

**ANNUAL REPORT  
FOR THE HAMLET OF KIMMIRUT, 2021**

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**YEAR BEING REPORTED: 2021**

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence # 3BM-KIM1929 issued to the Hamlet of Kimmirut.

- i) - iii) tabular summaries of all data generated under the “Monitoring Program”; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged;

Attached are quantities of water used as reported in our On Tap Water Delivery System and the estimated discharge of sewage waste.

<b>Month Reported</b>	<b>Quantity of Water Obtained from all sources (m<sup>3</sup>)</b>	<b>Quantity of Sewage Waste Discharged (Estimated)</b>
<b>January</b>	<b>1,600.59110</b>	Same
<b>February</b>	<b>1,473.86820</b>	Same
<b>March</b>	<b>1,367.35063</b>	Same
<b>April</b>	<b>1,655.13233</b>	Same
<b>May</b>	<b>1,620.94957</b>	Same
<b>June</b>	<b>1,559.69887</b>	Same
<b>July</b>	<b>1,637.09432</b>	Same
<b>August</b>	<b>1,610.15330</b>	Same
<b>September</b>	<b>1,581.59490</b>	Same
<b>October</b>	<b>1,642.18609</b>	Same
<b>November</b>	<b>1,642.31886</b>	Same
<b>December</b>	<b>1,661.31414</b>	Same
<b>ANNUAL TOTAL</b>	<b>19,052.25231</b>	<b>Same</b>

Note: The water consumption volume is considered equal to the discharge volume because there is no meter at the end of the discharge pipe.

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- iv. A summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;

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The generator and the submersible pump were replaced at the water treatment plant to ensure the water plant could maintain regular delivery of treated drinking water to the community.

- v. A list of unauthorized discharges and summary of follow-up action taken;
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- No unauthorized discharges for the infrastructure under licence 3BM-KIM1929 occurred in 2021.
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- vi. A summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;

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No abandonment and restoration work was conducted during this reporting year and none is anticipated in the coming year.

- vii. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;

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The initial planning study for a new solid waste site was completed in Fiscal Year 2020/21. The cost estimates have indicated that the current funding cannot support the construction of a new state-of-the-art 20-year landfill. 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 with the available is expected to begin in 2022.

The location of the new Sewage Lagoon has been identified, with the existing truck drop-off area to be incorporated for further wetland treatment. When the design of the new wastewater treatment system has been completed, an amendment application will be submitted to the NWB.

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- viii. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported; and

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None

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- ix. Updates or revisions to the approved Operation and Maintenance Plans.

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None

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**x.      ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:**

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CGS will work with the Municipality during summer 2022 to ensure all sampling requirements under the water licence are met.

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**xi.     FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:**

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Upgrades to the solid waste site will include fencing, signage and hazardous waste storage. The solid waste site assessment and prioritization report will be submitted with the 2022 Annual Report.

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**Appendix A: KIM-5 Effluent Quality Limits**

**Appendix B: Certificate of Analysis**

**Appendix C: Hazardous Materials Spill Database, Kimmirut 2021**

**Appendix D: Kimmirut 2021 CIRNAC Inspection Report**

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## **Appendix A**

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**3BM-KIM1929 Kimmirut Monitoring Program Results 2021  
KIM-5 Effluent Quality limits**

Parameter	Maximum Concentration of any Grab Sample
BOD <sub>5</sub>	80 mg/L
Total Suspended Solids	100 mg/L
Fecal Coliform	1x10 <sup>6</sup> CFU/100 mL
Oil and Grease	No visible sheen
pH	Between 6 and 9

**No Effluent Quality Limit values were received by CGS**

## Appendix B

*There are no Certificates of Analysis available for Kimmirut in 2021*

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## Appendix C

**List of spills reported to the NT-NU Spill Report Line and are listed on the Hazardous Materials Spills Database of Kimmirut in 2021**

<b>Spill</b>	<b>Occurrence Date</b>	<b>Location Description</b>	<b>Product Spilled</b>	<b>Quantity</b>
2021195	21-May-2021	Firehall down hill by Parks building	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	250.00 L



