

**WATER LICENCE INSPECTION FORM**☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Canadian North Resources and Development Corp. (CNRDC)	Trevor Boyd
Licence No. / Expiry	Representative's Title
2BE-FER1823/ Dec 12 th , 2023	Project Geologist
Land Authorization No. / Expiry	Land Authorization Expiry
N2013X0023/ Mar. 17 th , 2022	KVCL305H27/ July 22 th , 2022
Date of Inspection	Inspector
September 7 th , 2021	RMO C. Wilson
Activities Inspected	
<input checked="" 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 type="checkbox"/> Other: <input type="checkbox"/> Other:	

SECTION 1	<input checked="" type="checkbox"/> Comments (s. __)	<input type="checkbox"/> Non-Compliance with Act or Licence (s. __)	<input type="checkbox"/> Action Required (s. __)
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On September 7th an inspection of CNRDC's Ferguson Lake Project was completed by Crown-Indigenous Relations and Northern Affairs Canada ('CIRNAC')s, Resource Management Officer, Christine Wilson ('Inspector'). The inspection was conducted to ensure compliance with applicable terms and conditions of water licence, no. 2BE-FER1823.

The following report was produced with observations noted by the Inspector at the Ferguson Lake camp ('camp') located N62° 53' 32.32", W96° 54' 14.15" and information provided by CNRDC on September 12th (appendix 1). The inspection was conducted with the assistance of Trevor Boyd, Project Geologist and Varun Gupta, ERM Consulting.

PRELIMINARY NOTES

- The camp opened on June 21st 2021; approximately 20 people are on site at any given time, in accordance with the current COVID restrictions.
- one diamond drills are in operation. A total of 2399 meters has been drilled over nine drill holes. All drill holes are located on Inuit Owned Land (appendix 2).
- In March 2020 an overland haul from Baker Lake to the camp was completed. During this time CNRDC also recovered a piece of equipment which was abandoned during a haul by the previous operators. A final haul is planned for winter 2021/2022 to recover the remaining materials.
- The 2020 Annual report was submitted and is available for review on the Nunavut Water Board's FTP site.
- During the 2020 inspection a spill was noted at the drill lay down area located at N62° 52' 9.768", W96° 55 29' 7.48". The spill report file number is 2020-256.

OBSERVATIONS**Water Use, Camp**

1. Fresh water is drawn from Ferguson Lake through a conveyance line (photo 1) to the camp and stored in bulk tanks (photo 2) for domestic use. The bulk tanks are refilled weekly and appear to store approximately 25m³.
2. The fresh water intake hose is fitted with a screened nozzle (photo 3). Water is pumped at a rate of 15 gallons per minute.
3. The fresh water bulk tanks are measured, and the total water use is recorded daily (photo 4). The total water use records are available for review (photo 5) pursuant to PART J item 1.
4. The allotted volume for domestic water use is 5m³ per day. On average approximately 2m³ of water is used per day when measured from the bulk tanks. All water use must be measured daily directly from the source this includes resupply of the tanks and recirculation at the drills.

Water Use, Drill

5. The method used at the drills to measure and record water use does not meet minimum requirements of PART B item 4 and PART J item 1 (appendix 1).



Waste Disposal

6. Bulk metal, hazardous waste and other materials are being organized and prepared for back haul in accordance with PART I item 4 (photo 6). A lot of work has taken place over the 2020-2021 season to progressively reclaim the historical waste that was left by the previous operator.
7. The Fuel Containment Area was discharged prior to the inspection (photo 6). The proponent made an assessment of the effluent prior to discharge but failed to meet the minimum requirements of PART D item 11 and PART J item 5.

SECTION 2 ☐ **Comments (s. __)** ☒ **Non-Compliance with Act or Licence (s.2)** ☐ **Action Required (s. __)**

PART B item 4- Failure to use suitable measuring devices on fresh water intake at drill.

PART C item 1- Concern related to the resupply of fresh water storage tanks.

PART D item 11- Failure to provide written notice of discharge from Fuel Containment Area to the inspector.

PART D item 12- Concern related to determining quality of effluent prior to discharge from Fuel Containment Area.

PART I item 2(c)- Failure to submit a revision to the document titled "Ferguson Lake Project, Abandonment and Restoration Plan, 2015" to address the minimum requirements of this condition.

PART J item 1- Concern related to the measurement and records of water use at the drills.

