



7th Floor - 4922 48th Street,
P.O. Box 2130, Yellowknife NT X1A 2P6

Tel: 867-669-0506 Fax: 867-873-6610
www.mvlwb.com

Staff Report

Applicant: Pine Point Mining Limited	
Location: Pine Point, NT	File Number(s): MV2020C0017 MV2020L8-0012
Date Prepared: April 5, 2021	Date of Board Meeting: April 13, 2021
Subject: Preliminary Screening Determination – Type A Licence and Permit Applications	

1. Purpose

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board):

- a) Seek confirmation on preliminary screening exemption; and
- b) Consider the preliminary screening conducted to screen New Project activities for Pine Point Mining Limited's (PPML) Type A Water Licence MV2020L8-0012 (Licence) and Land Use Permit MV2020C0017 (Permit) Applications.

2. Background

- November 27, 2020 – New Applications for the Licence and Permit received by the Board;
- December 7, 2020 – Applications deemed complete and review commenced;
- January 14, 2021 – Board decision to invoke paragraph 22(2)(b) of the Mackenzie Valley Land Use Regulations (MVLURs) for the Permit;
- January 19, 2021 – Comments and recommendations on PPML's Applications due and received;
- February 2, 2021 – Responses due and received;
- February 24 – 25, 2021 – Technical Session for Applications held in Yellowknife, NT and via Zoom;
- February 26, 2021 – Information Requests (IRs) from Technical Session sent to PPML;
- March 12, 2021 – IRs due and received from PPML, except IR 3 regarding the Water Withdrawal Plan, and review of IRs commenced;
- March 22, 2021 – IR 3 received and added to the review of IRs;
- March 26, 2021 – Comments and recommendations on IR responses due and received;
- March 30, 2021 – Responses to comments and recommendations on IR responses due and received; and

- April 13, 2021 – Preliminary Screening presented to the Board for decision.

3. Discussion

Project History

There is a long history of exploration and mining activities associated with Pine Point, NT, which is located approximately 65 km east of Hay River and west of Fort Resolution, respectively. Cominco Ltd. mined 52 zinc and lead deposits from 1964 to 1988. Two of the deposits were mined underground and the remaining 50 deposits were mined as open pits. Before the mine closed in 1988, Cominco produced approximately 70 million tons of ore, with grades of 2.9% lead and 6.8% zinc. There was a mill and a town site at Pine Point, which were removed at the end of mining. The remaining Pine Point tailings impoundment area is currently being reclaimed by Teck Metals Ltd. under its Permit MV2019X0006 and Water Licence MV2017L2-0007.

Current Authorizations

Pine Point Mining Limited (PPML) currently hold three authorizations including Permits MV2017C0024 and MV2018C0005, and Licence MV2020L2-0008. These authorizations allow PPML to conduct mineral exploration at Pine Point, NT. Associated activities include geological mapping, sampling, diamond drilling, use of water, deposit of waste, use of heavy machinery and vehicles, storage of fuel, maintaining existing access roads and trails, and progressive reclamation. A total of 40 mineral leases and 102 mineral claims, and three partial claims are held by PPML.

Description of Applications

On November 27, 2020, PPML submitted new Applications for Permit MV2020C0017 and Licence MV2020L8-0012 for the Confirmation and Exploration Program (the Project) at Pine Point, NT (attached). PPML is proposing to amalgamate all its existing authorizations including Permits MV2017C0024, MV2018C0005, and Licence MV2020L2-0008.

In addition to the existing authorized activities described above, PPML is proposing the following:

- Increase the camp size from 49-person to 249-person;
- Groundwater testing, metallurgical bedrock sampling, and geotechnical bedrock sampling;
- Increase of fuel storage; and
- Increase in equipment.

Documents and Management Plans

The following documents and management plans were included with the Applications (attached):

- Project Description
- Environmental Impact Assessment
- Studies Undertaken to date including Traditional Knowledge
- Waste Management Plan
- Spill Contingency Plan
- Water Withdrawal Plan
- Engagement Plan Version 2.1 (V.2.1)

- Engagement Log and Record
- Closure and Reclamation Plan
- Draft Permit and Licence Conditions
- Closure Cost Estimates
- Bedrock Sampling Management Plan (framework only)
- Groundwater Management Plan (framework only)
- Wildlife Protection Plan

PPML submitted frameworks for its bedrock sampling program and groundwater tests and is proposing that these plans be reviewed and considered by the Board prior to commencing those activities.

Preliminary Screening

As per the Preliminary Screening Requirement Regulations of the *Mackenzie Valley Resource Management Act* (MVRMA), the Board must conduct a preliminary screening for any application for a proposed development that requires a Water Licence and Land Use Permit if it is not exempt from Part 5 of the MVRMA. Under the Exemption List Regulations, PPML could be exempt from preliminary screening if it had *not* been modified since the development fulfilled the requirements of the environmental assessment process established by the MVRMA.

In the Cover Letter submitted with the Applications (attached), PPML indicated that parts of developments that were previously screened for the PPML site they believe are exempt from further preliminary screening. PPML included a table in the Cover Letter that summarizes activities and equipment that have been previously screened compared to activities and equipment requested for the Type A Licence and Permit Applications. PPML also included a map with geographic areas that were previously authorized as per Permits MV2017C0024 and MV2018C0005, and the proposed area of activity for the Type A Licence and Permit Applications. A Screening-Level Impact Assessment document for the Confirmation Exploration Program (attached) was also included in the Applications, that discussed mitigations associated with the activities that PPML believe need to be screened.

In the table in PPML's Cover Letter, PPML identified the following activities that had not been previously screened:

- Construction and operation of a 249-person camp
- Groundwater testing
- Metallurgical bedrock sampling
- Geotechnical testing
- Camp expansion
- Increased fuel volume
- Increased fuel storage
- Increased equipment

Board staff note that the table in PPML's Cover Letter comparing activities for the Confirmation and Exploration Program to previously screened activities at the PPML site did not include the preliminary screening conducted by the Board on February 11, 2021 for a recent Amendment Application for Permit

MV2017C0024 (preliminary screening attached). Board staff also considered the most recent screening when completing the Preliminary Screening Reasons for Decision for PPML's Confirmation and Exploration Program.

Based on details presented in the Applications, Board staff propose that the following specific items related to the Confirmation and Exploration Program are New Project activities that should be screened by the Board:

- Use of additional heavy vehicles and equipment;
- Construction and operation of a 249-person camp;
- Construction, operation, and maintenance of Wastewater Treatment Facilities;
- Resource definition and exploration core drilling at approximately 3,000 drill sites;
- Withdrawal of water for camp use, metallurgical testing, aquifer testing, and dust control;
- Fuel storage of approximately 275,000 L of diesel, 28,000 L of gasoline, 28,000 L of aviation fuel, and 10,000 lbs of propane;
- Construction, operation, and maintenance of additional trails, access roads and haul roads;
- Groundwater testing including water drawdown from open pits and boreholes at a rate of 3,600 m³/day for up to seven days;
- Metallurgical bedrock sampling at approximately 20 sites;
- Handling, use, and storage of explosives, including construction of an explosives storage magazines, an ammonium nitrate (AN) storage pad, an AN loading facility, and an emulsion plant; and
- Geotechnical testing including test pitting at 200-300 sites.

Further New Project activities, or updates to New Project activities, were identified during the Public Review, and are discussed below (4. Public Review and Technical Sessions).

Board staff have drafted a Preliminary Screening Reasons for Decision (attached) based on the documents submitted for the Licence and Permit Applications, review comments related to the preliminary screening for the Applications and PPML's response to review comments, and technical session discussions. The draft Preliminary Screening Reasons for Decision considers environmental and socio-economic concerns, along with mitigations, and is for the Board's consideration.

Engagement

The Board approved PPML's [Engagement Plan V.2](#) with the Issuance of Licence MV2020L2-0008 and extension of Permit MV2018C0005 on October 9, 2020. An [Engagement Record](#) and [Engagement Plan V2.1](#) were included in the Application (attached). PPML noted they engaged with the following Parties:

- Denínu Kúé First Nation (DKFN)
- Kát'odeeche First Nation (KFN)
- Northwest Territory Métis Nation (NWTMN)
- Ts'ueh Nda (Westpoint) First Nation (WPFN)
- Deh Gáh Got'ie (Fort Providence) First Nation (DGGFN)
- Akaitcho Territorial Government (directed to Akaitcho Dene First Nation)
- Hamlet of Fort Resolution

- Town of Hay River
- Town of Fort Smith
- City of Yellowknife
- Łutselk'e Dene First Nation (LDFN)
- Smith Landing First Nation (SLFN)
- Salt River First Nation (SRFN)
- Timberworks Inc.

PPML conducted engagement for their Type A Applications from June 26, 2020 to November 18, 2020. Follow up engagement was conducted with the Parties listed above except for SLFN, SRFN, and the Town of Fort Smith. Board staff note that these Parties are not listed in PPML's approved Engagement Plan V.2.

PPML presented its Confirmation and Exploration Program over Zoom/teleconference to the Town of Hay River, City of Yellowknife, KFN, LDFN, and NWTMN. PPML engaged with Chief Balsillie with DKFN and Chief Joachim with DGGFN to discuss the Project further.

From the Engagement Record, some concerns identified were about socio-economic issues, including employment/contracting opportunities going forward and benefit agreements. In addition, there were some concerns about environmental impacts and mitigations from the Project included in the Log, which PPML followed up on. KFN, NWTMN, and LDFN identified the Parties that they believe should be engaged with and have recognized rights.

Type of Area

This Project is in a federal and non-federal area. The federal area is the Pine Point railbed. PPML has explicitly stated that it is not intending to use water and deposit waste within the federal area to avoid a split-interest scenario where a federal licence would be required.