## Appendix D

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Kimmirut	Bhabesh Roy
Licence No. / Expiry	Representative's Title
3BM-KIM1929	Municipal Engineer
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
September 27, 2021	Joseph Monteith
Activities Inspected	

<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling	<input type="checkbox"/> Mining	<input type="checkbox"/> Construction	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Fuel Storage
<input type="checkbox"/> Roads/Hauling	<input checked="" type="checkbox"/> Other: Potable Water Source, Waste Water Treatment, Solid Waste Facility, and Hazardous Waste Facilities		<input type="checkbox"/> Other:		

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:				Condition	Observation No.*
A: SCOPE, DEFINITIONS AND ENFORCEMENT				NA	
B: GENERAL CONDITIONS				C	
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				A	1-6
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				C	9-19
F: CONDITIONS APPLYING TO MODIFICATIONS				NI	
G: CONDITIONS APPLYING TO CONSTRUCTION				NI	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING				C	15
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING				NI	
J: CONDITIONS APPLYING TO MONITORING				NI	
SCHEDULES				A	
* The observation number corresponds with specific comments provided below.					
Samples taken by Inspector:		Location(s): N62° 50' 06'' and W69°52'04''			
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

SECTION 1	<input checked="" type="checkbox"/> Comments (s.____)	<input type="checkbox"/> Non-Compliance with Act or Licence (s.____)	<input type="checkbox"/> Action Required (s.____)
<b>BACKGROUND</b> <p>ON May 27, 2019 Richard Dwyer, Manager of Licensing, Nunavut Water Board (NWB) sent Water Resource Officer (WRO) Joseph Monteith, Crown Indigenous Relations and Northern Affairs Canada(CIRNAC) a copy of Kimmirut’s new Water Licence 2BE-KIM1929. The new water license is a type “B” water license and authorizes them to withdrawal 35,000 cubic metres annually. This withdrawal amount is an increase from 30,000 cubic metres annually, as the license extension is for 10 years.</p> <b>Inspector Statement</b> <p>On September 27, 2021, an inspection by Water Resource Officer (WRO) Joseph Monteith was conducted at the Hamlet of Kimmirut, Qikiqtani Region, Nunavut.</p> <b>General Condition</b> <p>On April 6, 2021, WRO Monteith received an email from Sylvia Ekelik, Licensing Administrative Assistant acknowledging receipt of the Hamlet of Kimmirut’s 2020 Annual Report.</p> <p><a href="ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2B/2BE%20-%20Exploration/2BE-MRY1421%20Baffinland/3%20TECH/B%20GENERAL/2%20ANNUAL%20RPT/">ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2B/2BE%20-%20Exploration/2BE-MRY1421%20Baffinland/3%20TECH/B%20GENERAL/2%20ANNUAL%20RPT/</a></p> <b>Water Use and Related Structures</b> <ol style="list-style-type: none"><li>Water is being withdrawn from Fundo Lake(photo 1) from a water pumping station (photo 2).</li><li>The quantity of water withdrawn from the lake is being accounted for by calculating the amount of water being delivered. Water meter is broken</li><li>Road washing out, and into Fundo Lake (photo 3).</li></ol>			



4. On November 16, 2021 The Senior Administrative Officer (SAO) Joseph Stephen Mabberi provided, WRO Joseph Monteith a copy of the water consumption rates for the Hamlet of Kimmirut for the Months of Delivery Summary By Month and Year – Date range from Jan. 1, 2021 to Oct. 31, 2021. Grand total 15748619.31 Litres withdrawn from Fundo Lake (photo13) .
5. At the time of the inspection, no evidence of drawdown from water use was evident at the lake.
6. A yellow triangle sign titled KIM1 indicting the location of a monitoring station was observed at the time of the inspection (photo 1).

Solid Waste Facility

7. The Hamlet deals with solid waste by burning the burnable waste, and capping the ash with gravel obtained by their gravel pit (photo 4).
8. The fencing did appear to be incomplete in its construction, and without maintenance and has become damaged and should be repaired.
9. During the inspection it was observed that the hazardous waste was located at two locations. The Solid waste facility which had the hazardous waste exposed to the elements (Photo 5). At the municipal garage Hazardous Waste is stored within sea cans behind the municipal garage. At the time of the inspection some of the hazardous waste was taken out the sea cans, so that sea-cans can be cleaned (Photo 7,8,&9).
10. The Hamlet of Kimmirut uses a waste oil burner to heat up the municipal garage. They store waste oil to use it for their oil burner (photo 10).
11. Garbage blown from the Solid Waste Disposal Facility was observed within the drainage ditch of the Wastewater Discharge Location. Tires were deposited to the site (photo 14).

