3

**Taiga Sample ID:** 001

**Client Project:**  
**Sample Type:** Lagoon Discharge  
**Received Date:** 19-Jul-21  
**Sampling Date:** 15-Jul-21  
**Sampling Time:**  
**Location:** Taloyoak Sewage  
**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	9.17	0.005	mg/L	27-Jul-21	TEL068	
Biochemical Oxygen Demand	8	2	mg/L	19-Jul-21	TEL019	
CBOD	9	2	mg/L	19-Jul-21	TEL019	
Organic Carbon, Total	37.0	0.5	mg/L	23-Jul-21	TEL033	
<b><u>Inorganics - Physicals</u></b>						
Alkalinity, Total (as CaCO <sub>3</sub> )	185	0.4	mg/L	19-Jul-21	TEL060	
Conductivity, Specific (@25C)	732	0.4	µS/cm	19-Jul-21	TEL059	
pH	7.83		pH units	19-Jul-21	TEL058	
Solids, Total Dissolved	432	10	mg/L	22-Jul-21	TEL009	
Solids, Total Suspended	18	3	mg/L	22-Jul-21	TEL008	
<b><u>Major Ions</u></b>						
Calcium	45.3	0.1	mg/L	20-Jul-21	TEL055	
Chloride	91.7	0.7	mg/L	20-Jul-21	TEL055	
Hardness	229	0.7	mg/L	20-Jul-21	TEL055	

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Taiga Batch No.:  
**211190**

## - CERTIFICATE OF ANALYSIS -

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Client Sample ID: **TAL-3**

Taiga Sample ID: **001**

Magnesium	28.1	0.1	mg/L	20-Jul-21	TEL055
Nitrate as Nitrogen	0.11	0.01	mg/L	20-Jul-21	TEL055
Nitrate+Nitrite as Nitrogen	0.11	0.01	mg/L	20-Jul-21	TEL055
Nitrite as Nitrogen	< 0.01	0.01	mg/L	20-Jul-21	TEL055
Potassium	14.8	0.1	mg/L	20-Jul-21	TEL055
Sodium	57.9	0.1	mg/L	20-Jul-21	TEL055
Sulphate	31	1	mg/L	20-Jul-21	TEL055

### Microbiology

Coliforms, Fecal	< 10	10	CFU/100mL	19-Jul-21	TEL017
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### Organics

Oil and Grease, visible	Non-visible			19-Jul-21	Visual Exam
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### Subcontracted Organics

Phenols, Total	< 0.0010	0.001	mg/L	30-Jul-21	AB ENV.06537
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### Trace Metals, Total

Aluminum	48.8	5	µg/L	27-Jul-21	TEL035
Arsenic	0.7	0.2	µg/L	27-Jul-21	TEL035
Barium	5.3	0.1	µg/L	27-Jul-21	TEL035
Cadmium	< 0.1	0.1	µg/L	27-Jul-21	TEL035
Chromium	0.2	0.1	µg/L	27-Jul-21	TEL035
Cobalt	0.3	0.1	µg/L	27-Jul-21	TEL035
Copper	6.4	0.2	µg/L	27-Jul-21	TEL035
Iron	131	5	µg/L	27-Jul-21	TEL035
Lead	0.1	0.1	µg/L	27-Jul-21	TEL035
Manganese	34.7	0.1	µg/L	27-Jul-21	TEL035
Mercury	0.02	0.01	µg/L	27-Jul-21	TEL035

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**Taiga Batch No.:**  
**211190**

## - CERTIFICATE OF ANALYSIS -

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**Client Sample ID:** **TAL-3**

**Taiga Sample ID:** **001**

Nickel	1.1	0.1	µg/L	27-Jul-21	TEL035
Zinc	5.1	5	µg/L	27-Jul-21	TEL035

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**Taiga Batch No.:**  
**211190**