4. Public Review and Technical Sessions

By January 19, 2021, comments and recommendations on the Licence and Permit Application were received from six Parties and Board staff:

- DKFN
- Environment and Climate Change Canada (ECCC)
- Fisheries and Oceans Canada (DFO)
- Government of the Northwest Territories Department of Lands – Hay River Region (Lands Inspector)
- Government of the Northwest Territories Department of Lands, on behalf of all GNWT Department (GNWT)
- KFN

PPML responded by February 2, 2021. The Review Summary and Attachments (attached) presents the concerns identified through this review that are specifically related to preliminary screening for PPML's Confirmation and Exploration Program.

Further discussions about topics related to the preliminary screening were discussed during the technical session, held from February 24-25, 2021 in Yellowknife, NT and on Zoom (technical session transcripts attached). During the technical session, ten information requests (IRs) were generated and sent to PPML on February 26, 2021 (attached). Information Request 10 was directly related to the preliminary screening for PPML's Confirmation and Exploration Program.

PPML responded to all IRs (attached) except IR 3 on March 12, 2021. Board staff used PPML's responses, as applicable, to draft the Preliminary Screening Reasons for Decision. The responses to the IRs were sent for public review on March 16, 2021. PPML responded to IR 3 on March 22, 2021, and this IR response was added to the public review (attached).

By March 26, 2021, comments and recommendations on PPML's IR responses were received from two Parties and Board staff:

- ECCC
- GNWT

PPML responded by March 30, 2021. The Review Summary and Attachments (attached) presents the concerns identified through this review that are specifically related to preliminary screening for PPML's responses to IRs.

Main Issues Raised during the Reviews and Technical Session

Scope of the Preliminary Screening

In their Applications, PPML proposed using wastewater treatment as a method to treat greywater and/or sewage. During the technical session, PPML also proposed use of a septic system and dispersal field for treating camp wastewater (February 25, 2021 [transcript](#) page 46). In response to IR 4 from the technical session, PPML clarified that there are three options under consideration for camp wastewater, including: installation of a modular wastewater treatment plant; construction and operation of a sewage lagoon; or construction and operation of septic system with a dispersal field (see Response to IR 4, attached). Consequently, Board staff included the following item as a Project change to be screened in the draft Preliminary Screening Reasons for Decision:

- Construction, operation, and maintenance of Wastewater Treatment Facilities, including a modular wastewater treatment plant, sewage lagoon, or septic system with a dispersal field.

Groundwater testing is proposed for the Project to obtain values for hydrogeological parameters of geologic deposits in the Pine Point area that will enable models of groundwater movement to be developed and flow rates for the aquifers to be determined. The intent is for this information to be used to develop the water management plan for future mining and milling at Pine Point. To conduct this testing, PPML has proposed to pump water in historical mine pits from an existing open pit to another pit that is far enough away to not interfere with the source pit groundwater. PPML also proposes to use boreholes near a mineral deposit to draw down the water table and move water to a nearby existing open pit or re-inject the water via a second borehole for the groundwater testing.

During the public review on the Applications, PPML submitted a comment requesting the Applications be updated to reflect a revised volume of water to be moved during groundwater testing. In the

Application, PPML had indicated that it was expected that the groundwater drawdown tests would remove 3,600 m³/day of water from a borehole or pit. PPML indicated in the review comment that further examination of historical data revealed that a higher rate of water drawdown will be necessary and requested that the drawdown rate be increased to 15,000 m³/day. Based on PPML's review comment, Board staff updated the Project change associated with the groundwater testing in the draft Preliminary Screening Reasons for Decision as follows:

- Groundwater testing including water drawdown from open pits and boreholes at a rate of 15,000 m³/day for up to seven days;

During the public review of the Applications, Board staff noted that PPML had proposed that an option for disposal in the event of a spill could be "on-site treatment at a facility approved for the purpose" (Review Summary – Applications, MVLWB, comment 13). Board staff recommended PPML clarify if this option meant that a Petroleum Hydrocarbon-Contaminated Soil Treatment Facility (i.e., a landfarm) may be constructed and operated on site. In response, PPML that the landfarm is an option under consideration, but it has not yet been decided if it will be required. To ensure this activity is screened in the event that PPML does decide to construct and operate a landfarm on-site, Board staff included the following as a Project change in the draft Preliminary Screening Reasons for Decision:

- Construction and operation of a Petroleum Hydrocarbon-Contaminated Soil Treatment Facility.

Groundwater Testing

During the review of the Applications, several reviewers requested further details about the water quality criteria that would be implemented for groundwater testing (Review Summary – Applications, ECCC, comment 1; GNWT, comment 34; KFN, comment 10; MVLWB, comments 2-3, 27-29, 31). Reviewers wanted to better understand how PPML would determine if the water to be transferred from the mine pits or boreholes would be compatible with the water of the pits or re-injection boreholes where the water was to be transferred to, and any applicable mitigations. In response, PPML indicated that the groundwater testing is planned so that any groundwater pumped as part of the testing programs would be re-injected into the same aquifer, zone, or formation, to prevent mixing of different groundwater types (Review Summary – Applications, GNWT, comment 34; KFN, comment 10; MVLWB, comment 2). Further, PPML suggested that water quality parameters of interest that would be sampled to ensure compatibility for the water transfer would be specific to water types of the test on a case-by-case basis, but would generally be comprised of major ions, total dissolved solids, and metals. PPML proposed to provide further details in the next version of the Groundwater Management Plan (Review Summary – Applications, ECCC, comment 1; MVLWB, comment 31).

During the public review of the Applications, reviewers also raised concerns about water quality impacts associated with the groundwater testing that may affect fish-bearing waters. 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" (Review Summary – Applications, ECCC, comment 3). DFO commented that they do not have sufficient information to determine whether the proposed work will result in the death of fish and/or the harmful alteration, disruption, or destruction of fish habitat (Review Summary – Applications, DFO, comment 1).

As discussed above under *Scope of the Preliminary Screening*, PPML had also commented during the public review of the Applications that the drawdown rate for aquifer testing be increased from 3,600 m³/day to 15,000 m³/day (Review Summary – Applications, PPML, comment 1).

Compatibility criteria for the groundwater testing was discussed on day 1 of the technical session. Following PPML's presentation (attached) on the Groundwater Management Plan, PPML reiterated their proposal to submit an updated version of the Plan that would go for public review prior to the groundwater testing being implemented (February 24, 2021 [transcript](#) page 138). Reviewers continued to voice concerns about not having enough information about the groundwater testing. For example, GNWT's consultant stated:

At this point, I don't know how you are implementing your strategy and, therefore, I don't know what is the potential impact of the – into the receiving environment. I don't know if what you're doing will cause an impact to the receiving environment. And I don't know how you're actually executing the work. So, yes, I'm looking forward to the next version. I, unfortunately, think that the information that I'm asking is needed to write the terms and conditions of a licence the best.

Based on the feedback from the technical session, PPML agreed to IR 1 and 2 that required PPML to submit a water quality database that had been referenced during the PPML's presentation, and to provide the criteria/method to determine if water quality between the extraction and injection sites are compatible. PPML also agreed to discuss if there are any additional impacts and mitigation associated with the updated withdrawal volume for the groundwater testing (up to 15,000 m³/day; IR 10).

During the public review of PPML's IR responses, ECCC, GNWT, and Board staff still had specific questions regarding details of how compatibility of water to be transferred would be determined. For example, GNWT recommended that PPML complete a data analysis to show the spatial variability (or lack thereof) of water quality across site, including parameter concentrations other than total dissolved solids (TDS) between pits and groundwater, as well as the variation within pits with depth, in order to justify their chosen compatibility criteria (Review Summary – Responses to IRs, GNWT, comment 1). In response to GNWT's comment, PPML clarified that they no longer plan to transfer groundwater from a well to a pit, as was initially proposed. Also, in response to GNWT, comment 1 and other review comments, PPML committed to complete an analysis of the available historical pit water and groundwater quality data and provide a memo to the Board by April 20, 2021.

In response to the comments on the IR responses, PPML confirmed that they will avoid transferring water into fish bearing pits (Review Summary – Responses to IRs, GNWT, comment 11), and provided methods that will be used to determine which pits are fish free prior to the groundwater testing (Review Summary – Responses to IRs, GNWT, comment 12). An updated Water Withdrawal Plan Version 1.1 that was submitted by PPML in response to IR 3, and PPML's response to IR 10 about the updated withdrawal volume for groundwater testing also outlined further mitigations that would be employed if it were discovered that a pit to be used for groundwater testing was fish-bearing.

Board staff used the evidence from the regulatory proceeding to draft the preliminary screening related to the groundwater testing considering the possibility for water table changes, changes in groundwater

quality, changes in surface water flow or level and quality, and effects on aquatic habitat. Given PPML's commitment to provide additional analysis to support the compatibility criteria for the groundwater tests, and further mitigations presented so far, Board staff conclude that impacts associated with the groundwater testing will not have a significant adverse impact on the environment and will not be a cause of public concern, as this activity can be appropriately mitigated through the terms and conditions of the Permit and Licence, which could include a requirement for Groundwater Management Plan and Water Withdrawal Plan for Board approval prior to operations occurring.

Wildlife Protection Plan/Wildlife Management and Monitoring Plan

A Wildlife Protection Plan was submitted with the Applications. During the public review on the Applications, DKFN and GNWT recommended that PPML develop a Wildlife Management and Monitoring Plan as per Section 95 of the *Wildlife Act* associated with potential impacts to boreal caribou associated with the Confirmation and Exploration Program (Review Summary – Applications, DKFN, comment 5; GNWT, comment 6). In response, PPML suggested preparing a more detailed proposal to avoid or mitigate impacts to boreal caribou and update the Wildlife Protection Plan accordingly. PPML indicated that they wanted to discuss the changes before GNWT-Department Environment and Natural Resources (ENR) and Parties before a final determination regarding a section 95 of the *Wildlife Act* determination is made. PPML also pointed out that their submission of an Environmental Assessment Initiation Package to the Review Board for mining and milling activities is expected to trigger a Section 95 Wildlife Management and Monitoring Plan. PPML indicated that they believe it would be a better use of resources to focus on the Wildlife Management and Monitoring Plan for the mining and milling project undergoing Environmental Assessment, as opposed to the Confirmation and Exploration Program.