Wastewater Discharge

12. Municipal Wastewater is being discharged at a location approximately 300 metres from the ocean (photo 12). The wastewater flows over land before it enters the ocean. During a discharge the wastewater runs along the ditch and mixes with the rainfall and fresh water run-off during the freshet while migrating down to fresh water ponds and streams that runs along the base of the mountain ahead its final deposit to the receiving marine environment.
13. There are two monitoring stations at the along the discharge route titled KIM 2 & 3 (photo 11). No sampling was conducted at the time of the inspection. Last sample taken on June 29, 2020
14. The estimated amount of sewage waste discharged is being recorded in the Hamlets “Water Consumption” document listed as “same”. The estimates aren’t accurate as it doesn’t take into account all water withdrawn from the water source for water uses such as dust suppression, which cannot be calculated as the same amount discharged at the discharge location for waste water.

SECTION 2	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
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Non-Compliance related to the water license

Part C (6): The Licensee shall not cause erosion to the banks of any water body and shall provide necessary controls to prevent such erosion.

Part C (7): Sediment and erosion control measures shall be implemented prior to and maintained as required during Hamlet operations, to prevent entry of sediment into Water.

Non-Compliance with the Act

Nunavut Waters and Nunavut Surface Rights Tribunal Act

Use of Waters

11. (1) Subject to subsection (2), no person shall use, or permit the use of, waters in Nunavut except in accordance with the conditions of a licence.
- (2) Subsection (1) does not apply in respect of
- (a) any unlicensed use of waters that is authorized by the regulations.
- (b) the use of waters
- (i) for a domestic purpose, or
- (ii) for the purpose of extinguishing a fire or, on an emergency basis, controlling or preventing a flood; or
- (c) The use of waters in a national park.
- (3) Where a person diverts waters for a purpose referred to in subparagraph (2)(b)(ii), the person shall, when the need for the diversion has ceased, discontinue the diversion and, in so far as possible, restore the waters to their original channel.

Deposit of Waste

12. (1) Subject to subsection (2) and except in accordance with the conditions of a licence, no person shall deposit or permit the deposit of waste

- (a) in waters in Nunavut; or

(b) in any other place in Nunavut under conditions in which the waste, or any other waste that results from the deposit of that waste, may enter waters in Nunavut.
- (2) Subsection (1) does not apply in respect of

(a) any unlicensed deposit of waste that is authorized by the regulations; or

(b) The deposit of waste in a national park.

SECTION 2

☐ Comments
 ☐ Non-Compliance with Act or Licence
 ☒ Action Required

Bring the non-compliance issues identified in the inspection into compliance by:
 

- maintain and complete the construction of fencing to contain all wastes permanently in the Solid Waste Facility;
- install signage to notify the public that there are dangerous hazardous wastes on site;
- consider an amendment to the water license to have all hazardous waste stored at the Municipal Garage;
- build a berm to limit the amount of water entering in the hazardous waste facility, and taking the hazardous waste with it;
- install Spill Kits next to the hazardous waste facility to properly clean up spills;
- consider building a trench to mitigate the road from washing out at KIM 1 monitoring station, and the deposit of sediment into Fundo Lake.

Licensee or Representative	Inspector's Name
Bhabesh Roy	Joseph Monteith
Signature	Signature
Date	Date
	November 12, 2021

CC: Licensing Department, NWB  
 Justin Hack, Manager of Field Operations, INAC


PHOTO LOG

Date	Camera	Inspector	
June 30, 2020	Nikon Coolpix	Joseph Monteith	
Photo Log #	Location		
Photo 1	Kimmirut, NU		



Description: KIM 1 monitoring site at Fundo Lake water source

Photo Log	Location
Photo 2	Fundo Lake, Kimmirut, NU



Description: Water Treatment, and water truck pump house.