## - CERTIFICATE OF ANALYSIS -

**Client Sample ID:** TAL-5

**Taiga Sample ID:** 002

**Client Project:**

**Sample Type:** Solid Waste Runoff

**Received Date:** 19-Jul-21

**Sampling Date:** 15-Jul-21

**Sampling Time:**

**Location:** Taloyoak Sewage

**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	0.008	0.005	mg/L	21-Jul-21	TEL068	
Biochemical Oxygen Demand	< 2	2	mg/L	19-Jul-21	TEL019	
CBOD	< 2	2	mg/L	19-Jul-21	TEL019	
Organic Carbon, Total	14.9	0.5	mg/L	23-Jul-21	TEL033	
<b><u>Inorganics - Physicals</u></b>						
Alkalinity, Total (as CaCO <sub>3</sub> )	42.2	0.4	mg/L	19-Jul-21	TEL060	
Conductivity, Specific (@25C)	128	0.4	µS/cm	19-Jul-21	TEL059	
pH	8.59		pH units	19-Jul-21	TEL058	
Solids, Total Dissolved	84	10	mg/L	22-Jul-21	TEL009	
Solids, Total Suspended	4	3	mg/L	22-Jul-21	TEL008	
<b><u>Major Ions</u></b>						
Calcium	11.4	0.1	mg/L	20-Jul-21	TEL055	
Chloride	11.8	0.7	mg/L	20-Jul-21	TEL055	
Hardness	56.0	0.7	mg/L	20-Jul-21	TEL055	
Magnesium	6.7	0.1	mg/L	20-Jul-21	TEL055	
Nitrate as Nitrogen	< 0.01	0.01	mg/L	20-Jul-21	TEL055	

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Taiga Batch No.:  
**211190**

## - CERTIFICATE OF ANALYSIS -

**Client Sample ID: TAL-5**

**Taiga Sample ID: 002**

Nitrate+Nitrite as Nitrogen	< 0.01	0.01	mg/L	20-Jul-21	TEL055
Nitrite as Nitrogen	< 0.01	0.01	mg/L	20-Jul-21	TEL055
Potassium	1.4	0.1	mg/L	20-Jul-21	TEL055
Sodium	7.0	0.1	mg/L	20-Jul-21	TEL055
Sulphate	2	1	mg/L	20-Jul-21	TEL055

### Microbiology

Coliforms, Fecal	< 1	1	CFU/100mL	19-Jul-21	TEL017
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### Organics

Oil and Grease, visible	Non-visible			19-Jul-21	Visual Exam
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### Subcontracted Organics

Benzene		0.0005	mg/L		EPA 5021	16
Ethylbenzene		0.0005	mg/L		EPA 5021	16
F1: C6-C10		0.1	mg/L		CCME CWS PHC	16
F2: C10-C16	< 0.10	0.1	mg/L	27-Jul-21	EPA3510	
F3: C16-C34	< 0.25	0.25	mg/L	27-Jul-21	EPA3510	
F4: C34-C50	< 0.25	0.25	mg/L	27-Jul-21	EPA3510	
Phenols, Total		0.001	mg/L		AB ENV.06537	16
Toluene		0.0005	mg/L		EPA 5021	16
Xylenes		0.0005	mg/L		EPA 5021	16

### Trace Metals, Total

Aluminum	11.1	5	µg/L	27-Jul-21	TEL035
Arsenic	1.3	0.2	µg/L	27-Jul-21	TEL035
Barium	3.8	0.1	µg/L	27-Jul-21	TEL035
Cadmium	< 0.1	0.1	µg/L	27-Jul-21	TEL035
Chromium	< 0.1	0.1	µg/L	27-Jul-21	TEL035

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**Taiga Batch No.:**  
**211190**

## - CERTIFICATE OF ANALYSIS -

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**Client Sample ID:** TAL-5

**Taiga Sample ID:** 002

Cobalt	< 0.1	0.1	µg/L	27-Jul-21	TEL035
Copper	0.7	0.2	µg/L	27-Jul-21	TEL035
Iron	198	5	µg/L	27-Jul-21	TEL035
Lead	< 0.1	0.1	µg/L	27-Jul-21	TEL035
Manganese	3.9	0.1	µg/L	27-Jul-21	TEL035
Mercury	< 0.01	0.01	µg/L	27-Jul-21	TEL035
Nickel	0.2	0.1	µg/L	27-Jul-21	TEL035
Zinc	< 5.0	5	µg/L	27-Jul-21	TEL035