During the technical session, wildlife was discussed on day 2. PPML's consultant reiterated their intention to better define the project activities and mitigations within the Wildlife Protection Plan such that the test for Section 95 is no longer met (February 25, 2021 [transcript](#), page 131). During the wildlife discussion, Board staff asked PPML and GNWT when it is anticipated that it will be determined if a Section 95 Wildlife Management and Monitoring Plan will be required for the Confirmation and Exploration Program (February 25, 2021 [transcript](#), page 178), so that the preliminary screening could be drafted accordingly. GNWT-ENR clarified that the official determination for if a Wildlife Management and Monitoring Plan would be required would be given after a preliminary screening decision (February 25, 2021 [transcript](#), page 185).

On March 12, 2021 PPML submitted a memo which included proposed updates to the Wildlife Protection Plan specifically focused on additional mitigations to boreal caribou proposed by PPML (attached). The Minister of ENR has not yet made a determination as to if a Wildlife Management and Monitoring Plan will be required under section 95 of the *Wildlife Act*. Accordingly, Board staff referenced either the Wildlife Protection Plan or the Wildlife Management and Monitoring Plan as mitigations to certain impacts related to wildlife in the draft preliminary screening. Board staff also used evidence from the proceeding, including the memo submitted by PPML on March 12, 2021, to draft the preliminary screening mitigations associated with impacts to wildlife habitat.

5. Conclusion

Based on the information provided in the application and the public review, the proposed development is not likely to have a significant adverse impact on the environment or be a cause of public concern.

Board staff conclude there are no outstanding issues or concerns with this Preliminary Screening Determination.

6. Recommendation

Board staff recommend the Board:

- a) **Confirm previously screened activities** for Pine Point Mining Limited's Applications for Water Licence MV2020L8-0012 and Land Use Permit MV2020C0017 **are exempt from preliminary screening as per the Exemption List Regulations;** and
- b) **Make a motion to approve the Preliminary Screening and Reasons for Decision** for new Project activities associated with Pine Point Mining Limited's Applications for Water Licence MV2020L8-0012 and Land Use Permit MV2020C0017.

7. Attachments

- [Permit Application](#)
- [Licence Application](#)
- [Project Description](#)
- [Cover Letter](#)
- [Engagement Log and Record](#)
- [Engagement Plan V2.1](#)
- [Spill Contingency Plan](#)
- [Studies Undertaken to date including Traditional Knowledge](#)
- [Waste Management Plan](#)
- [Bedrock Sampling Management Plan Framework](#)
- [Water Withdrawal Plan](#)
- [Groundwater Management Plan Framework](#)
- [Closure and Reclamation Plan](#)
- [Wildlife Protection Plan](#)
- [Map Book](#)
- [Proposed Draft Licence Conditions by PPML](#)
- [Proposed Draft Permit Conditions by PPML](#)
- [Screening Impact Assessment](#)
- [Closure Cost Estimate](#)
- [Board's February 12, 2021 Preliminary Screening Determination for Permit MV2017C0024](#)
- Technical Session Transcripts: [Day 1](#) (Feb 24, 2021); [Day 2](#) (Feb 25, 2021)
- [Information Requests sent to PPML February 26, 2021](#)
- Technical Session Responses to Information Requests:
 - [Response to IR 1 – Water Quality Data](#)
 - [Response to IR 2 – Compatibility Criteria](#)

- [Response to IR 3 – Water Withdrawal Plan V1.1](#)
- [Response to IR 4 – Wastewater Treatment Options](#)
- Response to IR 5 – [RECLAIM Estimate](#) & [RECLAIM Estimate Spreadsheet](#)
- [Response to IR 6 – 10](#)
- [PPML’s Technical Session Presentation \(Feb 24-25, 2021\)](#)
- [Wildlife Protection Plan Updates Memo – March 12, 2021](#)
- Review Summary and Attachments – Applications
- Review Summary and Attachments – Responses to Information Request
- Draft Preliminary Screening Reasons for Decision
 - Draft Letter to Review Board re 10-day pause period

Respectfully submitted,



Kimberley Murray
Regulatory Specialist



Jacqueline Ho
Regulatory Specialist

Review Comment Table

Board:	MVLWB
Review Item:	Pine Point Mining Limited - Land Use Permit and Water Licence Applications (MV2020L8-0012 MV2020C0017)
File(s):	MV2020C0017 MV2020L8-0012
Proponent:	Pine Point Mining Limited
Document(s):	Engagement Log (278.65 kb) Engagement Plan V2.1 (285.36 kb) Land Use Permit Application (681.63 kb) Project Description (4.78 mb) Screening Impact Assessment (7.1 mb) Studies Undertaken to Date and Traditional Knowledge (232.88 kb) Spill Contingency Plan V1.0 (7.1 mb) Waste Management Plan V.1 (761.49 kb) Wildlife Protection Plan V1.0 (1.6 kb) Water Withdrawal Plan V1.0 (53.9 kb) PPML RECLAIM Estimate (550.5 kb) Closure and Reclamation Plan V1.0 (2.92 mb) Mapbooks with Overview (4.95 mb) Bedrock Sampling Management Plan Framework (552.84 kb) Application Cover Letter (522.8 KB) Water Licence Application (630.75 kb) Groundwater Management Plan Framework (701.23 kb) Work Plan Version 1 (259.8 KB) Proposed Draft Permit Conditions by PPML (392.13 kb) Proposed Draft Licence Conditions by PPML (341.27 kb)
Item For Review Distributed On:	Dec 7 at 16:51 Distribution List
Reviewer Comments Due By:	Jan 19, 2021
Proponent Responses Due By:	Feb 2, 2021
Item Description:	<p>Pine Point Mining Limited (the Applicant) submitted a complete application for a type A water licence (licence) and type A land use permit (permit). The purpose of this Application is to conduct a confirmation and exploration program at Pine Point, NT. Activities include exploration by drilling and pitting, geotechnical investigation, aquifer testing, use of heavy machinery and vehicles, construction and maintenance of camps, and fuel storage. The Applicant has requested a term of 7 years for the licence, and a term of 5 years for the permit.</p> <p>Using the Online Review System (ORS), reviewers are invited to submit comments and recommendations on the documents linked below by the review comment deadline specified. Reviewers may also wish to consider providing an</p>

	<p>overarching recommendation regarding whether the Board should approve the submission, to provide context for the comments and recommendations and assist the Board with its decision. Notices of intent to file a claim for water compensation must also be submitted by the review comment deadline. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the Applicant prior to submitting comments and recommendations.</p> <p>Under the Preliminary Screening Requirement Regulations, the Board must conduct a preliminary screening for a proposed development, unless it is exempt from preliminary screening in accordance with the Exemption List Regulations. Reviewers are encouraged to provide comments and recommendations (e.g., on impacts and mitigation measures) to assist with the Board's preliminary screening determination.</p> <p>A draft work plan for this Application has been developed by Board staff. Board staff are requesting that comments on the draft work plan be submitted by email to the staff identified below by January 19, 2021. Board staff are seeking input on whether a technical session or workshop is necessary.</p> <p>Please be advised that comments made by reviewers regarding impacts of this project to wildlife and wildlife habitat in this preliminary screening will inform the GNWT Minister of Environment and Natural Resources' determination regarding whether a Wildlife Management and Monitoring Plan will be required for this project as per section 95 of the <i>Wildlife Act</i>.</p> <p>All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.</p>
Contact Information:	<p>Jacqueline Ho 867-766-7455 Jen Potten 867-766-7468 Kim Murray (867) 766-7458</p>

Comment Summary

Pine Point Mining Limited (Proponent)				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	Groundwater Testing	Comment PPML indicated in the application for Permit MV2020C0017 and Licence MV2020L2-0012 that it was expected that groundwater drawdown tests would remove 3600 m3/day of water from a borehole or pit. PPML has continued collating available historical data from published sources and now considers that a		The Board has ensured that the updated rate, including impacts and mitigations presented in the Technical Session and responses to

		<p>higher rate of water drawdown is indicated. Therefore, PPML is requesting that the application reflects that the volume of water to be moved during groundwater testing is increased to 15,000 m³/day. PPML will continue to place water from like to like - i.e., water drawn from one aquifer or pit would be pumped to the same aquifer or a pit with similar water quality. Prior to pumping, PPML would apply the approach of determining that transfer of water would not have any significant adverse effects on the receiving aquifer or pit, in terms of water quality and volumes or other chemical or physical characteristics. Pumping would not be initiated until this was confirmed. At any time during the test, if an unforeseen circumstance were to arise, PPML would turn off the pumps to stop the movement of water. This process remains unchanged from our initial application.</p> <p>Recommendation N/A</p>		IRs have been included for the preliminary screening.
Deninu K'ue First Nation: Marc d'Entremont				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	Project Description	<p>Comment It is estimated that up 300 drill sites may be drilled. Approximately 200 to 300 sites around the Project area will be used for test pitting and 20 separate sites are expected to be used for the bedrock / metallurgical sampling - for each site a 100 m by 100 m area will be cleared. The specific locations of these sampling areas are not included in the project description and application.</p> <p>Recommendation The Deninu Kue First Nation is presently conducting research on boreal caribou within the current mining lease areas and has identified sampling sites in the area that will be surveyed in August 2021. We want to ensure the proposed exploration activities do not impact this important research.</p>	Feb 2: PPML will continue to engage with DKFN to reduce overlap between our activities as much as possible. PPML expects that impacts of the Project on the DKFN studies can be mitigated.	The Board incorporated PPML's commitment to engage with DKFN to reduce overlap between activities as much as possible in the preliminary screening.
2	Screening Impact Assessment	Comment Members of the Deninu Kue First Nation regularly hunt and trap in the Pine Point area.	Feb 2: PPML commits to continued	The Board incorporated the information about

