

INUVIALUIT
SIVUNNIUQPAT
IMAKKUN



INUVIALUIT
WATER
BOARD

Hamlet of Tukttoyaktuk
Water Licence Number: N7L3-0714

Municipal Water Licence

Annual Report for the Year 2020

Date Prepared: March 18, 2021

Municipal Water Licence Annual Report

Hamlet of Tuktoyaktuk
Licence # N7L3-0714
Reporting year 2020

1. Water Usage

Table 1: Monthly and annual quantities of fresh water obtained from all sources

Month	Volume from Source (m ³ or L)	Volume from any other Source (m ³ or L)
January	3,097 m3	
February	2,936 m3	
March	3,131.79 m3	
April	3,142.06 m3	
May	3,146.39 m3	
June	3,509.11 m3	
July	3,204.68 m3	
August	3,425.99 m3	
September	3,490.75 m3	
October	3,309.32 m3	
November	3,275.60 m3	
December	3,258.88 m3	
TOTALS		
ANNUAL TOTAL (m³ or L)	38,928.28 m3	
% Increase or decrease from previous year	16.82% Decrease	

Reasons for increase / decrease (if applicable):

N/A

Reasons for exceeding licensed withdrawal volumes (if applicable):

N/A

General information:

N/A

2. Sewage Disposal

Table 2: Monthly and annual quantities of sewage discharged to the sewage disposal facilities

Month	Volume of sewage discharged (m ³ or L)
January	3,097.16 m3
February	2,936.55 m3
March	3,131.79 m3
April	3,142.06 m3
May	3,146.06 m3
June	3,509.11 m3
July	3,204.68 m3
August	3,425.99 m3
September	3,490.75 m3
October	3,309.32 m3
November	3,275.60 m3
December	3,258.88 m3
ANNUAL TOTAL (m³ or L)	38,928.28 m3
% Increase or decrease from previous year	16.82 % Decrease

3. Hazardous Waste Storage and Transportation

On Table 3, list the types of hazardous waste accepted into the facility including volumes.

Table 3: Monthly and annual quantities of hazardous waste stored on site and transported off site

Month	Type of hazardous waste accepted (Volume in m ³ or L)	Type of hazardous waste transported off site (Volume in m ³ or L)
January		
February		
March		
April	25 - 207L Contaminated Drums(2019)	
May	145 - Used Batteries(2019)	
June	1-Tote(1000 L)Used Oil Rags/Filter(2019)	
July	1-Tote(1000L)Fuel/Paint/Solvent(2019)	
August	1-Tote(1000L) Used Floor Dry(2019)	
September	2-Tote(1000L)Contaminated Water(2019)	
October		
November		
December		
ANNUAL TOTAL (m³ or L)		
% Increase or decrease from previous year		

If hazardous waste has been transported off site this year, please describe how it was transported and the final destination:

N/A

Please include treatment or disposal plans for the remaining quantities:

We used 2019 inventory and will send in update when inventory is done in June 2021. Inventory and Identification on all Hazardous Waste will be done after the spring thaw and in the foreseeable future we will send out for proper disposal. We have numerous 45 gallon drums that need to be identified and volume recorded, we will be in contact with ENR for help or if they can supply proper equipment to do the identifications on the drums.

Please describe any changes or improvements to temporary hazardous waste storage areas:

N/A

4. Sewage Sludge Removal

Table 4: Monthly and annual quantities of sewage sludge removed from the sewage disposal facilities and disposal location

Month	Volume of sewage sludge removed (m ³ or L)	Disposal location
January	0	
February	0	
March	0	
April	0	
May	0	
June	0	
July	0	
August	0	
September	0	
October	0	
November	0	
December	0	
ANNUAL TOTAL (m³ or L)	0	
% Increase or decrease from previous year		

5. Problems, Modifications or Repairs Completed During the Year on Water Supply and Waste Disposal Facilities

Include any changes to infrastructure of all facilities completed during the year, including any changes, repairs and modifications. Please note any problems that occurred during the year. If there are no changes, make note of that also.

We repaired holes on the pipeline in the harbor in the month of August before the 2020 annual refill. A total of 15 couplings were installed to cover the holes. We also had problems with our existing engines at Kudlak Lake, burning 3-4 liters of oil daily. The engine is scheduled to be replaced this April, 2021.

