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May 4, 2021

ECCC File: 5100 000 036/013  
MVLWB File: MV2020L2-0012  
MV2020C0017



via email at: [smontgomery@mvlwb.com](mailto:smontgomery@mvlwb.com)

Shelagh Montgomery  
Executive Director  
Mackenzie Valley Land and Water Board  
7th Floor, 4922 48th Street  
P.O. Box 2130  
Yellowknife, NT X1A 2P6

Dear Shelagh Montgomery:

**RE: MV2020L2-0012 / MV2020C0017 – PPML – Pine Point Confirmation and Exploration Program – Environment and Climate Change Canada's Intervention**

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Mackenzie Valley Land and Water Board (MVLWB) regarding the above mentioned water licence and land use permit applications. You will find our Intervention attached.

ECCC's specialist advice is based on our mandate, in the context of the *Canadian Environmental Protection Act*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

If you need more information, please contact Victoria Shore at [Victoria.Shore@canada.ca](mailto:Victoria.Shore@canada.ca).

Sincerely,

Margaret Fairbairn, Acting Regional Director  
Environmental Protection Operations Directorate, Prairie Northern Region

Attachment(s): 20210504 – MV2020L2-0012\_MV2020C0017--Pine Point CEP\_Intervention\_ECCC

cc: Jody Small, Acting Head, Environmental Assessment North (NT and NU)





# ENVIRONMENT AND CLIMATE CHANGE CANADA'S INTERVENTION TO THE MACKENZIE VALLEY LAND AND WATER BOARD

RESPECTING THE PINE POINT MINING LIMITED  
CONFIRMATION AND EXPLORATION PROGRAM LAND  
USE PERMIT AND WATER LICENCE APPLICATION

MAY 4, 2021



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# 1.0 List of Acronyms

CEP – Confirmation and Exploration Program

CEPA – *Canadian Environmental Protection Act*

ECCC – Environment and Climate Change Canada

FA – *Fisheries Act*

GNWT – Government of the Northwest Territories

IR – Information Request

LUP – Land Use Permit

MBCA – *Migratory Birds Convention Act*

MVLWB – Mackenzie Valley Land and Water Board

PPML – Pine Point Mining Limited

SARA – *Species at Risk Act*

SNP – Surveillance Network Program

WBNP – Wood Buffalo National Park

WL – Water Licence

WMMP – Wildlife Management and Monitoring Plan

WPP – Wildlife Protection Plan

## 2.0 Executive Summary

Pine Point Mining Limited (PPML; the Proponent) is requesting a Type A Land Use Permit (LUP; MV2020C0017) and a Type A Water Licence (WL; MV2020L8-0012) for their Confirmation and Exploration Program (CEP; the Project). The applications are intended to replace existing authorizations and add additional scope for short-term groundwater tests. The CEP will consist of exploration by drilling/pitting; collection of metallurgical test samples of rock by small scale quarrying and collection of pit water samples; establishing groundwater recharge and discharge rates for existing pits and water reinjection wells; use of heavy machinery and vehicles; construction and maintenance of camps; and fuel storage.

Environment and Climate Change Canada (ECCC) has participated in the December 2020 Applications review process, including submitting initial comments on the application on January 19, 2021 and attending the Technical Session held virtually and in-person in Yellowknife on February 24 and 25, 2021. ECCC has conducted a technical review of the information provided in the LUP and WL review process and is submitting this intervention to the Mackenzie Valley Land and Water Board (MVLWB) for consideration per the requirements of the *Mackenzie Valley Resource Management Act*.

ECCC's intervention provides comments and recommendations for the MVLWB's and PPML's consideration to help address outstanding concerns related to:

- monitoring requirements for source and receiving waters;
- confirmation that parameter concentrations of source water are acceptable for discharge to an aquatic environment before any water transfers to fish-frequented waters;
- clarifying whether groundwater testing will include well to pit water transfers;
- consideration of fish presence within the compatibility decision tree(s);
- the definition of the receiving environment;
- impacts to whooping crane and their habitat;
- the revised Wildlife Protection Plan (or Wildlife Management and Monitoring Plan); and,
- impacts to boreal caribou critical habitat.

## 3.0 ECCC's Mandate

Environment and Climate Change Canada's (ECCC) review of the applications is based on the department's mandate which is conferred by the federal statutes and regulations administered under the authority of the Minister of Environment and Climate Change. ECCC's legislative framework for protecting and managing the environment is founded on various statutes, guidelines, codes of practice, and inter-jurisdictional and international agreements.