		<p>Recommendation Further discussion with the DKFN on the location and timing of planned activities, mentioned in the project description, is needed to ensure traditional use of the area is not impacted. Likewise, the planned activities (e.g., movement of large equipment, blasting) should be communicated with DKFN to ensure these do not pose a risk to traditional use activities and land users.</p>	<p>communication and engagement with DKFN when locations and timing of the activities are known and to develop mitigations where required to address potential impacts on traditional land use activities and users. If DKFN can identify any specific areas where there may be overlap with traditional land use, please reach out to PPML to discuss mitigation options.</p>	<p>DKFN's traditional use, and PPML's response, in the preliminary screening.</p>
3	Closure and Reclamation Plan	<p>Comment The closure principles are appropriate and the DKFN would like to work with PPML to ensure these principles and the closure goals are met.</p> <p>Recommendation The DKFN is developing a boreal caribou forage lichen restoration study with the objectives of: 1) enhancing boreal caribou winter forage in the areas that were impacted by natural (fire) and human (industrial) disturbances; and 2) evaluate techniques to establish terrestrial lichen (<i>Cladonia</i> sub-genus <i>Cladonia</i>) within disturbed areas. Sites within the Pine Point area, both historically disturbed and new sites under this project, could be candidate locations to support this study. We recommend PPML work with DKFN to include components of this study in its reclamation plans.</p>	<p>Feb 2: PPML agrees to work with DKFN to incorporate the outcomes of this study in the Closure and Reclamation Plan.</p>	<p>The Board used the comment and response to complete the preliminary screening.</p>
4	Wildlife Monitoring Plan	<p>Comment The project area overlaps boreal caribou critical habitat, which is defined as: 1) the area within the boundary of each boreal caribou range that provides an</p>	<p>Feb 2: The Pine Point area is a highly disturbed brownfield site,</p>	<p>The Board used DKFN's comment and PPML's response to</p>

		<p>overall ecological condition that will allow for an ongoing recruitment and retirement cycle of habitat, which maintains a perpetual state of a minimum of 65% of the area as undisturbed habitat; and 2) biophysical attributes required by boreal caribou to carry out life processes. At the broad scale, these biophysical attributes include mature forests (jack pine, spruce, and tamarack) of 100 years or older, and open coniferous habitat. Large areas of spruce peat land and muskeg with preference for bogs over fens and upland and lowland black spruce forests with abundant lichens, and sedge and moss availability.</p> <p>Recommendation The biophysical attributes for boreal caribou critical habitat are within the project area; therefore the selection of drill and test locations and their associated access (e.g., trails) should consider direct impacts to these attributes. We recommend a reconnaissance of proposed investigation sites and access be conducted to confirm the presence of biophysical attributes important to boreal caribou. Where these are present, alternate investigation sites and/or access should be explored.</p>	<p>and its reduced functionality as critical habitat for boreal caribou by historical mining operations is known. As indicated in Figure 2 and Appendix B of the Project Description, and in the Mapbook provided with the application, the area is defined by existing haul roads, access roads, trails, seismic lines, open pits, waste rock piles and tailings. There is also significant use of the Pine Point road system by the public. PPML intends to confine the exploration activities to previously disturbed areas to the extent possible. The Wildlife Protection Plan outlines measures that will be implemented for the limited occasions where new vegetation clearing may be required. Nonetheless, boreal caribou have been observed in the area and PPML will continue to work</p>	<p>complete the preliminary screening.</p>
--	--	---	---	--

			with the DKFN to better understand the concerns and find ways to further mitigate impacts.	
5	Wildlife Management and Monitoring Plan	<p>Comment Wildlife Management and Monitoring Plan</p> <p>Recommendation Based on the above noted recommendations, we recommend PPML prepare a Wildlife Management and Monitoring Plan, per section 95 of the Wildlife Act, in collaboration with the DKFN.</p>	<p>Feb 2: The Wildlife Protection Plan submitted provides a template for a document that could eventually be approved as a Wildlife Management and Monitoring Plan under Section 95 of the Wildlife Act, and was developed using the GNWT Wildlife Management and Monitoring Plan (WMMP) Process and Content Guidelines. The application currently under consideration is for continued mineral exploration to gather information for a future mine. This exploration will continue to be seasonal, will cause limited new disturbances, will focus on brownfield sites and will require limited personnel, and will be updated to incorporate the comments</p>	<p>The requirement to submit a Wildlife Management and Monitoring Plan is depending on the GNWT Minister of ENR's determination as per section 95 of the <i>Wildlife Act</i>. The Board was not made aware of the Minister making this decision at the time of the preliminary screening decision, the Board has indicated that either a WMMP or Wildlife Protection Plan will be submitted by PPML to address impacts and mitigations associated with wildlife and wildlife habitat for the CEP.</p>

			provided here. As such, PPML prefers that the Section 95 focus on the mine rather than the ongoing exploration. Regardless, PPML welcomes any specific suggestions for the Wildlife Protection Plan by the DKFN.	
Environment and Climate Change Canada: Victoria Shore				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
12	General File	Comment (doc) BankSwallow_Sandpits&Quarries Recommendation		
1	Reference: Groundwater Management Plan Framework Section 1.0 Introduction and 2.0 Background	Comment The purpose of the planned aquifer testing is to obtain hydrogeological data and parameters that will enable the development of quantitative models of groundwater movement and flow rates for the aquifers to support future groundwater management planning. A final version of the groundwater management plan will be submitted to the MVLWB by Pine Point Mining Ltd. (PPML) once these details are determined. Groundwater is not being consumed during the aquifer testing as all groundwater will be returned to the natural environment; however, groundwater monitoring during aquifer testing is recommended to further the understanding of the groundwater system. Proponent states that "Groundwater is not being consumed during the aquifer testing as all groundwater will be returned to the natural environment". Further the proponent indicates that "Limited data on groundwater quality are available; however, it is reported the quality of the near surface perched overburden aquifer is better than that of the bedrock Presquile Aquifer, but is still considered undesirable and is not used as a	Feb 2: PPML thanks ECCC for this input and will endeavor to address this concern in the next version of the Groundwater Management Plan, to be submitted when more information on the proposed groundwater testing is available.	The Board has used ECCC's recommendation to complete the preliminary screening, and note that this topic was discussed during the technical session and resulted in IR 2.

		<p>drinking source. Indigenous Traditional Knowledge holders confirmed the area's ground and surface waters are poor, describing the water as alkaline, sulphurous, and generally not drinkable (MVEIRB 2008). It is expected the bedrock aquifer may contain elevated metals if it is in contact with the lead-zinc deposits." It is not clear to ECCC what the quality of the groundwater that would be extracted would be before it is returned to the environment and what is the impact on the receiving environment. The proponent should ensure that the water being returned to the environment is not deleterious.</p> <p>Recommendation ECCC recommends that the Proponent demonstrate that the water to be returned to the environment does not have a negative impact on the environment. ECCC also recommends that the Proponent demonstrate that the groundwater being returned to the receiving environment is not connected to the Great Slave Lake given its proximity to the site.</p>		
2	Reference: Screening Impact Assessment Section 2.1 Project Summary	<p>Comment Sludge produced by the treatment of sewage is to either be incinerated on site or transported to a licenced sewage lagoon. ECCC notes that if sludge is to be incinerated, an incinerator rated for this feed source should be used. Concerns include high moisture content in sludge, which can result in high auxiliary fuel use or incomplete combustion, and potential emissions of metals and organic micropollutants.</p> <p>Recommendation ECCC recommends that if sludge from sewage treatment is to be incinerated, the incineration equipment used be rated specifically for this use, as described in the National Guidelines for Hazardous Waste Incineration Facilities (CCME 1992). https://www.ccme.ca/files/Resources/waste/hazardous/pn_1076_e.pdf</p>	Feb 2: This is noted and the Waste Management Plan will be updated to comply with the guidelines and all regulatory requirements if the incineration of sewage sludge is required.	The Board used the comment and response to complete the preliminary screening.
3	Reference: Groundwater Management	<p>Comment Water quality is to be compared for compatibility for transfers between pits. This appears to be based solely on field-</p>	Feb 2: PPML thanks ECCC for this input and will	See Board Decision for ECCC, comment 1.

	Plan Framework Table 1: Preliminary Summary of Groundwater Management during Testing	<p>measured parameters of pH, temperature, redox potential, and Total Dissolved Solids (TDS). If water transfers are to be done to historic pits which have become frequented by fish, more robust chemical characterization should be done prior to transfer of water into these pits. A full suite of parameters including total metals should be analysed, and the chemistry reviewed to ensure water transfers into fish-frequented pits are non-deleterious.</p> <p>Recommendation ECCC recommends 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.</p>	address this recommendation in the next version of the Groundwater Management Plan, including plans to avoid fish-bearing waters.	The Board used ECCC's recommendation re: ensuring water transfers are non-deleterious to complete the preliminary screening.
4	Reference: Groundwater Management Plan Framework Table 1: Preliminary Summary of Groundwater Management during Testing Section 4.2 Sampling Parameters	<p>Comment Comparisons of pit water compatibility are to be made based on field measurements of several parameters, and following pumping test samples may be done and evaluated for a change in chemistry where there is a pressure response to pumping. This version of the Plan does not provide information on what would be considered incompatible; Section 4.2 states that criteria will be developed for a future version of the plan. There should also be details regarding what steps would be taken if a change in chemistry was observed.</p> <p>Recommendation ECCC recommends that the Proponent identify what pit water quality differences would be considered incompatible for transfer to other pits or extraction wells, and 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.</p>	Feb 2: PPML thanks ECCC for this recommendation and PPML will endeavour to address this issue in the next version of the Groundwater Management Plan.	See Board Decision for ECCC, comment 1.
5	Reference: Screening Impact Assessment Table 3: Screening-level	Comment Table 3 notes Changes to Air Quality may result only from dust from drilling and use of roads, plus air emissions (and greenhouse gases) from equipment/vehicles. The Project Description (Section 2.1) indicates waste incineration and blasting at approximately 200-300 test	Feb 2: PPML does not intend to update the Screening Impact Assessment, as it is intended only to support the	The Board has considered ECCC's recommendation regarding: emissions sources to complete the

