

בתרה ואריקליה האליך Department of Community and Government Services
Nunalingni Kavamatkunnilu Pivikhaqautikkut
Ministère des Services Communautaires et gouvernementaux

October 8, 2021

Nunavut Water Board P.O. Box 119 Gjoa Haven, NU XOB 1LO

Attention: Richard Dwyer, Manager of Licensing

Re: Kugaaruk Lagoon Leak

Dear Richard,

On September 21, 2021, a leak with some pooling was observed below the southwest berm of the Kugaaruk sewage lagoon by municipal staff. Samples were taken on September 22nd and sent to Taiga Laboratory in Yellowknife.

The preliminary sample results and a photograph of the area of the leak taken October 4, 2021 are attached to this letter. The leak had dried at the time of the photograph, but the discoloration and lab results suggest that the leak contains wastewater effluent. The lagoon was upgraded and commissioned in 2020 and is still under warranty. The contractor is currently on site investigating the issue and the design consultant will be onsite next week.

CGS will follow-up with the consultant's recommendations once available.

Thank you,



Elan Chalmers
Municipal Planning Officer
Government of Nunavut
Community and Government Services

Email: echalmers@gov.nu.ca





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

- PRELIMINARY REPORT -

Prepared For: Hamlet of Kugaaruk

Address: Box 205

Kugaaruk, NU, X0B 1K0

Attn: Chantal Dowden Facsimile: 867-769-6069

Final report has been reviewed and approved by:

Judy Mah

Client Service 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;
 - o Environment Canada
 - o 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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- CERTIFICATE OF ANALYSIS -

Taiga Sample ID: 001 Client Sample ID: Sewage Lagoon

Client Project:

Sample Type: Leak Received Date: 23-Sep-21 Sampling Date: 22-Sep-21 Sampling Time: 8:00

Location: Kugaaruk Sewage Lagoon

Preliminary Report Status:

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Nutrients						
Biochemical Oxygen Demand	257	2	mg/L	23-Sep-21	TEL019	
CBOD	127	2	mg/L	23-Sep-21	TEL019	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO3)	204	0.4	mg/L	23-Sep-21	TEL060	
Conductivity, Specific (@25C)	928	0.4	μS/cm	23-Sep-21	TEL059	
pН	7.55		pH units	23-Sep-21	TEL058	
Solids, Total Dissolved	473	10	mg/L	24-Sep-21	TEL009	
Solids, Total Suspended	1630	3	mg/L	24-Sep-21	TEL008	
Turbidity	383	0.05	NTU	23-Sep-21	TEL006	
Major Ions						
Chloride	36.8	0.7	mg/L	23-Sep-21	TEL055	
Nitrate as Nitrogen	10.9	0.01	mg/L	23-Sep-21	TEL055	
Nitrate+Nitrite as Nitrogen	11.1	0.01	mg/L	23-Sep-21	TEL055	
Nitrite as Nitrogen	0.19	0.01	mg/L	23-Sep-21	TEL055	

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- CERTIFICATE OF ANALYSIS -

Client Sample ID: Sewage L	Taiga Sample ID: 001					
Sulphate	173	1	mg/L	23-Sep-21	TEL055	
Microbiology						
Coliforms, Fecal	6600	100	CFU/100mL	23-Sep-21	TEL017	
<u>Organics</u>						
Oil and Grease, visible	Non-visible			23-Sep-21	Visual Exam	
Subcontracted Inorganics						
Calcium		0.05	mg/L		EPA200.2	
Hardness		0.5	mg/L		EPA200.2	
Magnesium		0.005	mg/L		EPA200.2	
Potassium		0.05	mg/L		EPA200.2	
Sodium		0.05	mg/L		EPA200.2	
Subcontracted Organics						
Phenols, Total		0.001	mg/L		AB ENV.06537	
Trace Metals, Total						
Aluminum	13600	5	μg/L	29-Sep-21	TEL035	
Antimony	0.9	0.1	μg/L	29-Sep-21	TEL035	
Arsenic	2.7	0.2	μg/L	29-Sep-21	TEL035	
Barium	124	0.1	μg/L	29-Sep-21	TEL035	
Beryllium	0.7	0.1	μg/L	29-Sep-21	TEL035	
Bismuth	0.2	0.2	μg/L	29-Sep-21	TEL035	249
Boron	176	0.9	μg/L	29-Sep-21	TEL035	
Cadmium	0.3	0.1	μg/L	29-Sep-21	TEL035	
Cesium	2.1	0.1	μg/L	29-Sep-21	TEL035	
Chromium	20.9	0.1	μg/L	29-Sep-21	TEL035	
Cobalt	11.7	0.1	μg/L	29-Sep-21	TEL035	

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- CERTIFICATE OF ANALYSIS -

Client Sample ID:	Sewage Lagoon	Ta	Taiga Sample ID: 001		
Copper	50.0	0.2	μg/L	29-Sep-21	TEL035
Iron	29800	5	μg/L	29-Sep-21	TEL035
Lead	11.1	0.1	μg/L	29-Sep-21	TEL035
Lithium	33.9	0.2	μg/L	29-Sep-21	TEL035
Manganese	1470	0.1	μg/L	29-Sep-21	TEL035
Mercury	0.02	0.01	μg/L	29-Sep-21	TEL035
Molybdenum	22.5	0.1	μg/L	29-Sep-21	TEL035
Nickel	15.3	0.1	μg/L	29-Sep-21	TEL035
Rubidium	56.4	0.1	μg/L	29-Sep-21	TEL035
Selenium	1.4	0.5	μg/L	29-Sep-21	TEL035
Silver	0.6	0.1	μg/L	29-Sep-21	TEL035
Strontium	222	0.1	μg/L	29-Sep-21	TEL035
Thallium	0.3	0.1	μg/L	29-Sep-21	TEL035
Tin	0.4	0.1	μg/L	29-Sep-21	TEL035
Titanium	1290	0.1	μg/L	29-Sep-21	TEL035
Uranium	125	0.1	μg/L	29-Sep-21	TEL035
Vanadium	37.5	0.1	μg/L	29-Sep-21	TEL035
Zinc	81.4	5	μg/L	29-Sep-21	TEL035

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Taiga Batch No.: 211876

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- CERTIFICATE OF ANALYSIS -

Client Sample ID: Sewage Lagoon Taiga Sample ID: 001

- DATA QUALIFERS -

Data Qualifier Descriptions:

Taiga Environmental Laboratory is not accredited for this test.

* 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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