6. SNP Data

A condition of the Water Licence is the Surveillance Network Program (SNP). The SNP outlines the sampling requirements and frequency at monitoring stations. *In table 5, insert the sites sampled during the reporting year and the sampling period (sampling date). Attach the complete Taiga Laboratory results, with your "Municipal Water Licence Annual Report" to the Inuvialuit Water Board.*

Table 5: Sampling station and sampling period

Sampling station	After break-up	Prior to freeze-up
Sewage lagoon SNP-0714-2	Sample Batch #200558	Sample Batch #201000
Water Reservoir SNP-0714-1	Sample Batch #200999	
Solid Waste Disposal Site SNP-0714-3	Sample Batch #200558	Sample Batch #200784
		Sample Batch #201000

7. Spills and Unauthorized Discharges

List any spills and unauthorized discharges, how and when they were reported, and clean up methods.

N/A

8. Spill Response Training and/or other Operator Training

Please provide a description of any Spill Response Training and/or other operator training carried out during the year.

We had 2 employees take the Small System Water Treatment Course and are scheduled to take the Class I Water Treatment Operator course when it becomes available.

9. Closure and Reclamation

Include a description of any closure, remediation and/or reclamation activities completed during the year and an outline of any work anticipated for next year.

N/A

10. Studies Requested by the Board that Relate to Water Use, Waste Disposal or Closure and Reclamation

If the Board has requested that specific studies be completed or have asked for specific information be included in the annual report, include these details in this section. Include a summary report of the study completed and the results. Include as attachments with the submission of the Annual Report. Include details of any upcoming studies that will be completed by the Hamlet.

N/A

11. Updates or Revisions to Approved Plans

Include details on any changes to approved plans such as the Solid and Sewage Waste Disposal Facilities Operating and Maintenance Plan (O&M Plan) or any other plans specific to your Water Licence.

- *Spill Contingency Plan*
- *Solid Waste Disposal Facilities Operation and Maintenance Plan*
- *Sewage Disposal Facilities Operation and Maintenance Plan*
- *Hazardous Waste Management Plan*
- *Closure and Reclamation Plan*

N/A

12. Inspection of Dams, Berms, Dykes and Control Structures

Include results of any inspections of all dams, berms, dykes and control structures related to the water intake facilities, solid waste disposal facilities, sewage disposal facilities and/or any other specific to your water licence.

Attached: Reports on Water Reservoir, Sewage Lagoon and Solid Waste Disposal Site. Detailed inspection on reports.

13. Inspections on all Water and Waste Disposal Facilities

Include results of regular staff inspections on all water and waste disposal facilities authorized under this licence and any corrective actions taken, as necessary.

Attached: Reports on Water Reservoir and Solid Waste Disposal Site. Detailed inspection on reports.

14. Correspondence between the Inspector and the Licensee

Include all correspondence between the Inspector and the Licensee with your annual report.

August 24, 2020 - Letter of approval from Lloyd Gruben, Water Resource Officer for an Emergency Decant at the Solid Waste Disposal Site- Attached

15. Other Information

Include any other details on waste disposal requested by the Board by November 1, of the year being reported. In this section you may include non-compliance items identified in the inspection reports and how the Hamlet is addressing them. If there are any contaminated soil piles currently in use, please list the details of containment, remediation, and progress in this section. Ongoing issues with compliance can be identified here. If the IWB is aware of ongoing problems with the licence, discussions can occur to find a resolution.

2020 Tuktoyaktuk Water Reservoir Annual Report - Attached
2020 Tuktoyaktuk Sewage Lagoon/Solid Waste Disposal Site Annual Report - Attached
Water Reservoir SNP-0714-1 Annual Water Sample, Batch #200999 - Attached
Sewage Lagoon SNP-0714-2 August 11/20 Batch #200558 & November 12/20 Batch #201000 Attached
Solid Waste Disposal Site SNP-0714-3 August 11/20 Batch #200558, September 18/20 Batch #200784 and November 12/20 Batch #201000 - Attached
Lloyd Gruben - August 24, 2020 Letter of Approval for Emergency Decant - Attached

THE SEWAGE LAGOON AND SOLID WASTE SITE WERE BOTH INSPECTED ON AUGUST 07, 2020.