	Environmental Assessment for the Confirmation and Exploration Program Section 2.1 Project Summary	<p>pits. Incineration and blasting can have emissions to the atmosphere that may not have been considered in the Screening Impact Assessment.</p> <p>Recommendation ECCC recommends that the Proponent include waste incineration and blasting as potential emissions sources in considering changes to air quality. Consider mitigation methods to minimize impacts from all sources of air pollutants.</p>	Preliminary Screening process. Updates to the relevant management plans will be made if required as the Project details are developed. However, the MVLWB should consider this information in their Preliminary Screening.	preliminary screening.
6	Reference: Waste Management Plan Section 6 Incinerator Operation Table 2: Waste Types Potentially Generated	<p>Comment Table 2 of the Waste Management Plan notes that greater than 120 tonnes per year of waste may be incinerated. Incinerators should follow Canadian Council of Ministers of the Environment (CCME) guidelines provided in National Guidelines for Hazardous Waste Incineration Facilities (https://www.ccme.ca/files/Resources/waste/hazardous/pn_1076_e.pdf). Large incinerator facilities (>120 tonnes per year) may be subject to annual dioxin/furan and mercury stack tests according to CCME Canada-wide standards for dioxins, furans, and mercury (https://www.ccme.ca/files/Resources/air/dioxins_furans/waste_incinerators_coastal_pulp/d_and_f_standard_e.pdf; https://www.ccme.ca/files/Resources/air/mercury/mercury_emis_std_e1.pdf).</p> <p>Recommendation ECCC recommends that the Proponent consider the need for annual stack testing of incinerator according to Canada-Wide Standards for dioxins, furans, and mercury, plus other requirements outlined in the National Guidelines for Hazardous Waste Incineration Facilities.</p>	Feb 2: Proposals for stack testing (if required) will be provided in an updated version of the Waste Management Plan.	The Board has used ECCC's recommendation, and PPML's response, to complete the preliminary screening.
7	Species at risk potentially interacting with the project	<p>Comment Species at risk are assessed by the Committee on Status of Endangered Wildlife in Canada (COSEWIC) or added to Schedule 1 of the Species at Risk Act (SARA) on a regular basis. It is important for the</p>	Feb 2: The Wildlife Protection Plan will be updated to include these species.	The Board has used the information about additional SAR to complete the

	<p>References: Wildlife Protection Plan, Section 4.0, Table 2: Wildlife species of concern that may interact with the Project.</p> <p>Screening-Level Environmental Assessment for the Confirmation and Exploration Program - Pine Point Project, Section</p>	<p>proponent to ensure they are aware of what species are present in the project area and take appropriate actions to avoid or minimize project impacts. A list of wildlife species of concern is provided in Table 2 of the Wildlife Protection Plan. ECCC notes that Red-necked Phalarope, Short-eared Owl and Lesser Yellowlegs are missing and should be added to Table 2. Lesser Yellowlegs was recently assessed by COSEWIC as Threatened in November 2020. The Proponent should also confirm with Government of the Northwest Territories - Environment and Natural Resources (GNWT-ENR) the likely presence of Suckley's Cuckoo Bumble Bee and Transverse Lady Beetle as the range of these species also overlaps the project.</p> <p>Recommendation ECCC recommends that Table 2 be updated with Red-necked Phalarope, Short-eared Owl and Lesser Yellowlegs and that the Proponent consult with GNWT-ENR on the likely presence of Suckley's Cuckoo Bumble Bee and Transverse Lady Beetle. ECCC also recommends that the Proponent review Table 2 on a regular basis by consulting the Species at Risk registry and update the mitigation and monitoring measures of the Wildlife Protection Plan, as necessary, throughout the duration of the project.</p>		preliminary screening.
8	<p>Mitigation for migratory birds</p> <p>Reference: Wildlife Protection Plan Section 6.3 Bird Nesting and Bat Roosting Monitoring and Appendix B</p>	<p>Comment ECCC notes that efforts will be made to use existing disturbed areas and to avoid the migratory bird nesting period for any additional vegetation clearing. However, as noted in the Wildlife Protection Plan (WPP), there may be situations where this is not possible due to schedule changes or unforeseen circumstances. Non-intrusive pre-clearing surveys for migratory birds will be developed on a case-by-case basis for these situations. ECCC is supportive of non-intrusive surveys as a mitigation measure, but based on the information provided in the WPP is concerned about potential residual impacts. As currently written, the protocols are unclear as to whether</p>	<p>Feb 2: PPML will provide more detail on nest monitoring and the pre-clearing monitoring as requested by ECCC in the next version of the Wildlife Protection Plan.</p>	<p>The Board used PPML's commitment to complete the preliminary screening.</p>

		<p>indication of nesting (e.g. territorial calls heard, etc.) is a criteria for postponing or avoiding clearing activities and whether Pine Point Mining Ltd. (PPML) staff will be skilled and experienced enough bird observers to detect the presence of inconspicuous birds. The likelihood of finding a bird nest is quite low, even with experienced observers, in more complex habitats such as forested areas. In addition, there is no mention of the potential time lag between surveys and clearing which also influences the effectiveness of these surveys.</p> <p>Recommendation ECCC recommends that additional details be added to the non-intrusive pre-clearing survey protocols to minimize potential residual impacts and ensure compliance with regulations. Additional details for these types of surveys should include: • Clearer criteria for postponing or avoiding activities • Use of skilled and experienced bird observers • Minimizing the time-lag between surveys and clearing</p>		
10	Species at Risk - Bank Swallow Reference: Wildlife Protection Plan Section 6.3 Bird Nesting and Bat Roosting Monitoring and Appendix B	<p>Comment (doc) Bank Swallow is listed as Threatened on Schedule 1 of the federal Species at Risk Act. Bank swallows are known to nest at quarries and on stockpiles and have been observed at Pine Point in the past (Table 2). Prevention is an important means to minimize operational delays. There is no mention in the Wildlife Protection Plan of an intent to maintain slopes for stockpiles and overburden at less than 70 degrees (i.e. unsuitable habitat for bank swallows) in active areas during the breeding season. ECCC also notes that the proposed frequency of nesting monitoring in the Wildlife Protection Plan (Section 6.3) is insufficient, particularly at active quarries and borrow pits. This should be increased to 2-3 times per week during peak nest initiation period (approx. late May to early July) to allow the timely implementation of protective measures should colonization by bank swallows occur. Adequate prevention</p>	Feb 2: This update will be made in the next version of the Wildlife Protection Plan.	The Board used PPML's commitment to complete the preliminary screening.

		<p>and monitoring are necessary at active quarry and borrow sites as birds can initiate nests within a few short days, especially if there is a pause or slow down of project activities during the peak of the nesting season. Ensuring operational staff are aware of the potential presence and interaction with bank swallows is also very important and lacking in the Wildlife Protection Plan. Daily inspections by operational staff before starting any disruptive activities in active quarries and borrow pits should also be implemented. The Proponent should consult the attached ECCC pamphlet for additional information.</p> <p>Recommendation ECCC recommends that the Wildlife Protection Plan be revised to include additional measures for the protection of bank swallows and to prevent operational delays. Additional measures should include: &bull; Maintaining stockpile and overburden slopes in active areas at less than 70 degree, where possible &bull; Increase nesting monitoring by PPML Environment staff in active quarries and borrows pits between late May and early July &bull; Ensure PPML operational staff and contractors are aware of potential presence and interactions with bank swallows and conduct daily inspections before starting disruptive activities in active quarries and borrow pits. The Proponent should consult the attached ECCC pamphlet for additional information.</p>		
11	Species at Risk - Whooping Crane Reference: Wildlife Protection Plan Section 6.4 Pre-Clearing Monitoring and Appendix B	<p>Comment Whooping Crane is listed as Endangered on Schedule 1 of the federal Species at Risk Act. Whooping cranes, particularly non-breeding sub-adults, may be present on site or in the surrounding area and have been observed in the past (Table 2). Whooping Cranes are sensitive to disturbance. Given their conservation status, additional measures are required to mitigate and/or minimize sensory disturbances from project activities. Whooping Cranes should be added to the list of wildlife species being searched for</p>	<p>Feb 2: This update will be made in the next version of the Wildlife Protection Plan.</p>	<p>The Board used PPML's commitment to complete the preliminary screening.</p>

		<p>within 500m during pre-clearing surveys (Section 6.4 of the WPP) during the entire period when they may be present near the project. This search radius is currently only reserved for large mammals and raptor nests. This is more protective than the proposed search radius of 30m applied for all migratory birds. There are currently no measures in the Wildlife Protection Plan to mitigate potential sensory disturbance to Whooping Cranes from the proposed drilling or blasting activities of the CEP Program. Such measures would also be beneficial for other species at risk (e.g. Boreal Caribou and Wood Bison).</p> <p>Recommendation ECCC recommends that Whooping Cranes be searched for during pre-clearing surveys within 500m of an area to be cleared (Section 6.4). ECCC recommends that the Wildlife Protection Plan be revised to include mitigation measures for Whooping Cranes and other species at risk (e.g. Boreal Caribou and Bison) for the proposed drilling and blasting activities to minimize disturbance.</p>		
Fisheries and Oceans Canada: Triage Group Fisheries Protection Program				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	Pine Point Mining Limited - Land Use Permit and Water Licence Applications (MV2020L8-0012 MV2020C0017)	<p>Comment (doc) Your proposal has been reviewed to determine whether it is likely to result in the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the Fisheries Act; and, effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the Species at Risk Act.</p> <p>Recommendation Fisheries and Oceans Canada does not have sufficient information to determine whether the proposed work will result in the death of fish and/or the harmful alteration, disruption or destruction of fish habitat. We recommend the</p>	<p>Feb 2: PPML will submit a Notification Form and will comply with the End-of-Pipe code of practice and the measures to protect fish.</p>	<p>The Board used PPML's commitment to complete the preliminary screening.</p>

