

Environmental Protection Operations Directorate
Prairie & Northern Region
5019 52nd Street, 4th Floor ECCC File: 6100 000 043/003
P.O. Box 2310 NWB File: 2BE-FER1318
Yellowknife, NT X1A 2P7
September 20, 2018
Via email at: licensing@nwb-oen.ca
Richard Dwyer
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Mr. Dwyer:

**RE: 2BE-FER1318 – Canadian North Resources and Development Corporation –
Ferguson Lake Project – Type B Water Licence Renewal Application**

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned Water Licence Application renewal and is submitting comments via email as requested by NWB. ECCC's specialist advice is provided based on our mandate, in the context of the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*.

ECCC has the following comments:

1. Spill Contingency Plan - Section 6.1 Before the Fact: Preventative measures

ECCC notes that the Spill Contingency Plan lacks information on fuel storage locations, specifically regarding any secondary containment or potential methods, such as lined berms, that are used to contain and isolate fuels in case of leaks or spills. The August 2015 site inspection conducted by the Kivalliq Inuit Association does state that all full fuel drums on site had secondary containment.

ECCC recommends that the Proponent clarify in the Spill Contingency Plan whether secondary containment is in place in order to manage potential spills and leaks at fuel storage locations.

Yes, the fuel storage is within a lined berm as outlined in the Oct 18 2018 response to questions from NWB.

More specifically to the question, the Spill Contingency Plan prepared by ERM Consultants Canada Limited states in Section 4.2 Fuel Storage:

"A fuel cache is located along the same ridge as the camp. The fuel is contained within a bermed area situated on sandy material, providing secondary containment as regulated by Land Use Regulations, the Nunavut Waters Act, and the Terms and Conditions provided in Land Use Licences and Water Licences. The fuel cache storage is situated 500 m south east of the camp living quarters

and is greater than 100 m from the high water mark of any water bodies. Fuel storage will meet the requirements of the CCME guidance document *Environment Code of Practice of Above ground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products.*"

2. 2015 Fuel Containment Area Water and Soil Sampling Memorandum (September 24, 2015)

Section 3.2 Assessment of Surface Sampling of Waste Storage Area (WSA) states "*there were some concerns about leakage of contaminants from the waste pile (hazardous waste, scrap steel, and empty fuel barrels).*" and Plate 3.2.1 shows that there is no secondary containment of used fuel drums and other possibly hazardous materials at the waste storage area. Section 4.2 Assessment and Surface Sampling of Waste Storage Area states "*...results suggests that the parameters detected in and around the WSA are uncharacteristic for the area and likely related to project activities (waste storage)*". There is no indication in the 2015 memo or any of the other documents provided as to whether the contamination identified at the WSA was addressed. It is also unclear what has happened to materials at the WSA and if wastes were removed from the site.

ECCC recommends that the Proponent clarify whether actions have been taken to contain potential contamination at the WSA and if the wastes that were present in 2015 have been cleaned up/removed from the site.

In response to the above AANDC Water License Inspection in 2014 and "concerns about leakage of contaminants from the waste pile" as stated in the 2015 memo report, the camp had been temporarily opened in 2015 and an environmental soil sampling survey was completed by ERM at the waste dump area to check for hydrocarbon and other contaminants with results that were presented in the 2015 memo. The ERM report with a response letter was provided to the AANDC Water Use License Inspector in September 2015 with copies provided to the NWB and KIA, and there was no request made for further action.

The waste dump remains in place due to budget limitations of the company.

During the re-opening of the camp in the summer of 2018, in response to the memo, an on-site physical review of the waste pile area was conducted. One observed <1/2m² sized location of possible hydrocarbon or grease staining in the approximate area of Soil-5 was excavated using a hand shovel with the dirt consolidated into a half-empty barrel at the waste dump which already contained some soil from the clean-up of the old camp by Starfield Resources in 2012.

3. Abandonment and Restoration Plan - Section 2.3 Solid Wastes

ECCC notes that the Proponent plans to incinerate all camp and kitchen wastes that are produced. It is unclear whether or not some of these materials contain plastics or other substances that could release dioxins or furans to the environment.

As a best practice, ECCC recommends that the project be planned to ensure that the amount of combustible waste requiring incineration is minimized. Hazardous wastes and plastics should be diverted.