ECCC's specialist advice for this review is provided pursuant to the *Canadian Environmental Protection Act* (CEPA 1999), the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act* (MCBA), and the *Species at Risk Act* (SARA).

ECCC regulates the use of toxic chemicals, and develops and implements environmental quality guidelines pursuant to CEPA 1999. ECCC also administers the pollution prevention provisions of the *Fisheries Act*, which prohibit the deposit of a deleterious substance into fish-bearing waters. ECCC is responsible for protecting and conserving migratory bird populations and individuals under the MCBA. In cooperation with Fisheries and Oceans Canada and the Parks Canada Agency, ECCC also administers SARA to prevent wildlife species from being extirpated or extinct; to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity; and to manage species of special concern to prevent them from becoming threatened, endangered or extirpated.

Additional information on ECCC's mandate is available at <https://www.canada.ca/en/environment-climate-change/corporate/mandate.html>.

# 4.0 ECCC's Technical Review Comments and Recommendations

## **RESOLVED RECOMMENDATIONS:**

Following a review of PPML's response to Information Request (IR) 4, ECCC recommended that PPML:

- Clarify that any trucked sewage waste would be taken to a sewage treatment facility;
- Regarding any future installations for sewage treatment:
  - Include details of discharge locations and distance to surface waters; and
  - Review Effluent Quality Criteria based on the system configuration.

ECCC is satisfied with PPML's subsequent response indicating that any trucked sewage would be taken to the Hay River Sewage Lagoon for disposal and that an updated Waste Management Plan would be submitted for the Board's approval. ECCC has no further comments on these topics.

## **4.1 ECCC #1 – Groundwater Management Plan Framework**

### **Reference(s):**

- Proponent response (March 12, 2021) to technical session Information Request 2
- Proponent response (February 2, 2021) to ECCC recommendations re: Groundwater Management Plan Framework, November 2020 version
- Groundwater Management Plan Framework, November 2020 version

### **Comment:**

ECCC provided the following water quality recommendations regarding the initial (i.e., November 2020) version of the Groundwater Management Plan Framework:

- ECCC recommended that the Proponent demonstrate that the water to be returned to the environment does not have a negative impact on the environment. ECCC also recommended that the Proponent demonstrate that the groundwater being returned to the receiving environment is not connected to Great Slave Lake given its proximity to the site.
- ECCC recommended that the Groundwater Management Plan include a fuller characterization of water quality for transfers to historic pits which are fish-frequented to ensure water transfers are non-deleterious.
- ECCC recommended that the Proponent identify what pit water quality differences would be considered incompatible for transfer to other pits or extraction wells, and that the Proponent identify how this would be managed. Actions that would be taken in the event a change in chemistry is observed in post-test samples should be identified.

In response, PPML indicated that the recommendations above would be addressed in the next version of the Groundwater Management Plan, which ECCC understands we will be able to review

before it is approved. ECCC notes that further information was provided in the responses to IR 2 on compatibility and screening criteria, as discussed below in section 4.2.

#### **ECCC Recommendation(s):**

With respect to water transfers, ECCC recommends that the licence conditions include monitoring requirements for the full suite of parameters for source and receiving waters (pit or groundwater), either in a Surveillance Network Program (SNP) term or the approved management plans.

## **4.2 ECCC #2 – Compatibility Criteria**

#### **Reference(s):**

- Proponent response (April 20, 2021) to GNWT and MVLWB comments re: Groundwater Management Plan Framework and Approach for Compatibility
- Proponent response (March 30, 2021) to ECCC recommendation re: compatibility criteria
- Proponent response (March 12, 2021) to technical session Information Request 2

#### **Comment:**

Further information regarding the Groundwater Management Plan Framework was provided following the Technical Session. In response to IR 2, PPML outlined the proposed method for assessing water quality compatibility of potential source sites with receiving sites prior to water transfers. Following a review of PPML's response to Information Request 2, ECCC provided three recommendations regarding: (i) water quality comparisons, (ii) discharge to an aquatic environment, and (iii) the decision tree (Figure 2-2). PPML's response to ECCC's recommendation addresses only the third recommendation (i.e., decision tree/ Figure 2-2). The first two recommendations were not addressed in PPML's response. ECCC notes, however, that PPML's April 2021 response to Government of the Northwest Territories (GNWT) and MVLWB comments regarding the Groundwater Management Plan Framework and approach for compatibility provides additional information, including a discussion of pit water quality in relation to the proposed decision trees, with supporting figures and data. This information satisfies ECCC's first recommendation for a summarized water quality comparison to support the conclusions presented in response to IR 2 (Criteria for Determining Compatibility). Therefore, only the second ECCC recommendation related to water quality comparisons remains outstanding.