		proponent review the Interim Code of Practice for End-of-pipe fish screens (https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html) and the Measures to Protect Fish and Fish Habitat (http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html). If the project is able to comply with the conditions and measures set out in the Interim Code of Practice, a project review by Fisheries and Oceans Canada is not required; however, we recommend that a Notification Form be submitted. If the project is unable to comply with the Interim Codes of Practice or the Measures to Protect Fish and Fish Habitat, we recommend that the proponent submit a Request for Review (http://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/forms-formes/request-demand-eng.pdf) of the project.		
GNWT - Lands - Hay River Region: Jayda Robillard				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	26(1)(a) Location and Area - Condition 8 Width ROW	Comment The brush may be cleared by using power tools or by using heavy equipment such as a dozer, grader, loader or similar equipment pieces. Felled trees will be bucked and placed on the ground near the access trail to be subsequently spread back over the drill site and access trail during the reclamation of the drill site. The new access trails will be approximately 10 Meters wide Recommendation The Inspector encourages that the widths of all newly constructed ROWs and access roads be minimized where possible. The 10m maximum width should only be used where necessary.	Feb 2: PPML agrees with this approach and will endeavour to minimise the width of newly constructed ROWs	The Board used PPML's commitment re: minimizing newly constructed ROWs to complete the preliminary screening.
2	26(1)(a) Location and Area - Post Signs	Comment Pine Point area is used both by hunters and Recreational users from Ft Resolution and Hay River who should be made aware of the activity in the area so no conflicts or accidents occur. Recommendation Add Condition - The Permittee shall post signs and notices to avoid conflict with recreational users.	Feb 2: Noted	The Board used the GNWT Lands Inspector's recommendation to complete the preliminary screening.

GNWT - Lands: Horatio Sam-Aggrey				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
61	General File	Comment (doc) GNWT Cover Letter Recommendation		
62	General File	Comment (doc) Maps in support of GNWT comments Recommendation		
63	General File	Comment (doc) ARKTIS Memo on PPML CEP Recommendation		
2	1. Wildlife: Potential Impacts to Boreal Woodland Caribou	Comment The Proponent has not provided sufficiently detailed information in their application for GNWT to assess the potential for significant adverse impacts to boreal caribou, or whether potential impacts to boreal caribou can be mitigated. Pine Point Mining Ltd.'s (PPML) Confirmation and Exploration Program (CEP) is within the range of boreal woodland caribou, which are listed as a threatened species under both the federal Species at Risk Act and the Species at Risk (NWT) Act. The CEP will involve drilling at over 3000 sites at unspecified locations within the Proponent's mineral claims and leases, as well as clearing new 10m wide access trails, clearing drill sites and test pit locations, blasting or using a rock breaker attachment on an excavator at an unspecified number of sites to obtain metallurgical samples, digging test pits at 200-300 sites using dozers, excavators, loaders and dump trucks, and construction of temporary water pipelines. These activities have the potential to cause sensory disturbance, direct habitat loss, indirect habitat loss through avoidance of areas of sensory disturbance, creation or widening of new access trails which could facilitate access for predators, hunters, and recreational land users, and potential for direct mortality from wildlife-vehicle collisions. Although the Proponent has provided a high-level assessment of these types of impacts in their Screening Impact Assessment or Wildlife Protection Plan, they have not specifically assessed their	Feb 2: PPML recognizes the need to protect boreal caribou in the Pine Point area, and the maps provided by GNWT-ENR provide a helpful summary of when and where these caribou these caribou are likely to be present. As PPML does not currently have sufficient information to respond to the GNWT-ENR recommendation, we request additional time to gather information and discuss options to avoid boreal caribou with GNWT-ENR. PPML has requested the raw satellite collar data, and will use this to compare caribou movement and distribution with the CEP	<p>The Board notes that impacts to boreal woodland caribou was discussed during the technical session, and following the technical session PPML provided a Wildlife Protection Plan Updates Memo (March 12, 2021).</p> <p>The Board have used the information on the record to complete the preliminary screening regarding impacts and mitigations to boreal caribou.</p> <p>Also see Board Decision for DKFN, comment 5.</p>

		<p>implications for boreal caribou, nor have they proposed specific mitigation measures for boreal caribou that could help to minimize some of these impacts. The Government of Northwest Territories (GNWT) is of the view that impacts to boreal caribou could be significant, because the GNWT data indicates that boreal caribou in the Pine Point area may represent a small local population with little chance for rescue from adjacent local populations if their numbers decline. The GNWT started monitoring boreal caribou in the Pine Point and Buffalo Lake areas in 2015 using GPS collars, with the goal of having at least 15 active collars in each of these areas on an annual basis. The GNWT also monitors boreal caribou to the west of the Hay River in the Hay River Lowlands study area, and monitored in the Cameron Hills area up until 2010. Boreal caribou monitoring programs across the South Slave administrative region indicate relatively little movement of boreal caribou from east to west across the Hay River, as well as little spatial overlap between caribou collared in the Pine Point area and those collared west of Buffalo Lake. This suggests that boreal caribou in the Pine Point area represent a small local population within the broader NWT boreal caribou range. Annual spring classification surveys of boreal caribou conducted in the Pine Point area between 2018- and 2020 have recorded 42- to 63 boreal caribou in the area. Although the spring composition surveys are not designed to estimate abundance, given that multiple collared caribou often occur within the groups classified, the GNWT believes that most of the caribou groups in this area have been counted in these surveys. The GNWT suggests that a reasonable population estimate for boreal caribou in the Pine Point area may be 100- to 150 individuals. Boreal caribou movement data collected over the past 5 years (up to end of June 2020) indicates substantial use of the</p>	<p>requirements. The outcome of this review will form the basis of further conversations regarding the Wildlife Protection Plan.</p>	
--	--	---	--	--

		<p>Proponent's CEP area, particularly to the west and south of the most heavily disturbed areas of the former Pine Point Mine site. Attached are two figures showing collar locations and movement paths of individual boreal caribou colour coded by behavioural season. Figure 1 and Figure 2 display movement data from 27 caribou collared between 2015 and 2020, and indicate year-round use of the western half of PPML's mineral leases and mineral claims, with a prominent north-south movement corridor across mineral leases NT-4858, NT-4859, NT-5258, NT-5259, NT-5260, NT-4861, NT-4862, NT-4863, NT-4864, NT-4871, NT-4872, and NT-4873, and mineral claims (those that don't overlap with the mineral leases listed above) M10835, M10837, M10838, M10842, M10844, M10845, M10550, M10551, M10552, M10553, M10554, M10862, M10868, M10869, M10877, M10878, M10879, M10880, M10514, M10515, M10516. Figure 3 illustrates the minerals leases and claims with the highest densities of collar locations. Although PPML's Screening Impact Assessment acknowledges that the project area overlaps with the range of boreal caribou, it is insufficient to properly assess the impact of their operation on the local boreal caribou population. The screening assessment identifies that there will be direct habitat loss, sensory disturbance to wildlife, and potential for direct mortality; however, it does not specifically assess the potential significance of these impacts on boreal caribou, nor does it consider the cumulative impacts of their project alongside other past, present and reasonably foreseeable developments in the context that boreal caribou is a threatened species in the NWT. PPML's Screening Impact Assessment concludes that most effects will be localized, and reversible, based on the assumption that many potential impacts will be mitigated by preferentially using</p>		
--	--	---	--	--

		<p>previously disturbed areas. Given that much of the disturbance in the western portion of the project area consists of narrow linear features (likely trails associated with former prospecting and exploration activities) that may have regenerated sufficiently to be used by caribou, relying on preferential use of historic disturbances may not offer the mitigation advantage it might in other areas. The extent of new habitat disturbance that will result from creating new access and clearings for various activities, as well as clearing of existing narrow and partially-regenerated trails to a width of 10 m, has not been adequately quantified in PPML's application. The duration, timing, frequency, and location of activities that will cause sensory disturbance to boreal caribou (drilling, blasting, excavating, hauling, etc.) also have not been adequately defined. PPML has not included facilitation of predator and human access into areas currently used by boreal caribou in their Screening Impact Assessment (but it is mentioned in their existing Wildlife Protection Plan). While the GNWT acknowledges that PPML has prepared a Wildlife Protection Plan, the plan does not include any specific measures to mitigate impacts of sensory disturbance to boreal caribou such as timing their activities in specific locations to avoid the most sensitive seasons for boreal caribou such as late-winter (16 Mar - 1 Apr), calving and post-calving periods (1 May - 30 Jun). Table 3 in the Wildlife Protection Plan cites the use of "conventional and best-practice methods to suppress noise on components and equipment, including regular maintenance where required." but does not specify what best practices might be employed. No pre-blast surveys are proposed to document the presence of boreal caribou, or other wildlife species, prior to blasting. Finally, monitoring proposed in the current Wildlife Protection Plan (Ver. 1.0) is insufficient to adequately guide PPML activities in the area to</p>		
--	--	--	--	--

		<p>minimize impacts to caribou or to determine the extent of residual impacts to boreal caribou and habitat resulting from the proposed activities.</p> <p>Recommendation 1) The GNWT recommends that PPML provide more detailed information on the specific locations, timing and frequency of activities proposed for this project, as well as an estimate of how much new habitat disturbance will occur as a result of widening existing trails, creating new access trails, and clearings for drill sites, test pits, and water pipelines, so that impacts to boreal caribou and their habitat can be properly assessed.</p>		
3	None	<p>Comment None</p> <p>Recommendation 2) The GNWT recommends that the Board require further studies under Mackenzie Valley Land Use Regulations, section 22 (2) (b). It is the GNWT's understanding that the Board cannot make a preliminary screening decision until after further studies have been completed.</p>	Feb 2: Noted	The Board made a 22(2)(b) determination for Permit MV2020C0017 on January 20, 2021 .
4	None	<p>Comment None</p> <p>Recommendation 3) The GNWT recommends that PPML work with the GNWT to conduct a population survey to determine how many boreal caribou occur within the project area.</p>	Feb 2: PPML is willing to discuss this with the GNWT.	See Board Decision for GNWT, Comment 2.
6	3. Wildlife Management and Monitoring Plan (WMMP)	<p>Comment The GNWT appreciates that Pine Point Mining Ltd has included a Wildlife Protection Plan - Ver. 1.0 in its application for the proposed Confirmation and Exploration Program which is consistent with advice provided in the WMMP Process and Content Guidelines that it is a best practice for all Proponents to submit a basic (Tier 1) WMMP with their application for authorizations. The GNWT notes that PPML's proposed Confirmation and Exploration Program is an advanced mineral exploration program requiring a Type A Water Licence which, according to Section 3.1.1 of the WMMP Guidelines, is a type of project deemed always likely to satisfy one</p>	Feb 2: As stated in response to GNWT-ENR#2, PPML has requested the raw data for the collared caribou movements and review priorities for the CEP, with which to prepare a more detailed proposal to avoid or mitigate impacts to boreal caribou. This	See Board Decision for GNWT, Comment 2.