SECTION 3 ☐ **Comments (s. __)** ☐ **Non-Compliance with Act or Licence, (s. __)** ☒ **Action Required (s.3)**

ACTIONS REQUIRED

-The Proponent will review the minimum requirements for measuring and recording freshwater and provide a summary of the method to be implemented during the 2022 field season.

-The Proponent will contact the Nunavut Water Board to address the concern noted in observation 4 of this report.

-The Proponent will review PART D item 11 and PART D item 12 and provide a summary of how they will meet them moving forward.

Licensee or Representative	Inspector's Name
	C. Wilson
Signature	Signature
	<i>Sent by e-mail</i>
Date	Date
	October 14th, 2021

Office Use Only: Follow-up report to be issued by Inspector ☐ Yes ☒ No



PHOTO LOG

Date:	Authorization Number:	Camera/Model:	Inspector
September 7th, 2021	2BE-FER1823	Sony DSC-HX50V Cyber shot	RMO Wilson
Photo No.	Lat/Long (DD.MM.SS.SS, NAD83)		
Photo 1	N62° 53' 36.11", W96° 54' 19.93"		



Description:
Conveyance line from Ferguson lake to camp



Photo No.

Lat/Long (DD.MM.SS.SS, NAD83)

Photo 2

N/A



Description:

Fresh Water Storage Tanks



Photo No.

Lat/Long (DD.MM.SS.SS, NAD83)

Photo 3

N/A



Description:

Picture provided by T.Boyd- Fresh water intake hose and nozzle

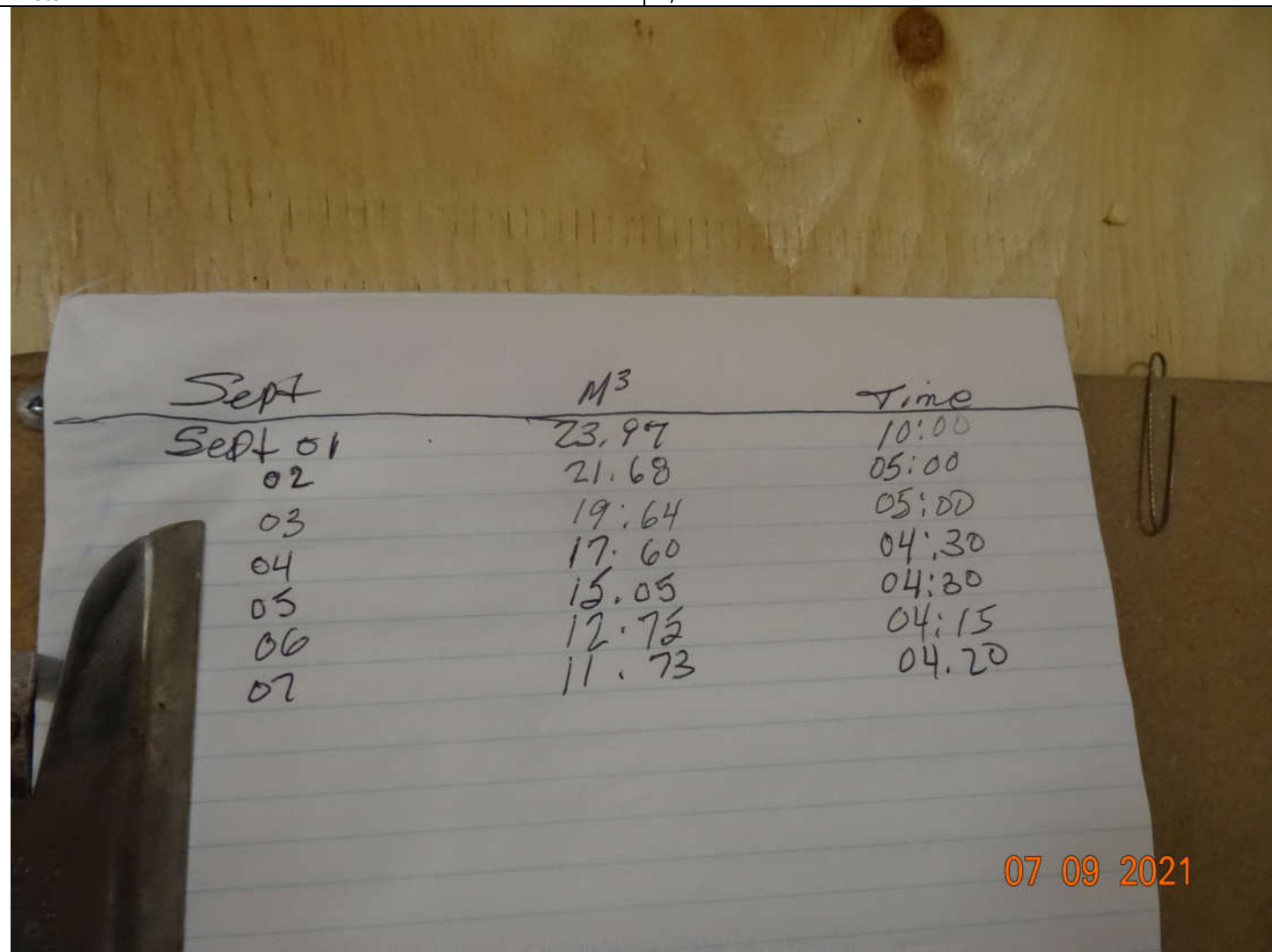


Photo No.

Lat/Long (DD.MM.SS.SS, NAD83)

Photo 4

N/A



Description:

September water use records



Photo No.

Lat/Long (DD.MM.SS.SS, NAD83)

Photo 5

N/A

Handwritten water use record on lined paper:

Daily water usage. June 22/21

Date	Usage (m³)
June 22	Filled to 24.74 m³ - 1.75 m³
June 23	22.99 m³ - 1.90 m³
June 24	20.79 m³ - 2.20 m³
June 25	17.99 m³ - 2.80 m³
June 26	15.62 m³ - 2.37 m³
June 27	13.22 m³ - 2.40 m³
June 28	10.78 m³ - 2.43 m³
June 29	20.91 - 1.60 m³
June 30	19.31 m³ - 1.70 m³
July 01	17.61 m³ - 1.79 m³
July 02	15.82 m³ - 1.79 m³
July 03	14.03 m³ - 1.65 m³
July 04	12.38 m³ - 1.65 m³
July 05	11.73 m³ - 2.04 m³
July 06	9.69 m³ - 1.79 m³
July 07	23.72 m³ - 2.04 m³
July 08	21.93 m³ - 1.79 m³
July 09	19.89 m³ - 2.04 m³
July 10	17.98 m³ - 1.95 m³
July 11	16.12 m³ - 1.86 m³
July 12	14.71 m³ - 1.41 m³
July 13	13.01 m³ - 1.70 m³
July 14	11.73 m³ - 1.20 m³
July 15	23.97 m³ - 1.09 m³
July 16	21.93 m³ - 1.06 m³

Refill Tanks 23.72 m³ - 23.72 m³

Refill Tanks @ 09:00 - 23.72 m³

Filled - 23.97 m³ (2,24 m³) 11.73

23.97

21.93

07 09 2021

Description:

Total domestic water use record for 2021



Photo No.

Lat/Long (DD.MM.SS.SS, NAD83)

Photo 6

N/A



Description:

Amalgamated waste in Fuel Containment Area and water inside the berm.

Wilson, Christine

From: Trevor Boyd <boyd3@sympatico.ca>
Sent: Sunday, September 12, 2021 6:09 PM
To: Wilson3, Christine (AADNC/AANDC)
Subject: Re: Inspection Sept 7th, 2021- Request for Details
Attachments: Ferguson Lake DDHs 2021.xlsx; Responses to questions photos CIRNAC water use inpection.zipx

----- Original Message -----

From: Trevor Boyd <boyd3@sympatico.ca>
Date: September 12, 2021 at 6:17 PM

Hi Christine,

Below are answers to the questions which I hope are satisfactory. I copy Kaihui Yang President and CEO of Canadian North Resources Inc..

1. Upon investigation, the grease trap was emptied once during the summer and was burned in the incinerator.

2. Attached is a list of the holes drilled in 2021 to September 12. The water source location for all holes (FL21-434 to FL21-441) except FL21-433 was a small pond located at UTM 14V 604585E 6973123N (-96 deg 56 min 38.06 sec., 62 deg 52 min 23.23 sec). The water source for FL-433 was the nearby creek at approximately UTM 14V 605420E 6973010N (-96 deg 55 min 39.27 sec., 62 deg 52 min 18.71 sec).

3. In terms of water use for the drill, attached is a photo of the tub (dimensions 205 by 95 by 80 cm) for which the water was recirculated for the drilling. The drill used and recirculated during this program two such tub-fulls per 12 hour shift for an estimate of 6 cubic metres per day. The water was pumped from the aforementioned pond at a rate of 10 gal per minute for an estimate of 48 cubic metres per day but near all of this water (except the 6 cubic metres) never had any contact with drill equipment. There was no formal log of water usage recorded at the drill, I will record this more properly in future.