#### **ECCC Recommendation(s):**

ECCC reiterates its recommendation that PPML monitor and review pre-activity (baseline) water quality for a full suite of parameters, and confirm parameter concentrations are acceptable for discharge to an aquatic environment, before any transfers to fish-frequented pits.

ECCC recommends that the licence conditions (via SNP term or approved management plans) require confirmation that parameter concentrations are acceptable for discharge to an aquatic environment before any transfers to (i) pits that are fish-frequented and (ii) pits connected to fish-frequented waters.



## 4.3 ECCC #3 – Water Transfers

### Reference(s):

- Proponent response (April 20, 2021) to GNWT and MVLWB comments re: Groundwater Management Plan Framework and Approach for Compatibility
- Groundwater Management Plan Framework, November 2020 version
- Project Description – Confirmation and Exploration Program, Version 1

### Comment:

It is unclear whether groundwater testing will involve well to pit water transfers. PPML's recent response to GNWT and MVLWB comments regarding the Groundwater Management Plan Framework and approach for compatibility is not consistent with the Project Description on that point.

Section 1.0 of the April 2021 response document describes the CEP water transfers as follows:

*As part of these groundwater tests, water from an existing open pit will be pumped to another pit. Similarly, water from a groundwater well will be pumped and reinjected into another well within the same aquifer. There may also be an opportunity to transfer water from an existing open pit to an injection well.*

Consistent with Section 1.0, Appendix B of the response document contains CEP groundwater testing decision trees for pit to pit, well to well, and pit to well compatibility for water transfers. Appendix B does not include a decision tree for well to pit water transfers. However, the Project Description (Section 9.1 Groundwater Pumping) states that groundwater testing will include: (i) pumping pit water from an existing open pit to another pit, and (ii) using boreholes to draw down the water table and then move the water into an existing open pit or re-inject the water via a second borehole. That is, the Project Description indicates well to pit water transfers will occur, which is not consistent with the information presented in the April 2021 response document. This aspect of the CEP program should be clarified.

### ECCC Recommendation(s):

ECCC recommends that PPML clarifies whether groundwater testing will include well to pit water transfers and, if so, provides a compatibility decision tree for well to pit water transfers.

## 4.4 ECCC #4 – Fish

### Reference(s):

- PPML response (April 20, 2021) to GNWT and MVLWB comments re: Groundwater Management Plan Framework and Approach for Compatibility
- Groundwater Management Plan Framework, November 2020 version

### Comment:

ECCC notes that the decision trees in PPML's April 2021 response document do not include an assessment/decision regarding whether the receiving pit is fish-frequented. Given the karst networks (Groundwater Management Plan Framework, Section 2.1) and PPML's findings regarding fish presence in and near some pits, the decision tree(s) for receiving pits should include consideration of fish presence and connectivity to fish-frequented waters.

**ECCC Recommendation(s):**

ECCC recommends that the compatibility decision tree(s) include an assessment/decision regarding whether the receiving pit is fish-frequented and/or potentially connected to surface waters. Any site water that is fish-frequented and/or connected to fish-frequented waters should be considered the receiving environment and protected accordingly.

## **4.5 ECCC #5 – Receiving Environment**

**Reference(s):**

- PPML response (April 20, 2021) to GNWT and MVLWB comments re: Groundwater Management Plan Framework and Approach for Compatibility

**Comment:**

Per Section 6.0 (Receiving Environment) of the April 2021 response document, PPML is of the opinion that the system of pits and drainage channels built by Cominco to manage site water should not be considered a receiving environment. PPML recognizes that the drainage network at the historical Pine Point Mine site may connect with the natural aquatic environment, and that is the point that PPML considers to be the receiving environment for the discharges carried out for the CEP. ECCC advises that any site water that is fish-frequented and/or connected to fish-frequented waters would be considered the receiving environment.

**ECCC Recommendation(s):**

ECCC recommends that the receiving environment definition clearly encompass all waters that are fish-frequented or connected to fish-frequented waters; where connection and/or being fish-frequented has not clearly been established the assumption should be made that this is the case.