Only wood, paper, cardboard, and minor residual food and stove grease waste plus less than 500 ml of waste oil will be incinerated in the camp incinerator. Ash from the incinerator is stored in used fuel barrels which is placed in the aforementioned waste pile area to be shipped out with the other waste material. Used engine and hydraulic oil, lubricants, and greases are stored in separate labelled used barrels and placed in the lined fuel berm to be eventually similarly shipped out.

Other waste materials that cannot be incinerated are sorted into bags to be flown out by charter plane on return trips to Baker Lake or by helicopter on return trips to Rankin Inlet. Separated non-incinerated waste include plastic water bottles, used plastic pieces and containers, aluminium and steel food and drink cans, aerosol cans, and used batteries.

4. Appendix A Spill Contingency Plan Updated 2018 Contact List

In the Contact Telephone list, ECCC notes an incorrect contact number for ECCC, i.e. 867-979-6448. ECCC also notes that "Environment Canada" is used instead of Environment and Climate Change Canada. This number and the agency name should be updated to the appropriate one(s).

In the case of a spill or emergency, the 24 Hour Nunavut Spill Report Line should be contacted first by the Proponent, who will then involve ECCC Emergencies when appropriate.

For information relating to the environmental enforcement and reporting requirements under the *Canadian Environmental Protection Act* and the *Fisheries Act* please contact ECCC Environmental Enforcement at 867-669-4730.

The ECCC National Environmental Emergencies Centre (NEEC) will provide technical and scientific environmental advice and assistance to the lead agency, in the event of an environmental emergency. A lead agency is described as the governmental authority that regulates or has authority over the activity from which the emergency originated. NEEC can be contacted at 1-866-283-2333.

The contact list (Appendix 1) for the spill plan has been corrected and updated adding this provided information and is attached with this response.

Should you require further information, please do not hesitate to contact me at (867) 669-4744 or Eva.Walker@canda.ca.

Sincerely,

[Original signed by]

Eva Walker

Environmental Assessment Coordinator

cc: Melissa Pinto, Senior Environmental Assessment Coordinator

Georgina Williston, Head, Environmental Assessment North (NT and NU)

ECCC Review Team

Water Resources
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October 4, 2018
NWB reference
#2BE-FER1318
Richard Dwyer
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Re: Crown-Indigenous Relations and Northern Affairs Canada Technical Review for Canadian North Resources and Development Corp. - a renewal Type 'B' Licence for Ferguson Lake Project 2BE-FER1318

Dear Mr. Dwyer,

Thank you for the emails received on August 22, 2018 from the Nunavut Water Board concerning the above mentioned water licence. A technical memorandum is provided for the Nunavut Water Board's consideration. Comments have been provided pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me by telephone at 867-975-4568 or email at Lisa.Bachellier@Canada.ca for further comments or any questions.

Sincerely,

Lisa Bachellier

Water Resource Technician

c.c.: Ian Parsons, A/Manager, Water Resources, CIRNAC

Justin Hack, Manager, Field Operation's, CIRNAC

Technical Memorandum

Re: Crown-Indigenous Relations and Northern Affairs Canada Technical Review for Canadian North Resources and Development Corp. - a renewal Type 'B' Licence for Ferguson Lake Project 2BE-FER1318

Applicant: Canadian North Resources and Development Corp.

Project: Ferguson Lake Project

Region: Kivalliq Region

A. BACKGROUND

On August 22, 2018 the Nunavut Water Board (NWB or Board) provided notification to interested parties that Canadian North Resources and Development Corp. – (Licensee) had submitted a Type 'B' water licence renewal application 2BE-FER1318 for the Ferguson Lake Project

The Ferguson Lake Project is located approximately 160 km south of Baker Lake; it was historically explored by the International Nickel Corporation for nickel, copper, palladium and platinum group metals. The property has undergone several transfers in ownership over the years and is now under ownership of Canadian North Resources and Development Corp. since September 2013.

Canadian North Resources and Development Corp – Ferguson Lake Project is requesting a 5 year licence until December 1, 2022.

All parties were asked to provide technical comments by September 28, 2018.

B. RESULTS OF REVIEW

On behalf of Crown-Indigenous Relations and Northern Affairs Canada – Water Resources Division, the following comments and recommendations are provided for the Board's consideration.