SOLID WASTE DISPOSAL SITE:

- THE BERM WAS INSPECTED AND THERE WAS A LITTLE EROSION ON THE NORTH END OF THE BERM, WE WILL INSPECT IN JUNE OF 2021 TO SEE IF ANY WORK REPAIR IS REQUIRED. THE FREE BOARD WAS UNDER THE HALF METER AND WAS REQUIRED TO DO AN EMERGENCY DECANT. SAMPLES WERE SENT OUT ON AUGUST 11/20 TO TAIGA LABS IN YELLOWKNIFE. RECEIVED RESULTS BACK AUGUST 22/20 AND WERE SENT TO LLOYD GRUBEN FROM ENR AND RESULTS WERE OKAY TO START DECANTING. STARTED DECANTING ON AUGUST 27/20. AND COMPLETED DECANTING ON SEPTEMBER 01/20.
- FENCING REPAIR WAS DONE TO THE DOMESTIC GARBAGE DUMPING AREA ON JUNE 15/20.
- SEGREGATION ON ALL AREAS WAS DONE ON OCTOBER 13 TO THE 16, 2020.
- AUGUST 11/20 SOLID WASTE SITE SAMPLES BATCH #200558 ATTACHED.
- SEPTEMBER 18/20 SOLID WASTE SITE SAMPLES, BATCH #200784 ATTACHED.
- NOVEMBER 12/20 SOLID WASTE SITE SAMPLES BATCH #201000 ATTACHED.

SEWAGE LAGOON:

- THE BERM WAS INSPECTED WITH NO DEFICIENCIES, AND THE FREE BOARD WAS OVER 9 METERS. NO DECANT REQUIRED.
- NORTH AND SOUTH DUMPING CHUTES WERE INSPECTED AND WERE IN GREAT CONDITION.
- AUGUST 11/20 SEWAGE LAGOON SAMPLES, BATCH #200558 ATTACHED.
- NOVEMBER 12/20 SEWAGE LAGOON SAMPLES, BATCH #201000 ATTACHED.

SUMMARY: WE HAD NO ISSUES WITH DECANTING. CLEAN UP OF DEBRIS ON BOTH THE INSIDE AND OUTSIDE OF THE FENCE WILL BE SCHEDULED FOR JUNE 2021.

SUBMITTED BY,



DAVY KRENGNEKTAK
MUNICIPAL WORKS MANAGER
HAMLET OF TUKTOYAKTUK

2020 TUKTOYAKTUK WATER RESERVOIR ANNUAL REPORT March 29, 2021

KULAK LAKE ACCESS ROAD: MARCH 30, 2020 RECEIVED PERMIT FROM ILA TO START KUDLAK LAKE ACCESS ROAD. CONSTRUCTION STARTED ON APRIL 01/20. COMPLETED ON APRIL 08/20. R&M PROPANE SERVICES FILLED UP PROPANE TANK ON APRIL 10/20. 12,467 LITERS OF PROPANE WAS THE FINAL TOTAL. ILA DID FINAL COMPLETION INSPECTION ON APRIL 20/20.

RESERVOIR REFILL: 2020 RESERVOIR REFILL STARTED ON AUGUST 11/20 WITH SETTING UP THE SUCTION LINE AT KUDLAK LAKE AND CONNECTING THE PIPE FLANGES FROM KUDLAK LAKE TO THE HARBOR. HOOKED UP AIR COMPRESSOR TO PIPELINE TO FLOAT THE PIPELINE ACROSS THE HARBOR AND REPAIR HOLES ON THE PIPELINE, A TOTAL OF 15 COUPLINGS WERE INSTALLED. STARTED THE PUMP AT KUDLAK LAKE TO SINK THE PIPELINE WHICH TOOK ABOUT 1 HOUR. AUGUST 26/20 WE STARTED REFILLING THE RESERVOIR.