## **4.6 ECCC #6 – Whooping Cranes and their Habitat**

**Reference(s):**

- Screening-Level Environmental Assessment for the Confirmation and Exploration Program
- PPML – GIS Data – Drilling Areas – Feb26\_21.zip
- PPML – Technical Session Response to IR 3 – Water Withdrawal Plan V1.pdf
- ECCC (2007). Recovery Strategy for the Whooping Crane (*Grus americana*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vii + 27 pp.
- Olson and Olson Planning and Design Consultants. 2003. Final Report: Whooping Crane Potential Habitat Mapping Project.

**Comment:**

Potential project impacts including direct habitat loss, sensory disturbance and direct mortality were assessed for wildlife, which includes whooping cranes, in Table 3 of the Screening-Level Environmental Assessment for the CEP. The magnitude for these pathways was assessed as negligible to minor and localized.

The Project includes a number of activities with the potential to impact whooping cranes, which have been observed on site (Table 1; Screening-Level EA for the CEP). The whooping crane is listed as Endangered under the federal *Species at Risk Act*, with an approximate wild population of 430

individuals in Canada, and therefore requires special consideration with regards to impacts on the species and its habitat. In 2007, a recovery strategy was developed identifying critical habitat within Wood Buffalo National Park (WBNP). The range of the whooping crane has expanded and a process for identification of critical habitat outside WBNP is underway but not complete at this time.

Whooping cranes inhabit marshes, bogs, and shallow lakes that are separated by narrow ridges, also referred to as wetland or marsh complexes. Bulrushes, cattails, sedges, musk-grass and other wetland and aquatic plants dominate the vegetation in the nesting areas (ECCC 2007).

Olson and Olson (2003) is currently the best source of information available for identifying potential whooping crane habitat in the area of the project. Figure 1 shows the areas with a nesting habitat probability  $>0.70$  (a threshold that accounted for 92.3% of known nesting locations at the time) in relation to the proposed PPML drilling areas and roads. The study area in Olson and Olson (2003) does not extend west of the Buffalo River outside WBNP, and therefore does cover the full extent of PPML's proposed activities.