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

**Taiga Batch No.:**  
**211190**

## - CERTIFICATE OF ANALYSIS -

**Client Sample ID: TAL-6**

**Taiga Sample ID: 003**

**Client Project:**

**Sample Type:** Final Discharge

**Received Date:** 19-Jul-21

**Sampling Date:** 15-Jul-21

**Sampling Time:**

**Location:** Taloyoak Sewage

**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	0.032	0.005	mg/L	21-Jul-21	TEL068	
Biochemical Oxygen Demand	4	2	mg/L	19-Jul-21	TEL019	
CBOD	6	2	mg/L	19-Jul-21	TEL019	
Organic Carbon, Total	27.2	0.5	mg/L	23-Jul-21	TEL033	
<b><u>Inorganics - Physicals</u></b>						
Alkalinity, Total (as CaCO <sub>3</sub> )	181	0.4	mg/L	19-Jul-21	TEL060	
Conductivity, Specific (@25C)	684	0.4	µS/cm	19-Jul-21	TEL059	
pH	8.63		pH units	19-Jul-21	TEL058	
Solids, Total Dissolved	432	10	mg/L	22-Jul-21	TEL009	
Solids, Total Suspended	32	3	mg/L	22-Jul-21	TEL008	
<b><u>Major Ions</u></b>						
Calcium	58.1	0.1	mg/L	20-Jul-21	TEL055	
Chloride	87.2	0.7	mg/L	20-Jul-21	TEL055	
Hardness	252	0.7	mg/L	20-Jul-21	TEL055	
Magnesium	26.0	0.1	mg/L	20-Jul-21	TEL055	
Nitrate as Nitrogen	< 0.01	0.01	mg/L	20-Jul-21	TEL055	

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

Taiga Batch No.:  
**211190**

## - CERTIFICATE OF ANALYSIS -

**Client Sample ID: TAL-6**

**Taiga Sample ID: 003**

Nitrate+Nitrite as Nitrogen	< 0.01	0.01	mg/L	20-Jul-21	TEL055
Nitrite as Nitrogen	< 0.01	0.01	mg/L	20-Jul-21	TEL055
Potassium	7.6	0.1	mg/L	20-Jul-21	TEL055
Sodium	57.7	0.1	mg/L	20-Jul-21	TEL055
Sulphate	34	1	mg/L	20-Jul-21	TEL055

### Microbiology

Coliforms, Fecal	21	1	CFU/100mL	19-Jul-21	TEL017
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### Organics

Oil and Grease, visible	Non-visible			19-Jul-21	Visual Exam
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### Subcontracted Organics

Benzene		0.0005	mg/L		EPA 5021	16
Ethylbenzene		0.0005	mg/L		EPA 5021	16
F1: C6-C10		0.1	mg/L		CCME CWS PHC	16
F2: C10-C16	< 0.10	0.1	mg/L	27-Jul-21	EPA3510	
F3: C16-C34	0.26	0.25	mg/L	27-Jul-21	EPA3510	
F4: C34-C50	< 0.25	0.25	mg/L	27-Jul-21	EPA3510	
Phenols, Total		0.001	mg/L		AB ENV.06537	16
Toluene		0.0005	mg/L		EPA 5021	16
Xylenes		0.0005	mg/L		EPA 5021	16

### Trace Metals, Total

Aluminum	19.2	5	µg/L	27-Jul-21	TEL035
Arsenic	0.7	0.2	µg/L	27-Jul-21	TEL035
Barium	11.6	0.1	µg/L	27-Jul-21	TEL035
Cadmium	< 0.1	0.1	µg/L	27-Jul-21	TEL035
Chromium	0.2	0.1	µg/L	27-Jul-21	TEL035