		<p>or more of the criteria set out in Section 95(1)(a-d) of the Wildlife Act. As such, at the completion of the current public review period associated with PPML's application, PPML can expect to receive a letter from the Minister of ENR containing the Minister's likely determination that an approved WMMP will be required for this project to proceed, identification of which tier of WMMP is required, and confirmation of the process for fulfilling this requirement. The GNWT notes that if a Minister approved WMMP is required for the project, as per paragraph 13(3)(2) of the Wildlife Regulations, "No person or body required to prepare a wildlife management and monitoring plan may undertake or engage in the development, proposed development or activity until the plan is approved by the Minister".</p> <p>Recommendation 1) The GNWT recommends that PPML take into account all reviewers' views on the sufficiency of the mitigation and monitoring measures outlined in PPML's Wildlife Protection Plan Version 1.0 in revising its plan to develop a Wildlife Management and Monitoring Plan for this project that satisfies the Minister of The GNWT's requirements as laid out in Section 95(2) of the Wildlife Act and the WMMP Process and Content Guidelines.</p>	<p>proposal may include delineating areas and times where no exploration activity may occur, and additional steps to mitigate impacts if activity is required in times and places where caribou may be present. PPML requests additional time to collect more information, update the Wildlife Protection Plan accordingly, and discuss the changes with GNWT-ENR and other interested parties before GNWT-ENR makes a final decision regarding Section 95 of the Wildlife Act. PPML recognizes that Section 95 of the Wildlife Act may still be triggered after these changes, and that the CEP may not proceed until GNWT-ENR approval under Section 95 has been granted. Note also that PPML is intending to trigger an environmental assessment for the proposed mine before this</p>	
--	--	--	---	--

			regulatory process for exploration permit is concluded. The submission of the Environmental Assessment Initiation Package is expected to trigger the requirement for of a WMMP under Section 95 of the Wildlife Act. As such, PPML believes it would be a better use of resources to focus on a Section 95 approval process for the mine, rather than going through the process twice, once for exploration and again for mining.	
7	None	Comment None Recommendation 2) In particular, the GNWT recommends that PPML ensure that the WMMP prepared for the CEP program explicitly contain elements minimizing and monitoring impacts to boreal caribou and boreal caribou habitat associated with this project.	Feb 2: PPML will take this into consideration when preparing the next version of the Wildlife Protection Plan.	See Board Decision for GNWT, Comment 2.
8	4. Disturbance and Harassment of Wildlife due to Blasting	Comment The Project Description discusses drilling operations (Section 6.0 - Resource Definition and Exploration Core Drilling; Section 7.1 - Drilling) and blasting operations (Section 8.1 - Bedrock Sampling). However, mitigations for potential effects to wildlife from drilling and blasting operations are only briefly discussed under Table 3 and Section 6.4 (Pre-Clearing Monitoring) in the existing Wildlife Protection Plan (Ver. 1.0). The Proponent should ensure that greater detail on the procedure for pre-clearing	Feb 2: PPML understands that the intent is to limit disturbance to wildlife, and will provide more detail on surveys for big game occur prior to the vegetation clearing that would precede drilling or	The Board used PPML's commitment to include more details on surveys for big game prior to vegetation clearing that would precede drilling or blasting to complete the

		<p>monitoring of big game is discussed in the revised WMMP. It is important that no wildlife is within the range of drilling or blasting activities that would cause them disturbance or physical harm.</p> <p>Recommendation 1) PPML should ensure the revised WMMP includes mitigations for potential negative impacts on big game while drilling or blasting. The following mitigations for drilling and blasting activities should be included in the WMMP: a) Survey the area for presence of big game prior to drilling or blasting; b) Drilling or blasting should be delayed until all big game have moved outside of the range of influence; c) If they do not move within 15 minutes, they may be gently encouraged to move away from the site; d) Deterrence should involve the slow approach by vehicle towards the animal or making your presence known by calling out and waving your arms to encourage them to move; and, e) This should be done from behind a vehicle or piece of equipment to prevent personnel from going too close to the animal.</p>	<p>blasting. Further detail will be provided on deterrent procedures in the next version of the Wildlife Protection Plan.</p>	<p>preliminary screening.</p>
10	5. Wildlife: Bear Den Surveys	<p>Comment There is no mention in the Wildlife Protection Plan of the requirement to conduct surveys to determine if there are any known bear dens prior to earthworks, vegetation clearing, or blasting. Subject to sub-section 51(2) of the Wildlife Act, it is illegal to break into, destroy or damage a den unless you have an Aboriginal or treaty right, license or a permit to do so.</p> <p>Recommendation 1) Within the revised WMMP, PPML should include pre-activity surveys within 800m of areas where vegetation clearing, earthworks or blasting is scheduled to occur between September 30 and March 30 to identify active bear dens. Surveys should be conducted in the fall shortly after the first snow fall to detect freshly dug dens.</p>	<p>Feb 2: PPML understands the need to protect bear dens. PPML will update the Wildlife Protection Plan to include investigations for bear dens where possible considering the timing of the activities.</p>	<p>The Board used PPML's response to complete the preliminary screening.</p>
11	None	<p>Comment None</p> <p>Recommendation 2) If an active bear den is detected, or suspected, implement and</p>	<p>Feb 2: See above.</p>	<p>See Board Decision for GNWT, comment 10.</p>

		maintain an 800 m buffer zone until the bear emerges in spring.		
12	None	Comment None Recommendation 3) If the bear den and exclusion zone would result in the halt of part or the entire program, PPML should contact the GNWT to discuss alternative mitigation options. The location of active bear dens should be kept confidential between the developer and the GNWT until after emergence in the spring.	Feb 2: See above.	See Board Decision for GNWT, comment 10.
14	7. Wildlife: Food Storage and Waste Handling	Comment Section 4.2 (Management of Non-Mineral Non-Combustible Waste) of the Waste Management Plan states that non-combustible solid waste will be stored in secure containers. However, the Proponent should ensure that the Waste Management Plan also more explicitly include a statement about storing waste which may attract wildlife in wildlife-proof containers, and that those containers should be regularly cleaned. Subject to sub-section 66(1) of the Wildlife Act no person shall store food, waste, or other substances in a manner that may attract big game and put people, domestic animals or wildlife in danger. Recommendation 1) The GNWT recommends PPML amend the Waste Management Plan to include storing waste which may attract animals in wildlife-proof containers, and that those containers will be regularly cleaned.	Feb 2: PPML agrees to make this clarification to the Waste Management Plan.	The Board used PPML's commitment about the update to the Waste Management Plan to complete the preliminary screening.
16	8. Bear Safety Training	Comment The current Wildlife Protection Plan (Ver. 1.0) does mention that employees and contractors should be provided with wildlife awareness training. However, the Proponent should also include specific mention that bear training should be required for all employees and contractors. Recommendation 1) PPML should ensure that all field personnel have completed a bear safety training course to decrease the risk of attracting bears to work sites and threats to human safety, learn how to respond to bear encounters, and decrease	Feb 2: PPML camp managers will obtain this training and communicate bear response procedures to workers. Bear response procedures will be included in the camp orientation.	The Board used the recommendation and response to complete the preliminary screening.

		the risk of wildlife mortality resulting from kills in defense of life and property.		
19	10. Species at Risk	<p>Comment Section 76 and 77 of the Species at Risk (NWT) Act requires the Minister of ENR to make a submission to the body responsible for assessing the potential impacts of a proposed development, or for considering a Land Use Permit or Water Licence application, respecting the potential impacts of the proposed development, Permit or Licence application on a NWT-listed or pre-listed species or its habitat. NWT-listed species are those that are on the NWT List of Species at Risk. Pre-listed species are those that have been assessed by the NWT Species at Risk Committee (SARC) but have not yet been added to the NWT List of Species at Risk. PPML should be aware that NWT-listed or pre-listed species at risk and their habitat may also be subject to protection under existing sections of the NWT Wildlife Act. The project area overlaps with the ranges of the following NWT-listed and/or pre-listed species; information on these species is available at the following link: https://www.nwt-species-at-risk.ca/SpeciesAtRisk/. Northern Leopard Frog - Threatened in the NWT . Wood Bison - Threatened in the NWT . Boreal Caribou - Threatened in the NWT . Little Brown Myotis (bat) - Special Concern in the NWT . Northern Myotis (bat) - Special Concern in the NWT Potential impacts to the species at risk listed above from the project include sensory disturbance, disturbance or destruction of habitat, risk of injury, risk of mortality, risk of contact with or ingestion of toxic substances, reduced habitat quality, and disruption or barriers to movements or migration. The GNWT has identified substantial concerns about the potential impacts of this project to boreal caribou, which are outlined in the boreal caribou-specific comments and recommendations above. The GNWT is satisfied that application of the mitigation measures</p>	<p>Feb 2: Searches for bat maternity roosts are already included in the Wildlife Protection Plan Bird Nesting and Bat Roosting Activity Procedure for summer operations and can be added to the Pre-Clearing Survey Procedure for other times of year.</p>	<p>The Board updated the preliminary screening based on the recommendation and response.</p>