1. Spill Contingency Plan

Reference:

Canadian North Resources and Development Corporation- Ferguson Lake Project Spill Contingency Plan, March 2015

Comment:

i) An up-to-date Spill Contingency plan should reflect the licensee's capacity to implement the conditions of the water licence and 2018 work plan.

ii) Winter road/trail permits

Recommendation:

CIRNAC recommends if the Ferguson Lake winter trail is to be used as has been proposed in previous years, to haul equipment/supplies, between Rankin Inlet and the Ferguson Lake Property, then all proper authorizations and permits are required to be received before issuance of the water licence (i.e. right of way authorizations, CIRNAC land use permits etc.).

As well CIRNAC recommends that the Spill Contingency Plan be updated to include the winter trail, including all provisions for spill containment and clean-up.

In addition, a spill response kit should be included with any vehicles or machinery proposed to operate along the winter trail.

Finally CIRNAC recommends that if any water is to be withdrawn for the purposes of winter trail construction (i.e. re-surfacing), then the Proponent should provide source locations in latitude and longitude (i.e. degrees, minutes and seconds) and quantities used in cubic meters the amount used is required to be added to the total amount of water used under the water licence application.

Under Section 4.2 Fuel Storage & 7.1 General Equipment and Proximity in the Spill contingency plan a sketch plan should be provided.

Presently, Canadian North Resources and Development Corp. (CNRD) holds ROW permits to use a winter road to Rankin Inlet from INAC (LUP #N2013X0023) extended to March 2019 and from KIA (KVRW06F09) extended to October 2019. Further applications to extend these permits will be made for at least ten years as

long as the project requires. The permits will be kept in place to facilitate the removal and transport of waste materials, empty barrels and non-incinerated garbage overland by Challenger snow tracked vehicles during the water use license period as per described in LUP #N2013X0023. There is no need or plan to utilize any water sources along the winter route. All overland transport activity will include the carrying of a full spill kit and trained technician(s) capable of using the equipment.

CNRD will update the present Spill Contingency Plan (and Abandonment and Restoration Plan) dated March 2015 within the next two years incorporating these recommendations including the updating of camp map Figure 1.1 including specific labelled locations of the lined fuel storage berm, waste storage area and general equipment. It is noted that similar recommendations were made to update the plans with the issuance of LUP #N2013X0023 in 2013. This was complied with in 2015, as was pledged by CNRD, and copies were provided to the NWB and KIA the same year with no requests for further action.

2. Abandonment and Restoration Plan

Reference:

Canadian North Resources and Development Corp. Abandonment and Restoration plan, March 2015

Comment:

i) Section 2.4 Waste Oil

Waste oil volumes from the camp and related activities will be approximately 0.1 cubic metres per week during exploration. Waste oil will be incinerated or used for heating purposes. In the case of temporary shutdown, all waste oil will be incinerated.

Recommendations:

i) CIRNAC recommends that Canadian North Resources and Development Corporation refer to the Technical Document for Batch Waste Incineration dated: January 2010

http://publications.gc.ca/collections/collection_2010/ec/En14-17-1-2010-eng.pdf

CIRNAC also recommends to follow the Technical document under special waste- In the context of the batch waste incinerators addressed in this report, liquid hazardous wastes, other than oil, should not be injected into the incinerator.

As well, CIRNAC recommends that Canadian North Resources and Development comply with the issued water licence on waste disposal and incineration.

Finally CIRNAC recommends that Canadian North Resources and Development comply with all water licence terms and conditions involving waste disposal in any renewal licence.

Waste oil, presently stored in barrels in the lined fuel storage berm, will be needed for warming the camp buildings during the proposed winter exploration of the Property.

Only wood, paper, cardboard, and minor residual food and stove grease waste plus less than 500 ml of waste oil will be incinerated in the camp incinerator. Ash from the incinerator is stored in used fuel barrels which is placed in the aforementioned waste pile area to be shipped out with the other waste material. Used engine and hydraulic oil, lubricants, and greases are stored in separate labelled used barrels and placed in the lined fuel berm to be eventually similarly shipped out.

Other waste materials that cannot be incinerated are sorted into bags to be flown out by charter plane on return trips to Baker Lake or by helicopter on return trips to Rankin Inlet. Separated non-incinerated waste include plastic water bottles, used plastic pieces and containers, aluminium and steel food and drink cans, aerosol cans, and used batteries.

3. Final Abandonment and Restoration

Comment

i) Section 3.1 Ferguson Lake “old” camp of the final abandonment and restoration plan states that “written and photo documentation of the site restoration will be provided to the Nunavut Water Board, and the Kivalliq Inuit Association”.