START DATE: AUGUST 26, 2020

PUMP HOUR METER: 5873.5

RESERVOIR DEPTH: 17' 6"

PROPANE TANK PERCENTAGES:

- TANK #1 – 82%
- TANK #2 – 80%
- TANK #3 – 85%
- TANK #4 – 82%
- TANK #5 – 82%
- TANK #6 – 85%

COMPLETION DATE: SEPTEMBER 10, 2020

PUMP HOUR METER: 6187.2

RESERVOIR DEPTH: 24' 6"

PROPANE PERCENTAGES:

- TANK #1 – 10%
- TANK #2 – 20%
- TANK #3 – 20%
- TANK #4 – 5%
- TANK #5 – 9%
- TANK #6 – 85%

SUMMARY: WE HAD AN ISSUE WITH THE ENGINE FOR THE PUMP THIS SUMMER, WE WERE BURNING 4 LITERS OF OIL PER DAY. WE ARE SCHEDULED TO REPLACE THE ENGINE ON APRIL OF 2021. WE RAN FOR 16 DAYS WITH MINOR ENGINE STOPS. ANNUAL WATER SAMPLES WERE TAKEN FOR RAW AND TREATED WATER ON NOVEMBER 12, 2020, BATCH #200999 ATTACHED.

SUBMITTED BY,



DAVY KRENGNEKTAK

MUNICIPAL WORKS MANAGER, HAMLET OF TUKTOYAKTUK



Davy Krengnektak, Foreman
Incorporated Hamlet of Tuktoyaktuk
P.O. Box 120
Tuktoyaktuk, NT
X0E 0T0

August 24, 2020

Dear Mr. Krengnektak,

RE: EMERGENCY DECANT OF SOLID WASTE DISPOSAL FACILITY LAGOON

As per email dated August 4, 2020, from the Incorporated Hamlet of Tuktoyaktuk (Hamlet) it is apparent there is a need for the Hamlet to conduct an emergency decant of the Solid Waste Disposal Facility Lagoon (the "Lagoon") due to the lagoon having less than 0.5 m freeboard. There has not been a 30 day notice prior to discharge as per Part D, Item 13 of the Water License. The purpose of this decant is to lower water levels in the Lagoon, thus preventing structural failure of the berm which may result in uncontrolled discharge.

The Hamlet collected water samples (as per SNP Part B; Item 3) on August 11, 2020. To consider this discharge, Environment and Natural Resources (ENR) reviewed the Hamlet's Water License N5L3 – 0714 (the license) and the results of the water samples taken on August 11, 2020 at Surveillance Network Program (SNP) station 0714 – 3 (Lagoon). The samples were analysed as per the License requirements.

There are no concerns as parameters are acceptable when compared to available Canadian Council of Ministers for the Environment Chapter 4 Marine Guidelines and are also below historical background levels. All parameters were below Water License discharge criteria.

In light of the above review, ENR **APPROVES** the "emergency decant" as per Part D: Item 14 of the Water License. Furthermore, this emergency decant is approved under the following conditions:

1. Provide a detailed log run time including pump rate and total daily discharge in cubic meters
2. The Hamlet must adhere to all other applicable conditions in the license. Specifically, please review **Part D: Items 16 – 22**
3. During discharge ensure that SNP, Item 3 is carried out and that **SNP 0714 – 3 is sampled at least one time during discharge. When discharge is**



complete, ensure that the sample results are forwarded to this office for review.

- 4. The Hamlet is to discharge from the lagoon as long as needed to achieve the freeboard limit of .5 metres as required by the Water License in Part D; Conditions Applying to Waste Disposal, Item 24**

Please contact me if you have any questions or concerns or if you require additional information.

Sincerely,

Lloyd Gruben
Water Resources Officer
Environment and Natural Resources
P.O. Box 2749
Inuvik, NT X0E 0T0
Ph: (867)678-6676 (office)
Cell: (867)678-0623 (cell)

Cc: Lila Voudrach, Manager of Wildlife and Environment
Mardy Semmler, Executive Director, Inuvialuit Water Board