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

**Taiga Batch No.:**  
**211190**

## - CERTIFICATE OF ANALYSIS -

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**Client Sample ID: TAL-6**

**Taiga Sample ID: 003**

Cobalt	0.2	0.1	µg/L	27-Jul-21	TEL035
Copper	2.7	0.2	µg/L	27-Jul-21	TEL035
Iron	205	5	µg/L	27-Jul-21	TEL035
Lead	< 0.1	0.1	µg/L	27-Jul-21	TEL035
Manganese	25.6	0.1	µg/L	27-Jul-21	TEL035
Mercury	0.01	0.01	µg/L	27-Jul-21	TEL035
Nickel	1.0	0.1	µg/L	27-Jul-21	TEL035
Zinc	< 5.0	5	µg/L	27-Jul-21	TEL035

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

Taiga Batch No.:  
**211190**

## - CERTIFICATE OF ANALYSIS -

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Client Sample ID: **TAL-6**

Taiga Sample ID: **003**

## - DATA QUALIFIERS -

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### Data Qualifier Descriptions:

**16** *Test requested but no sample bottle received*

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

Taiga Batch No.:  
211566

## - FINAL REPORT -

---

Prepared For: Hamlet of Taloyoak

Address: P.O. Box 8  
Taloyoak, NU, X0E 1B0

Attn: Janice Anderson

Facsimile: 867-561-5057

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.

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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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.:  
211566

## - CERTIFICATE OF ANALYSIS -

---

Client Sample ID: Solid Waste Runoff X1

Taiga Sample ID: 001

Client Project:

Sample Type: Water

Received Date: 24-Aug-21

Sampling Date: 23-Aug-21

Sampling Time: 8:38

Location: Source Water and Treated Water

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Organics</u>						
F2: C10-C16	< 0.2	0.2	mg/L	27-Aug-21	TEL067	
F3: C16-C34	< 0.2	0.2	mg/L	27-Aug-21	TEL067	
F4: C34-C50	< 0.2	0.2	mg/L	27-Aug-21	TEL067	
Hydrocarbons, Total Extractable	0.2	0.2	mg/L	27-Aug-21	TEL067	

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK



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

Taiga Batch No.:  
211566

## - CERTIFICATE OF ANALYSIS -

Client Sample ID: Sewage Lagoon X3-A

Taiga Sample ID: 002

Client Project:

Sample Type: Water

Received Date: 24-Aug-21

Sampling Date: 23-Aug-21

Sampling Time: 9:08

Location: Source Water and Treated Water

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	17.6	0.005	mg/L	27-Aug-21	TEL068	
Nitrogen, Dissolved	23.2	0.06	mg/L	25-Aug-21	TEL066	
Nitrogen, Total	33.9	0.06	mg/L	25-Aug-21	TEL066	
Organic Carbon, Dissolved	31.6	0.5	mg/L	25-Aug-21	TEL033	
Organic Carbon, Total	62.0	0.5	mg/L	25-Aug-21	TEL033	
Ortho-Phosphate as Phosphorus	3.75	0.002	mg/L	27-Aug-21	TEL069	
Phosphorous, Dissolved	3.80	0.002	mg/L	25-Aug-21	TEL069	
Phosphorous, Total	5.52	0.002	mg/L	25-Aug-21	TEL069	
<u>Inorganics - Physicals</u>						
Solids, Total Dissolved	484	10	mg/L	01-Sep-21	TEL009	
Solids, Total Suspended	54	3	mg/L	01-Sep-21	TEL008	
Turbidity	40.2	0.05	NTU	02-Sep-21	TEL006	

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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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.:  
211566

## - CERTIFICATE OF ANALYSIS -

---

Client Sample ID: Final Discharge X-4

Taiga Sample ID: 003

Client Project:

Sample Type: Water

Received Date: 24-Aug-21

Sampling Date: 23-Aug-21

Sampling Time: 9:05

Location: Source Water and Treated Water

Report Status: Final

---

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Microbiology</u>						
Coliforms, Total	>24196	10	MPN/100ml	24-Aug-21	TEL053	74
Escherichia coli	>24196	10	MPN/100ml	24-Aug-21	TEL053	74

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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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.:  
211566

## - CERTIFICATE OF ANALYSIS -

---

Client Sample ID: Sewage Lagoon X3-A

Taiga Sample ID: 004

Client Project:

Sample Type: Water

Received Date: 24-Aug-21

Sampling Date: 23-Aug-21

Sampling Time: 8:42

Location: Source Water and Treated Water

Report Status: Final

---

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Microbiology</u>						
Coliforms, Total	>241960	100	MPN/100ml	24-Aug-21	TEL053	74
Escherichia coli	155000	100	MPN/100ml	24-Aug-21	TEL053	

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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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.:  
211566

## - CERTIFICATE OF ANALYSIS -

---

Client Sample ID: Sewage Lagoon

Taiga Sample ID: 005

Client Project:  
Sample Type: Water  
Received Date: 24-Aug-21  
Sampling Date: 23-Aug-21  
Sampling Time: 9:08  
Location: Source Water and Treated Water  
Report Status: Final

---

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	57	2	mg/L	24-Aug-21	TEL019	
CBOD	35	2	mg/L	24-Aug-21	TEL019	

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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Taiga Batch No.:  
**211566**

## - CERTIFICATE OF ANALYSIS -

---

Client Sample ID: **Solid Waste Runoff X-1**

Taiga Sample ID: **006**

Client Project:  
Sample Type: **Water**  
Received Date: **24-Aug-21**  
Sampling Date: **23-Aug-21**  
Sampling Time: **9:09**  
Location: **Source Water and Treated Water**  
Report Status: **Final**

---

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Subcontracted Organics</u>						
Phenols, Total	< 0.0010	0.001	mg/L	30-Aug-21	AB ENV.06537	

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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

Taiga Batch No.:  
211566

## - CERTIFICATE OF ANALYSIS -

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Client Sample ID: Final Discharge X-4

Taiga Sample ID: 007

Client Project:

Sample Type: Water

Received Date: 24-Aug-21

Sampling Date: 23-Aug-21

Sampling Time: 9:02

Location: Source Water and Treated Water

Report Status: Final

---

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Subcontracted Organics</u>						
F2: C10-C16	< 0.10	0.1	mg/L	01-Sep-21	EPA3510	
F3: C16-C34	4.25	0.25	mg/L	01-Sep-21	EPA3510	
F4: C34-C50	0.72	0.25	mg/L	01-Sep-21	EPA3510	

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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

Taiga Batch No.:  
211566

## - CERTIFICATE OF ANALYSIS -

---

Client Sample ID: Final Discharge X-4

Taiga Sample ID: 008

Client Project:

Sample Type: Water

Received Date: 24-Aug-21

Sampling Date: 23-Aug-21

Sampling Time: 9:12

Location: Source Water and Treated Water

Report Status: Final

---

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	46	2	mg/L	24-Aug-21	TEL019	
CBOD	40	2	mg/L	24-Aug-21	TEL019	

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK



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

Taiga Batch No.:  
211566

## - CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Runoff

Taiga Sample ID: 009

Client Project:  
Sample Type: Water  
Received Date: 24-Aug-21  
Sampling Date: 23-Aug-21  
Sampling Time: 8:50  
Location: Source Water and Treated Water  
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Trace Metals, Total</u>						
Aluminum	70.0	5	µg/L	09-Sep-21	TEL035	
Antimony	0.4	0.1	µg/L	09-Sep-21	TEL035	
Arsenic	0.7	0.2	µg/L	09-Sep-21	TEL035	
Barium	6.4	0.1	µg/L	09-Sep-21	TEL035	
Beryllium	< 0.1	0.1	µg/L	09-Sep-21	TEL035	
Cadmium	< 0.1	0.1	µg/L	09-Sep-21	TEL035	
Cesium	< 0.1	0.1	µg/L	09-Sep-21	TEL035	
Chromium	0.4	0.1	µg/L	09-Sep-21	TEL035	
Cobalt	0.4	0.1	µg/L	09-Sep-21	TEL035	
Copper	18.4	0.2	µg/L	09-Sep-21	TEL035	
Iron	448	5	µg/L	09-Sep-21	TEL035	
Lead	0.3	0.1	µg/L	09-Sep-21	TEL035	
Lithium	5.6	0.2	µg/L	09-Sep-21	TEL035	
Manganese	43.1	0.1	µg/L	09-Sep-21	TEL035	
Molybdenum	0.6	0.1	µg/L	09-Sep-21	TEL035	
Nickel	1.7	0.1	µg/L	09-Sep-21	TEL035	