Recommendation:

CIRNAC could not find any documentation of the “old” camp site. Therefore CIRNAC recommends that the licensee provide the documentation before a renewed water licence is issued.

Starfield Resources, after terminating their lease with the old camp owner, cleaned up all the scrap and garbage at the old site and removed possible contaminated soil material (placed in fuel barrels) which was slung by helicopter and consolidated at the new camp waste dump area during the summer of 2012. The matter remains under negotiation with the KIA, but discussions with their officials during the site visit were encouraging for the acceptance of Starfield’s remediation work on the old camp area. KIA officials positively acknowledged the remediation work completed at the old camp when CNRD was considering taking over responsibility of the Ferguson lake Project in 2013, but cautioned that they cannot sign-off the outstanding commitments until their inspector can visit the site including the possible completion of analytical testing showing that the site has been adequately remediated.

Approximately 50 tonnes of this material is now consolidated at the waste area with about 2,000 piled crushed and empty drums located 250 metres SE of the new camp living quarters. Photos of the waste pile, drums and fuel berm are shown in the aforementioned AANDC 2014 Inspection report which is attached [here](#).

4. Water Licence Inspection Form

Reference:

AANDC water licence Inspection for Date August 21 2014

Comment:

Section 1 # 8 of the inspection form.

The staging area located at N62° 52' 9.768" W96° 55' 29 7.48" appears to have some erosion occurring on the down slope side. The inspector has noted that the area has become red and has been eroding progressively over the last three years. The inspector also noted that the proponent will discuss this location and provide information to the inspector before June 29th, 2015.

Section 2:

The inspector noted that the proponent shall submit a revised Abandonment and Reclamation Plan to capture the current state of the project and to include the requirements of PART I item 1 of the water licence in this plan. This plan will consider the intent of PART B item 5, 6, 7 and 8 and be submitted to the Nunavut Water Board's Manager of Licensing and the Inspector no later than June 29th, 2015.

Recommendation:

CIRNAC recommends that the Abandonment and Reclamation plan be updated according to the inspection report dated August 21, 2014. This includes any preventative erosion measures taken and/or implemented.

The erosion identified in the AANDC Water License Inspection is a natural acid water gossan caused by intersection of the Ferguson Lake Ni-Cu-PGE massive sulphide deposit at the surface which extends east-west intermittently for kilometres on both sides of the lake and was the original exploration indicator of mineralization on the property. The specifically mentioned location was sampled on the surface in 2010 and leveled afterwards but remains gossanous similar to the other sites of natural acid water weathering over the deposit. This explanation was included in the aforementioned AANDC response letter sent with the ERM Consultants Canada Ltd. report in September 2015. No further action was requested.

Comment:

5. The Ferguson Lake Project utilizes a 40m x 40m lined earthen berm referred to as a Fuel Containment Area (FCA) as a secondary containment unit for fuel and hazardous waste storage (photo 4). In previous inspection it has been noted that the FCA fills with a large amount of freshet water during the spring. In previous years this water has been sampled and discharged annually during the summer care and maintenance. As per PART D item 10 of the current water Licence the proponent is required to provide 10 day notification to the inspection prior to the release of effluent from the FCA. No Notification was received by the AANDC Field Operations Unit or the Inspector.

Recommendation:

CIRNAC recommends before the water licence is issued that if all parties are satisfied with the results of the Fuel containment area from the Memorandum Dated September 24, 2015- 2015 Fuel containment area water and Soil sampling.

CIRNAC also recommends that Canadian North Resources and Development Corporation follow as per PART D item 10 of the current water Licence the proponent is required to provide 10 day notification to the inspection prior to the release of effluent from the FCA

In response to the aforementioned AANDC Water License Inspection, during the summer of 2015 the camp was temporarily opened and an environmental soil sampling survey was completed by ERM at the waste dump area to check for hydrocarbon and other contaminants. During this period, the standing water in the fuel storage berm and in catchments around the camp were also sampled and analyzed for hydrocarbons and other toxic chemicals. The analytical testing report and a response letter to the inspection report describing this waste management was provided to the AANDC water use inspector with copies to the KIA and NWB in September, 2015. Upon return of the analyses, the water in the berm was drained prior to the closing of the camp and the Water Use Inspector Christine Wilson was informed of this by telephone. No further action was requested by the AANDC. Upon re-opening the camp in 2018, the berm remains near empty of standing water.