4. The camp water pump when filling up the tanks drew water at a rate of 15 gal per minute. Attached is a photo of the water intake nozzle for the water hose taken at Ferguson Lake. The nozzle has a barrier with slits which is placed into the lake.

Attached as well are photos of the water intake and drill pump at the pond which was utilized for all the drill holes except FL21-433. The nozzle for the drill pump is placed in a white bucket with holes to serve as a barrier when placed in the pond (as shown in photo, sorry about the poor quality). I do not have a photo of the location used for the pump that was serving hole FL21-433.

5. The area of anthropologic induced erosion is the area where Starfield Resources completed a bulk sampling of the sulphide mineralization on the surface of the gossan in 2010, which is located adjacent of the abandoned Major drilling landing (as shown in the attached photo). This area covers approximately 32 by 25 metres. The mitigation plan is to fill megabags with sand and gravel then haul them overland from the quarry to the area during the winter, snow conditions allowing. The following summer the material would cover and smooth the disturbed area followed by the placement of a silt fence along its downslope side.

6. We will submit a progressive reclamation plan for the Ferguson Lake camp prior to Dec 31 2021, focusing on management and reduction of the waste and crushed drums piles.

7. The water license was printed and displayed on the camp board, as shown in attached photo.

8. In response NT-NU Spill Report 20-256 filed August 5, 2020; CNRI contracted our local Ferguson Lake camp technicians led by Chris Papak to investigate the spill. Due to weather and helicopter availability issues, they were not able to visit the site until August 15 and 16. During their visit they completed a clean up of the congealed poly-drill and grease like materials that were scattered around on the ground by the building and sheds and placed them into new five gallon buckets from the Ferguson Camp. The buckets of contaminate were transported by helicopter to the camp and were consolidated with the waste pile there.

In summer 2021, the camp was permitted to be re-opened with Covid restrictions, during which a more comprehensive review and clean-up of the Major Drilling laydown area was able to be completed. At that time, two pallets of drilling oil and grease 5 gal. buckets, discovered in one shed, were cleaned out and slung by helicopter to the camp whereupon those buckets that were not sealed were consolidated with the camp waste pile to be included in the progressive reclamation plan for the camp. Within another shed there were discovered about 40 buckets of drilling muds and additives. These were separated out and those buckets which were leaking or broken were re-contained and also slung over to the camp waste pile. At this time, general garbage and any empty drums and propane bottles were also slung back to the camp.

This was followed in September 2021 by a water and dirt sampling program of the laydown area by an ERM consultant, who selected dirt samples for metals and hydrocarbons analyses around and adjacent to the two sheds and water samples from ponds in the disturbed and natural gossanous areas. A full sampling program was also completed in the berm and waste storage area at the camp grounds. The results of these analyses are pending, will be shared with the Water Use Inspector and will be part of the progressive reclamation plan for the camp.

Best regards,

Trevor

----- Original Message -----

From: "Wilson3, Christine (AADNC/AANDC)" <christine.wilson3@canada.ca>

Date: September 9, 2021 at 10:53 AM

Hello Trevor,

Thank you again for your assistance during the inspection. It was a pleasure meeting you and your team. I am working on the report and have a few items I would like to include in it.

1. How is the material from the grease trap disposed of?
2. Provide a list of the drill sites for 2021, please include details like the meters drilled at each hole, water source location, water usage log and if the drilling was completed at the hole.
3. Provide a list of the water use record for the drills and water source locations from commencement until Sept 7th.
4. Provide a picture or a detailed description of the water intake (PART C item 6) for the camp and drills.
5. Provide a response to the questions in PART I, item 2c of the Water Licence and how CNRDC will address this concern.
6. Provide a date that the progressive reclamation plan will be submitted to the water board. I will include a brief comment about this submission and a tentative date.
7. Provide a picture of the Water Licence in a location that is accessible by employees.
8. Briefly summarize how spill # 20-256 (see spill form attached) was addressed (e.g.: how it was cleaned up and where the material was placed or disposed of.)

Let me know if any of my requests are not clear.

Regards,

Christine Wilson, EP

Water Resource Officer

Kivalliq Region, Field Operations Unit

Crown-Indigenous Relations and Northern Affairs Canada

Christine.Wilson3@Canada.ca / Tel: (867) 645-2830 / Mobile: (867) 222-6482



Crown-Indigenous Relations
and Northern Affairs Canada

Relations Couronne-Autochtones
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