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

Taiga Batch No.:
200999

- FINAL REPORT -

Prepared For: Hamlet of Tuktoyaktuk

Address: P.O. Box 120
Tuktoyaktuk, NT
X0E 1C0

Attn: Davy Krengnektak

Facsimile: (867) 977-2110

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: Friday, November 27, 2020

Print Date: Friday, November 27, 2020

Page 1 of 6



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

Taiga Batch No.:
200999

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 1

Taiga Sample ID: 001

Client Project: Water Treatment Plant
Sample Type: Drinking Water (RAW)
Received Date: 12-Nov-20
Sampling Date: 12-Nov-20
Sampling Time: 8:00
Location: Tuktoyaktuk Water Treatment Plant
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Organic Carbon, Dissolved	9.3	0.5	mg/L	13-Nov-20	SM5310:B	
Organic Carbon, Total	9.7	0.5	mg/L	13-Nov-20	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	70.8	0.4	mg/L	13-Nov-20	SM2320:B	
Colour, True	< 5	5	TCU	13-Nov-20	SM2120:B	
pH	7.48		pH units	13-Nov-20	SM4500-H:B	
Solids, Total Dissolved	133	10	mg/L	16-Nov-20	SM2540:C	
Solids, Total Suspended	< 3	3	mg/L	16-Nov-20	SM2540:D	
Turbidity	0.88	0.05	NTU	13-Nov-20	SM2130:B	
<u>Major Ions</u>						
Chloride	17.8	0.7	mg/L	13-Nov-20	SM4110:B	
Fluoride	< 0.1	0.1	mg/L	13-Nov-20	SM4110:B	
Nitrate as Nitrogen	0.07	0.01	mg/L	13-Nov-20	SM4110:B	
Sulphate	8	1	mg/L	13-Nov-20	SM4110:B	
<u>Subcontracted Inorganics</u>						

ReportDate: Friday, November 27, 2020
Print Date: Friday, November 27, 2020

Page 2 of 6



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

Taiga Batch No.:
200999

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 1

Taiga Sample ID: 001

Hardness	76.8	0.6	mg/L	21-Nov-20	EPA200.2
Sodium	10.6	0.05	mg/L	21-Nov-20	EPA200.2
<u>Subcontracted Organics</u>					
Cyanide, Total	< 0.0040	0.004	mg/L	20-Nov-20	APHA4500-CN
<u>Trace Metals, Total</u>					
Aluminum	11.0	0.6	µg/L	19-Nov-20	EPA200.8
Arsenic	0.5	0.2	µg/L	19-Nov-20	EPA200.8
Barium	183	0.1	µg/L	19-Nov-20	EPA200.8
Cadmium	< 0.04	0.04	µg/L	19-Nov-20	EPA200.8
Chromium	< 0.1	0.1	µg/L	19-Nov-20	EPA200.8
Copper	3.8	0.2	µg/L	19-Nov-20	EPA200.8
Iron	232	5	µg/L	19-Nov-20	EPA200.8
Lead	0.5	0.1	µg/L	19-Nov-20	EPA200.8
Manganese	32.4	0.1	µg/L	19-Nov-20	EPA200.8
Mercury	< 0.01	0.01	µg/L	19-Nov-20	EPA200.8
Selenium	< 0.3	0.3	µg/L	19-Nov-20	EPA200.8
Uranium	< 0.1	0.1	µg/L	19-Nov-20	EPA200.8
Zinc	33.1	0.4	µg/L	19-Nov-20	EPA200.8

ReportDate: Friday, November 27, 2020

Page 3 of 6

Print Date: Friday, November 27, 2020



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

Taiga Batch No.:
200999

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 2

Taiga Sample ID: 002

Client Project: Water Treatment Plant
Sample Type: Drinking Water (TREATED)
Received Date: 12-Nov-20
Sampling Date: 12-Nov-20
Sampling Time: 8:00
Location: Tuktoyaktuk Water Treatment Plant
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Organic Carbon, Dissolved	9.7	0.5	mg/L	13-Nov-20	SM5310:B	
Organic Carbon, Total	10.0	0.5	mg/L	13-Nov-20	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	71.8	0.4	mg/L	13-Nov-20	SM2320:B	
Colour, True	< 5	5	TCU	13-Nov-20	SM2120:B	
pH	7.48		pH units	13-Nov-20	SM4500-H:B	
Solids, Total Dissolved	131	10	mg/L	16-Nov-20	SM2540:C	
Solids, Total Suspended	< 3	3	mg/L	16-Nov-20	SM2540:D	
Turbidity	0.56	0.05	NTU	13-Nov-20	SM2130:B	
<u>Major Ions</u>						
Chloride	20.1	0.7	mg/L	13-Nov-20	SM4110:B	
Fluoride	< 0.1	0.1	mg/L	13-Nov-20	SM4110:B	
Nitrate as Nitrogen	0.03	0.01	mg/L	13-Nov-20	SM4110:B	
Sulphate	8	1	mg/L	13-Nov-20	SM4110:B	
<u>Organics</u>						
Bromodichloromethane	0.016	0.005	mg/L	13-Nov-20	EPA8260B	