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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.:  
211566

## - CERTIFICATE OF ANALYSIS -

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Client Sample ID: Solid Waste Runoff			Taiga Sample ID: 009		
Rubidium	11.9	0.1	µg/L	09-Sep-21	TEL035
Selenium	< 0.5	0.5	µg/L	09-Sep-21	TEL035
Silver	< 0.1	0.1	µg/L	09-Sep-21	TEL035
Strontium	82.7	0.1	µg/L	09-Sep-21	TEL035
Thallium	< 0.1	0.1	µg/L	09-Sep-21	TEL035
Titanium	3.6	0.1	µg/L	09-Sep-21	TEL035
Uranium	0.5	0.1	µg/L	09-Sep-21	TEL035
Vanadium	0.4	0.1	µg/L	09-Sep-21	TEL035
Zinc	23.6	5	µg/L	09-Sep-21	TEL035

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# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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

Taiga Batch No.:  
**211566**

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## - CERTIFICATE OF ANALYSIS -

---

Client Sample ID: **Solid Waste Runoff**

Taiga Sample ID: **009**

---

## - DATA QUALIFIERS -

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*Data Qualifier Descriptions:*

**74** *Unable to repeat analysis at higher dilution. Holding time exceeded.*

\* 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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**ANNUAL REPORT  
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**Appendix C: Hazardous Materials Spill Database, Taloyoak 2021**

No unauthorized discharges for the infrastructure under license 3BM-TAL1926 occurred in 2021.

# ANNUAL REPORT FOR THE MUNICIPALITY OF TALOYOAK

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## Appendix D: Taloyoak 2021 Sampling Summary

Parameter	Unit	TAL-3		TAL-4	TAL-5	TAL-6
		July 15	August 23	August 23	July 15	July 15
CBOD	mg/L	9		40	<2	6
TSS	mg/L	18	54		4	32
Fecal Coliforms	CFU/100ml	<10			<1	21
pH	pH	7.83			8.59	8.63
Conductivity	µS/cm	732			128	684
Nitrate-Nitrite	mg/L	0.11			<0.01	<0.01
Oil and Grease	Visibility	Non-visible			Non-Visible	Non-Visible
Total Phenols	mg/L	<0.0010		<0.0010		
Magnesium	mg/L	28.1			6.7	26.0
Calcium	mg/L	45.3			11.4	58.1
Sodium	mg/L	57.9			7.0	57.7
Potassium	mg/L	14.8			1.4	7.6
Chloride	mg/L	91.7			11.8	87.2
Sulphate	mg/L	31			2	34
Total Hardness	mg/L	229			56.0	252
Total Alkalinity	mg/L	185			42.2	181
Ammonia Nitrogen	mg/L	9.17	17.6		0.008	0.032
Total Cadmium	µg/L	<0.1	<0.1		<0.1	<0.1
Total Cobalt	µg/L	0.3	0.4		<0.1	0.2
Total Chromium	µg/L	0.2	0.4		<0.1	0.2
Total Copper	µg/L	6.4	18.4		0.7	2.7
Total Aluminum	µg/L	48.8	70.0		11.1	19.2
Total Mercury	µg/L	0.02			<0.01	0.01
Total Zinc	µg/L	5.1	23.6		<5.0	<5.0
Total Iron	µg/L	131	448		198	205
Total Manganese	µg/L	34.7	43.1		3.9	25.6
Total Nickel	µg/L	1.1	1.7		0.2	1.0
Total Lead	µg/L	0.1	0.3		<0.1	<0.1
Total Arsenic	µg/L	0.7	0.7		1.3	0.7
Total Organic Carbon	mg/L	37.0	62.0		14.9	27.2

**ANNUAL REPORT  
FOR THE MUNICIPALITY OF TALOYOAK**

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**Appendix E: CIRNAC Inspection Report**

The CIRNAC inspection did not take place in 2021.