Photo Log	Location
Photo 3	Fundo Lake, Kimmirut , NU





Description: Road appears to be washing out into the water source at Fundo Lake.

Photo Log

Photo 4

Location

Burn and Cap Kimmirut, NU



Description: Burn and cap of domestic garbage. No fencing around this section of the solid waste facility. Wind blown garbage blown across site of sewage discharge. Burn Garbage was capped between 2020, and 2021 to help mitigate the windblown debris.

Photo Log

Photo 5

Location

Solid Waste Facility, Kimmirut, NU





Description: With the exception of domestic burning and capping waste, all other waste such as bulk wood, bulk metal, hazardous waste, and gravel have been deposited into the pile along the road. The trench the direct any leachate from the pile was covered as directed in 2020.

Photo Log	Location
Photo 6	Bulk Metals Facility, Kimmirut, NU

A close-up photograph of a hazardous waste battery. The battery is lying on the ground, surrounded by debris and gravel. It appears to be a large, cylindrical battery with some internal components exposed. The background shows a dirt area with some vegetation.

Description: Unsegregated hazardous waste battery sitting outside in the external elements.

Photo Log	Location
Photo 7	Municipal Garage, Kimmirut, NU





Description: Sea cans filled with Hazardous waste drums of used oil.

Photo Log

Photo 8

Location

Municipal Garage, Kimmirut, NU



Description: some hazardous waste stored outside, exposed the outside elements. Used to fuel the oil burner in the municipal garage. Wall doesn't appear to be able to contain any liquid wastes

Photo Log

Photo 9

Location

Municipal Garage, Kimmirut, NU





Description: some hazardous waste batteries stored outside, partially exposed the outside elements.

Photo Log	Location
Photo 10	Municipal Garage, Kimmirut, NU

Description: Waste Oil Burner in municipal garage. Out of commission requires request maintenance to operate.

Photo Log	Location
Photo 11	Sewage Discharge, Kimmirut, NU





Description: Monitoring Stations “KIM 2 & KIM 3”, wind blown garbage carpet the sewage drainage ditch.

Photo Log

Photo 12

Location

Sewage Discharge, Kimmirut, NU



Description: Sewage Discharge Location. Hamlet employees discharge sewage into drainage ditch.

Photo Log

Photo 13

Location

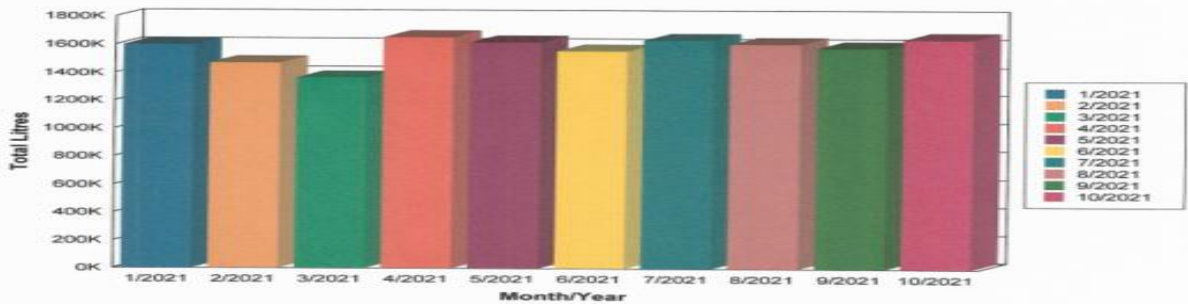
Kimmirut, NU



Delivery Summary By Month and Year

Date Range From: Jan-01-2021 To: Oct-31-2021

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Month / Year	Litres Delivered
January 2021	1,600,591.10
February 2021	1,473,868.20
March 2021	1,367,350.63
April 2021	1,655,132.33
May 2021	1,620,949.57
June 2021	1,559,698.87
July 2021	1,637,094.32
August 2021	1,610,153.30
September 2021	1,581,594.90
October 2021	1,642,186.09
Grand Total:	15,748,619.31

Description: Delivery Summary By Month and Year – Date range from Jan. 1, 2021 to Oct. 31, 2021. Grand total 15748619.31 Litres withdrawn and delivered to Municipal clients.