ReportDate: Friday, November 27, 2020

Print Date: Friday, November 27, 2020

Page 4 of 6



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

Taiga Batch No.:
200999

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 2

Taiga Sample ID: 002

Bromoform	< 0.005	0.005	mg/L	13-Nov-20	EPA8260B
Chloroform	0.059	0.005	mg/L	13-Nov-20	EPA8260B
Dibromochloromethane	< 0.005	0.005	mg/L	13-Nov-20	EPA8260B
Trihalomethanes, Total	0.077	0.005	mg/L	13-Nov-20	EPA8260B

Subcontracted Inorganics

Hardness	80.8	0.6	mg/L	21-Nov-20	EPA200.2
Sodium	12.3	0.05	mg/L	21-Nov-20	EPA200.2

Subcontracted Organics

Cyanide, Total	< 0.0040	0.004	mg/L	20-Nov-20	APHA4500-CN
----------------	----------	-------	------	-----------	-------------

Trace Metals, Total

Aluminum	4.5	0.6	µg/L	19-Nov-20	EPA200.8
Arsenic	0.5	0.2	µg/L	19-Nov-20	EPA200.8
Barium	144	0.1	µg/L	19-Nov-20	EPA200.8
Cadmium	< 0.04	0.04	µg/L	19-Nov-20	EPA200.8
Chromium	< 0.1	0.1	µg/L	19-Nov-20	EPA200.8
Copper	7.4	0.2	µg/L	19-Nov-20	EPA200.8
Iron	88	5	ug/L	19-Nov-20	EPA200.8
Lead	0.6	0.1	µg/L	19-Nov-20	EPA200.8
Manganese	131	0.1	µg/L	19-Nov-20	EPA200.8
Mercury	< 0.01	0.01	µg/L	19-Nov-20	EPA200.8
Selenium	< 0.3	0.3	µg/L	19-Nov-20	EPA200.8
Uranium	< 0.1	0.1	µg/L	19-Nov-20	EPA200.8
Zinc	15.8	0.4	µg/L	19-Nov-20	EPA200.8

ReportDate: Friday, November 27, 2020

Page 5 of 6

Print Date: Friday, November 27, 2020



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

Taiga Batch No.:
200999

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 2

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, November 27, 2020
Print Date: Friday, November 27, 2020

Page 6 of 6



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

Taiga Batch No.:
200558

- FINAL REPORT -

Prepared For: Hamlet of Tuktoyaktuk

Address: P.O. Box 120
Tuktoyaktuk, NT
X0E 1C0

Attn: Davy Krengnektak

Facsimile: (867) 977-2110

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.

Report Date: Saturday, August 22, 2020

Print Date: Saturday, August 22, 2020

Page 1 of 5



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

Taiga Batch No.:
200558

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Sewage Lagoon (SNP-0714-2)

Taiga Sample ID: 001

Client Project:

Sample Type: Water

Received Date: 11-Aug-20

Sampling Date: 11-Aug-20

Sampling Time: 7:30

Location: Tuktoyaktuk, NT

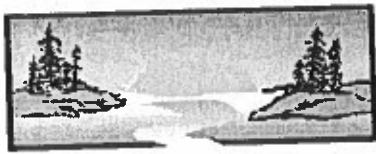
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	3.35	0.005	mg/L	18-Aug-20	SM4500-NH3:G	
Biochemical Oxygen Demand	40	2	mg/L	12-Aug-20	SM5210:B	81
<u>Inorganics - Physicals</u>						
pH	8.17		pH units	12-Aug-20	SM4500-H:B	
Solids, Total Suspended	56	3	mg/L	17-Aug-20	SM2540:D	
<u>Microbiology</u>						
Coliforms, Fecal	4900	100	CFU/100mL	11-Aug-20	SM9222:D	
<u>Organics</u>						
Hexane Extractable Material	2.2	2.0	mg/L	14-Aug-20	EPA1664A	

ReportDate: Saturday, August 22, 2020

Print Date: Saturday, August 22, 2020

Page 2 of 5



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

**Taiga Batch No.:
200558**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 002

Client Project:

Sample Type: Water

Received Date: 11-Aug-20

Sampling Date: 11-Aug-20

Sampling Time: 7:30

Location: Tuktoyaktuk, NT

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	3	2	mg/L	12-Aug-20	SM5210:B	
<u>Inorganics - Physicals</u>						
pH	8.25		pH units	12-Aug-20	SM4500-H:B	
Solids, Total Suspended	10	3	mg/L	17-Aug-20	SM2540:D	
<u>Microbiology</u>						
Coliforms, Fecal	< 1	1	CFU/100mL	11-Aug-20	SM9222:D	
<u>Subcontracted Organics</u>						
Polychlorinated Biphenyls	< 0.00100	0.0010	mg/L	20-Aug-20	EPA3510	
<u>Trace Metals, Total</u>						
Cadmium	< 0.1	0.1	µg/L	17-Aug-20	EPA200.8	
Chromium	0.3	0.1	µg/L	17-Aug-20	EPA200.8	
Cobalt	0.2	0.1	µg/L	17-Aug-20	EPA200.8	
Copper	1.7	0.2	µg/L	17-Aug-20	EPA200.8	
Iron	490	5	µg/L	17-Aug-20	EPA200.8	
Lead	0.5	0.1	µg/L	17-Aug-20	EPA200.8	
Manganese	17.7	0.1	µg/L	17-Aug-20	EPA200.8	

Report Date: Saturday, August 22, 2020

Print Date: Saturday, August 22, 2020



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

**Taiga Batch No.:
200558**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 002

Mercury	< 0.01	0.01	µg/L	17-Aug-20	EPA200.8
Nickel	2.4	0.1	µg/L	17-Aug-20	EPA200.8
Zinc	17.6	5	µg/L	17-Aug-20	EPA200.8

ReportDate: Saturday, August 22, 2020

Page 4 of 5

Print Date: Saturday, August 22, 2020



Taiga Environmental Laboratory

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

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

Taiga Batch No.:

200558

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 002

- DATA QUALIFIERS -

Data Qualifier Descriptions:

81 *Results are inconclusive due to insufficient depletion of sample, minimum 2 mg/l. required over 5 days.*

* 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: Saturday, August 22, 2020

Print Date: Saturday, August 22, 2020

Page 5 of 5



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

**Taiga Batch No.:
200784**

- FINAL REPORT -

Prepared For: Hamlet of Tuktoyaktuk

Address: P.O. Box 120
Tuktoyaktuk, NT
X0E 1C0

Attn: Duncan Walker

Facsimile: (867) 977-2110

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: Monday, September 28, 2020

Print Date: Monday, September 28, 2020

Page 1 of 4



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

Taiga Batch No.:
200784

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 001

Client Project:

Sample Type: Water

Received Date: 18-Sep-20

Sampling Date: 17-Sep-20

Sampling Time: 7:00

Location: Tuktoyaktuk Solid Waste Site

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	2	2	mg/L	18-Sep-20	SM5210:B	
<u>Inorganics - Physicals</u>						
pH	8.27		pH units	22-Sep-20	SM4500-H:B	11
Solids, Total Suspended	< 3	3	mg/L	21-Sep-20	SM2540:D	
<u>Microbiology</u>						
Coliforms, Fecal	5	1	CFU/100mL	18-Sep-20	SM9222:D	
<u>Subcontracted Organics</u>						
Polychlorinated Biphenyls	< 0.00100	0.0010	mg/L	24-Sep-20	EPA3510	
<u>Trace Metals, Total</u>						
Cadmium	< 0.1	0.1	µg/L	23-Sep-20	EPA200.8	
Chromium	0.3	0.1	µg/L	23-Sep-20	EPA200.8	
Cobalt	0.1	0.1	µg/L	23-Sep-20	EPA200.8	
Copper	2.0	0.2	µg/L	23-Sep-20	EPA200.8	
Iron	463	5	µg/L	23-Sep-20	EPA200.8	
Lead	0.6	0.1	µg/L	23-Sep-20	EPA200.8	

Report Date: Monday, September 28, 2020

Print Date: Monday, September 28, 2020

Page 2 of 4



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

Taiga Batch No.:
200784

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 001

Manganese	8.5	0.1	µg/L	23-Sep-20	EPA200.8
Mercury	< 0.01	0.01	µg/L	23-Sep-20	EPA200.8
Nickel	3.0	0.1	µg/L	23-Sep-20	EPA200.8
Zinc	13.8	5	µg/L	23-Sep-20	EPA200.8