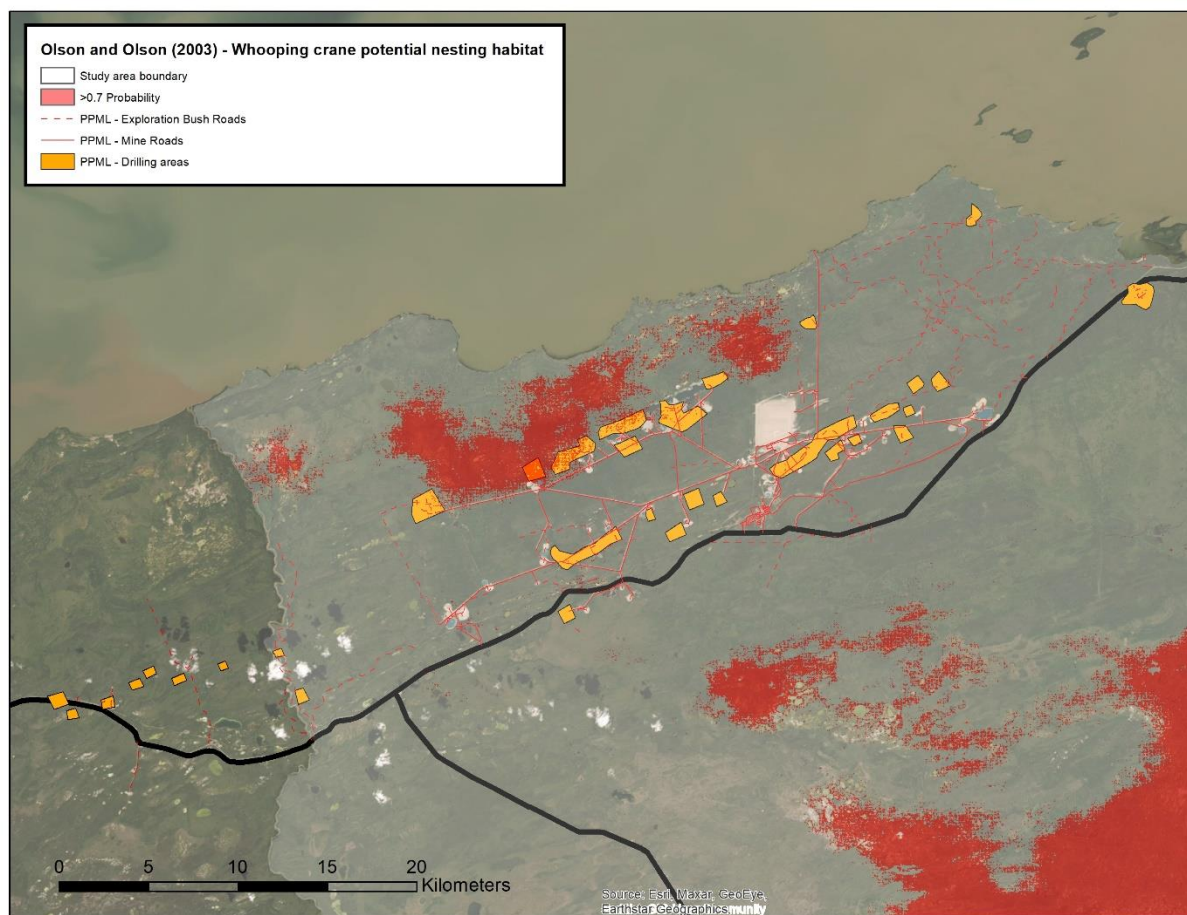


Figure 1: Whooping crane potential nesting habitat near the proposed CEP project.

ECCC is not aware of the occurrence of any whooping crane nests north of Highway 6. However, it is important to note that only known breeding areas are surveyed each year for nests and it is likely

there are more undetected nests in the region. Non-breeding sub-adults (<4 years old) are likely those that have been observed at Pine Point to date. Non-breeders spend summers exploring potential future nesting sites. This behaviour is an important step in establishing their own nesting territories. Non-breeders constitute a critical demographic component of the whooping crane population as they represent future breeders that will contribute to the recovery of the species.

In the Water Withdrawal Plan, PPML identifies an extensive list of potential water sources that may be used for the Project. Many of the potential water sources overlap with the Olson and Olson (2003) potential whooping crane habitat, which likely will play an important role in the recovery of the species. Several standard measures are in place in the Water Withdrawal Plan to mitigate changes to water quality, water levels, disruption of drainage patterns and groundwater quality associated with water withdrawal. However, there is still some uncertainty as to whether residual impacts remain related to disturbance, loss or alteration of habitat and direct mortality risks for whooping crane associated with water withdrawal and all other proposed project activities.

**ECCC Recommendation(s):**

Given the endangered status of whooping cranes, ECCC recommends that a specific management plan be developed for whooping cranes, in consultation with ECCC, to further assess potential residual impacts and to implement specific measures to minimize risks associated with all project activities.

At a minimum, ECCC recommends:

- The primary mitigation for all project activities should be avoidance of impacts to whooping cranes and their habitat, to the greatest extent possible.
- Regardless of season, in areas where avoidance of whooping crane habitat is not possible, surveys should be conducted by qualified individuals when whooping cranes are expected to be present.
- Any observations of whooping cranes by staff or contractors on site should be immediately investigated and reported to ECCC.
- All staff and contractors should be made aware of the potential presence of whooping cranes in the area, their conservation status and reporting procedures.

## **4.7 ECCC #7 – Wildlife Protection Plan**

**Reference(s):**

- MV2020L8-0012 MV2020C0017 - PPML - Wildlife Protection Plan\_V1.0 – Nov27\_20.pdf
- PPML – Review Comment Table – Initial Applications – Feb 2\_21.pdf
- PPML – Wildlife Protection Plan Updates Memo – Mar12\_21.pdf

**Comment:**

ECCC made several recommendations during the review of the initial application to improve mitigation measures identified in the Wildlife Protection Plan (WPP). In their responses to comments, the Proponent committed to updating several sections of the WPP. Following the Technical Session, the Proponent also proposed updates to the WPP in a memo (dated 12 March 2021) detailing caribou-specific mitigations focussed on addressing impacts to individuals. ECCC views the updated caribou-specific mitigations as an improvement and beneficial to minimize impacts to boreal caribou,

but ultimately defers to the expertise of the GNWT-ENR and other interveners on the adequacy of the new measures.

At this time, it is unclear whether the project will require a Wildlife Management and Monitoring Plan (WMMP) under section 95 of the territorial *Wildlife Act* and whether this would entail an additional review process. The WPP is an important document to ensure residual impacts to wildlife are minimized and an opportunity for interveners to review a revised version including the numerous commitments made by the Proponent would be valuable.