ReportDate: Monday, September 28, 2020
Print Date: Monday, September 28, 2020

Page 3 of 4



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

Taiga Batch No.:
200784

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 001

- DATA QUALIFIERS -

Data Qualifier Descriptions:

11 *Holding time exceeded before sample analysis.*

*** 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: Monday, September 28, 2020

Print Date: Monday, September 28, 2020

Page 4 of 4



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

Taiga Batch No.:
201000

- FINAL REPORT -

Prepared For: Hamlet of Tuktoyaktuk

Address: P.O. Box 120
Tuktoyaktuk, NT
X0E 1C0

Attn: Davy Krengnektak

Facsimile: (867) 977-2110

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: Friday, November 27, 2020
Print Date: Friday, November 27, 2020

Page 1 of 5



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

Taiga Batch No.:
201000

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Sewage Lagoon (SNP-0714-2)

Taiga Sample ID: 001

Client Project: Sewage Lagoon + Solid Waste Site
Sample Type: Water
Received Date: 12-Nov-20
Sampling Date: 12-Nov-20
Sampling Time: 8:00
Location: Tuktoyaktuk, NT
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	3.75	0.005	mg/L	23-Nov-20	SM4500-NH3:G	
Biochemical Oxygen Demand	10	2	mg/L	13-Nov-20	SM5210:B	81
<u>Inorganics - Physicals</u>						
pH	8.41		pH units	13-Nov-20	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	16-Nov-20	SM2540:D	
<u>Microbiology</u>						
Coliforms, Fecal	4300	100	CFU/100mL	12-Nov-20	SM9222:D	
<u>Organics</u>						
Hexane Extractable Material	3.2	2.0	mg/L	25-Nov-20	EPA1664A	

Report Date: Friday, November 27, 2020
Print Date: Friday, November 27, 2020

Page 2 of 5



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

Taiga Batch No.:
201000

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 002

Client Project: Sewage Lagoon + Solid Waste Site
Sample Type: Water
Received Date: 12-Nov-20
Sampling Date: 12-Nov-20
Sampling Time: 8:00
Location: Tuktoyaktuk, NT
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	3	2	mg/L	13-Nov-20	SM5210:B	
<u>Inorganics - Physicals</u>						
pH	7.73		pH units	13-Nov-20	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	16-Nov-20	SM2540:D	
<u>Microbiology</u>						
Coliforms, Fecal	< 1	1	CFU/100mL	12-Nov-20	SM9222:D	
<u>Subcontracted Organics</u>						
Polychlorinated Biphenyls	< 0.00100	0.001	mg/L	24-Nov-20	EPA3510	
<u>Trace Metals, Total</u>						
Cadmium	0.1	0.1	µg/L	25-Nov-20	EPA200.8	
Chromium	0.5	0.1	µg/L	25-Nov-20	EPA200.8	
Cobalt	0.2	0.1	µg/L	25-Nov-20	EPA200.8	
Copper	7.3	0.2	µg/L	25-Nov-20	EPA200.8	
Iron	314	5	µg/L	25-Nov-20	EPA200.8	
Lead	0.3	0.1	µg/L	25-Nov-20	EPA200.8	
Manganese	71.2	0.1	µg/L	25-Nov-20	EPA200.8	

Report Date: Friday, November 27, 2020
Print Date: Friday, November 27, 2020



Taiga Environmental Laboratory

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

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

Taiga Batch No.:
201000

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 002

Mercury	0.02	0.01	µg/L	25-Nov-20	EPA200.8
Nickel	5.1	0.1	µg/L	25-Nov-20	EPA200.8
Zinc	46.0	5	µg/L	25-Nov-20	EPA200.8

ReportDate: Friday, November 27, 2020

Print Date: Friday, November 27, 2020

Page 4 of 5



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

Taiga Batch No.:
201000

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Solid Waste Site

Taiga Sample ID: 002

- DATA QUALIFIERS -

Data Qualifier Descriptions:

81 *Results are inconclusive due to insufficient depletion of sample, minimum 2 mg/L required over 5 days.*

*** 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, November 27, 2020

Print Date: Friday, November 27, 2020

Page 5 of 5