ECCC remains available to review and input into sections of the revised WPP (or WMMP) as it relates to our mandate and expertise for migratory birds and species at risk.

**ECCC Recommendation(s):**

ECCC recommends that MVLWB rely on GNWT-ENR and other interveners regarding the adequacy of the proposed caribou-specific measures.

ECCC recommends to the MVLWB (or GNWT-ENR) that an additional opportunity be provided for interveners to review the revised WPP (or WMMP).

## **4.8 ECCC #8 – Boreal Caribou Critical Habitat**

**Reference(s):**

- Pine Point - Land Use Permit and Water Licence Applications (MV2020L8-0012 MV2020C0017) - Confirmation and Exploration Program - Technical Session - Responses to Information Request (MVLWB)
- ECCC (2012). Recovery Strategy for the Woodland Caribou, Boreal population (*Rangifer tarandus caribou*) in Canada. ECCC (2015). Anthropogenic disturbance footprint within boreal caribou ranges across Canada - As interpreted from 2015 Landsat satellite imagery (available on the Open Government Portal)

**Comment:**

Following the technical session, PPML indicated that approximately 10% of new drill holes would be in “undisturbed” areas, disturbance to “greenfield” areas would be minimized and provided more clarity on the use of broad descriptive habitat terms in their application and their responses. PPML also stated that the estimates provided reflect both the difficulty in defining the terms, and the uncertain nature of exploration.

The woodland boreal caribou recovery strategy (ECCC 2012) identifies the amount of habitat disturbance within a boreal caribou range as a key factor determining whether a local population is likely to be self-sustaining over time. The amount of undisturbed habitat available in the NT1 range is currently above the recovery strategy threshold for a local population to be self-sustaining. The recovery strategy specifies that each responsible jurisdiction manage the habitat disturbance within a range to achieve or maintain a self-sustaining local population through a range plan.

Figure 2 shows PPML’s proposed drilling areas and access trail network and associated 500m buffer in relation to the ECCC (2015) disturbance footprint. Although there remains some level of uncertainty with the exact location of proposed vegetation clearing to support PPML’s proposed





ECCC recommends that the Proponent monitor and report on the Project's actual footprint and provide final geospatial data of the footprint upon completion of the Project as a means to track disturbance within NT1.

## **4.9 ECCC #9 – Boreal Caribou on Federal Land**

### **Reference(s):**

- PPML – GIS Data – Drilling Areas – Feb26\_21.zip
- Critical Habitat of the Woodland Caribou (*Rangifer tarandus caribou*) Boreal Population Order: SOR/2019-188 (<https://canadagazette.gc.ca/rp-pr/p2/2019/2019-06-26/html/sor-dors188-eng.html>)

### **Comment:**

In 2019, a ministerial order was put in place to protect critical habitat of woodland boreal caribou under section 58(4) and (5) of SARA which applies to federally administered lands in the Northwest Territories.

Following the technical session, ECCC determined that PPML must apply for a permit under section 73 of SARA, based on the mapping of PPML's proposed drilling areas (uploaded to the MVLWB registry February 26, 2021) relative to the old Pine Point rail bed (i.e. federal land) and an associated 500m buffer. GNWT collar data obtained also indicates boreal caribou use of the overlap areas, including during the sensitive calving period. There is additional uncertainty regarding the use of the proposed and/or existing access roads for the Project, many of which also overlap the federal land parcel.

As noted in ECCC's email to the MVLWB (dated 31 March 2021), the Proponent was notified of this requirement and encouraged to apply for a SARA permit as early as possible. ECCC met with the Proponent April 13, 2021, to discuss the permitting requirements and process. ECCC has a 90-day timeline to review and issue a decision on a permit application, not including any additional consultation requirements and/or holds placed due to additional information requests.

### **ECCC Recommendation(s):**

N/A – For information only.

## 5.0 Closing Remarks

ECCC acknowledges and appreciates the effort that the Proponent has taken to provide information and address concerns brought forward by parties through the LUP and WL process. ECCC would like to thank the MVLWB for this opportunity to provide input to the PPML CEP LUP and WL review and looks forward to continuing its participation.

ECCC's technical review comments and recommendations are not to be interpreted as any type of acknowledgement, compliance, permission, approval, authorization, or release of liability related to any requirements for the Proponent to comply with federal or territorial statutes and regulations.