		<p>outlined in PPML's current Wildlife Protection Plan (Ver. 1.0) to conduct vegetation clearing outside of critical (nesting) periods for migratory birds, and to conduct pre-clearing surveys if vegetation will occur during the nesting season, will be sufficient to avoid disturbance to summer bat maternity roosts of Little Brown Myotis and Northern Myotis; however, clearing vegetation in winter still poses a risk of damaging or destroying trees that support maternity roosts, which is prohibited under sub-section 5.3.(1) of the Wildlife General Regulations. In the summer, NWT bats roost (rest) in tree hollows or crevices, under tree bark, among the leaves of trees, in caves, in rock crevices, and in buildings. Roosts in forested habitat typically occur in large, dead or decaying trees. Roosts provide shelter, protection from predators, and suitable temperature and humidity conditions. A single roost may be used by many reproducing females and their young. Many bats show strong fidelity to roosts, or to a group of roosts, returning year after year to the same roost or to the same patches of roosting habitat. Destruction or removal of a roost may be authorized typically on a case-by-case basis where required by a General Wildlife Permit which can be obtained from The GNWT. The potential presence of winter bat hibernacula within PPML's project area is currently unknown. The western portion of PPML's project area is close to the eastern boundary of the Bison Control Area. Although the project is unlikely to directly impact wood bison as the project area is just to the north of the Nyarling wood bison range, any sightings of wood bison within the project area should be immediately reported to The GNWT as this may indicate wood bison could potentially enter the Bison Control Area.</p> <p>Recommendation 1) The GNWT recommends PPML's revised WMMP include searching for potential bat</p>		
--	--	--	--	--

		maternity roost habitat during clearing surveys and to avoid clearing trees, or damaging habitat, that may support summer maternity roosts of bats, or bat hibernacula.		
21	11. Closure and Reclamation	<p>Comment The Confirmation and Exploration Program (CEP will) involve drilling at over 3000 sites at unspecified locations within the Proponent's mineral claims and leases, as well as clearing new 10-m wide access trails, clearing drill sites and test pit locations, blasting or using a rock breaker attachment on an excavator at an unspecified number of sites to obtain metallurgical samples, digging test pits at 200-300 sites using dozers, excavators, loaders and dump trucks, and construction of temporary water pipelines. Furthermore, it is uncertain what the total number of drill holes and how many pads will be constructed. To limit new disturbance, the CEP highlights that these activities will be limited to brownfield sites as much as possible. The Closure and Reclamation Plan identifies how "new access trails" will be permanently reclaimed once no longer needed; however, no mention is made of how existing access trails to be used will be reclaimed. Given that much of the disturbance in the western portion of the project area consists of narrow linear features that may have regenerated sufficiently, the Plan should include details on how these trails will also be reclaimed. Similarly, clarification should be provided that the planned reclamation activities for the other project components, as listed in Section 6 of the Plan, will be undertaken for both newly disturbed and been previously disturbed sites (i.e. brownfield sites).</p> <p>Recommendation 1) The GNWT recommends the Proponent amend the Closure and Reclamation Plan to include how brownfield sites used for the CEP will be reclaimed.</p>	Feb 2: Few brownfield (existing) trails have naturally revegetated, however, those that have will be reclaimed as if a "new" disturbance.	The Board used PPML's response to complete the preliminary screening.
29	16. Seepage Monitoring	Comment Section 4.1 of the Project Description states that the Bedrock	Feb 2: The Bedrock Sampling	The Board notes that Seepage

		<p>Sampling Management Plan will describe how seepage will be monitored if test pitting proceeds. The GNWT notes that there is no mention of seepage in the Bedrock Management Plan Framework.</p> <p>Recommendation 1) The GNWT recommends PPML clarify how seepage will be monitored if test pitting proceeds, and include this information in the Bedrock Sampling Management Plan as noted in the Project Description.</p>	<p>Management Plan clarifies that all rock will be returned to the test pit immediately following collection of the sample, so no seepage is anticipated.</p>	<p>monitoring associated with bedrock sampling was discussed in the technical session.</p> <p>The Board used the evidence on the record to complete the preliminary screening regarding mitigations for the bedrock sampling.</p>
30	17. Drilling	<p>Comment Section 6.0 of the Project Description notes that it is estimated that up to 3,000 drill sites are to be drilled for resource definition and exploration core drilling. Section 7.0 states that it is estimated that up to 300 drill sites may be drilled for the geotechnical program. The GNWT notes that it isn't clear if any of these sites will be shared between the geotechnical and exploration programs, or if there is potential for up to a total of 3,300 drill holes.</p> <p>Recommendation 1) The GNWT recommends that PPML clarify if any drill sites will be used for both the exploration and geotechnical programs to ensure the total number of drill holes are properly assessed in the preliminary screening.</p>	<p>Feb 2: Where it is possible, information from drill holes will be maximised and include geological and, for example, geotechnical and hydrogeological information. The maximum number of holes to be drilled is estimated to be 3,300.</p>	<p>The Board has included the drill holes for drilling (3,000) and the geotechnical program (300) in the preliminary screening scope.</p>
33	19. Groundwater Management Plan - Artesian Wells	<p>Comment Section 2.1 of the Groundwater Management Plan Framework notes that the northwest portion of the site has a piezometric surface that is higher than the ground surface. The proponent has not described how it will manage and abandon an artesian well, assuming one is encountered. Without this information, it is difficult to determine potential impacts and suitable mitigation measures.</p> <p>Recommendation 1) The GNWT recommends the Proponent detail how they will manage and abandon an artesian well.</p>	<p>Feb 2: Land Use Permit Condition 24 will require that boreholes with flowing water be permanently plugged and reported.</p>	<p>The Board used the recommendation and response to complete the preliminary screening.</p>

34	20. Groundwater Management Plan - Water Sampling and Compatibility Studies	<p>Comment As described in Section 4.1 and 4.2 of the Groundwater Management Plan Framework, if the injection well is in a different aquifer than the source water, additional water quality sampling and compatibility studies would be conducted, which "may include a mixing model of chemistry and adverse groundwater quality changes". The results of these studies would inform if groundwater testing can proceed. The Framework is limited in detail to understand the details of the proposed mixing model and how "adverse" changes to groundwater quality will be quantified.</p> <p>Recommendation 1) The GNWT recommends the Proponent provide additional details regarding the water sampling and compatibility studies that may be conducted. It is recommended the response specifically describe the objective of the compatibility study, discuss the mixing model of chemistry and how adverse changes to groundwater quality will be determined and/or mitigated.</p>	<p>Feb 2: Testing is planned such that any groundwater pumped as part of the testing programs which is being re-injected subsurface, will be injected into the same aquifer, zone or formation. This will prevent the mixing of different groundwater types and eliminate the need for compatibility assessments and mixing of groundwater types. In the unanticipated event where groundwater would be re-injected into a different formation, aquifer or zone the water quality of the producing and receiving zones would be considered. Testing will determine the vertical variation of water chemistry and insure proper mixing and water compatibility. This is focused on ensuring saline waters are not being placed into freshwater. The parameters of</p>	<p>The Board considered GNWT's recommendation to complete the preliminary screening, and note that this topic was discussed during the technical session and resulted in IR 2.</p>
----	--	--	---	--

			<p>interest would be specific to the water types of the particular test on a case-by-case basis, however, would generally be comprised of major ions, total dissolved solids and metals. Other important considerations are temperature variation which is expected to be low during testing, pumping volumes and durations. These items would be considered in an assessment to determine if one groundwater source would be anticipated to impact another. As the planned testing is generally short duration in nature, this is not anticipated to have a substantial impact. An impact is considered a degradation of water quality which would substantially change an aquifer's chemistry.</p>	
51	33. CRP - Roads	<p>Comment The GNWT understands that the proponent is only proposing to reclaim any new roads developed as part of the current project. However, it is unclear the total area of new roads that will be developed.</p>	<p>Feb 2: It is estimated that the majority of new access trails will utilize previously</p>	<p>The Board used the information provided by PPML in response to the recommendation</p>

		<p>Additionally, the GNWT is unclear on how reclamation of new roads will be completed. For example, would only scarification be needed (no replacement of overburden or seeding), or are their further details that should be included in the CRP?</p> <p>Recommendation 1) The GNWT recommends that the proponent provide an estimate of disturbed area associated with new roads.</p>	<p>disturbed areas. In a few areas new trails may be required or existing trails may be extended. Subject to final hole locations, it is expected that 85% or more of the sites will be accessible by existing trails.</p>	<p>to complete the preliminary screening.</p>
52	None	<p>Comment None</p> <p>Recommendation 2) The GNWT recommends that the proponent provide a rationale as to why only scarification is needed (for reclamation of roads, or provide further details on the reclamation of the roads for review.</p>	<p>Feb 2: The CRP does not specify scarification. Section 6.2 of the CRP states that the natural surface of access trails will be protected as much as possible and that mulched and other organic material would be placed over the trails for reclamation to lessen erosion and encourage vegetation regrowth. Preservation of topsoil is accomplished by using mulchers wherever possible. As trails will have low use and limited compaction is expected, scarification is not a proposed action for reclamation activities. Much of the drilling will be</p>	<p>The Board used PPML's response to GNWT's recommendation to complete the preliminary screening.</p>

			undertaken when the ground is frozen.	
58	39. Protection of historical, archaeological and burial sites	<p>Comment The proposed activities described in the LUP application may place recorded and unrecorded archaeological sites at risk of impact.</p> <p>Recommendation The following conditions are recommended: 1) Archaeological Overview: At least 30 days prior to any new land disturbance, the Permittee shall conduct an Archaeological Overview to identify areas of high and low potential for archaeological and burial sites and shall submit a summary report to the Board and the Prince of Wales Northern Heritage Centre. Please note that the PWNHC has accepted two previous AOA studies (Golder 2020, Soriak 2018) that satisfy this condition. 2) AIA-High Potential: Prior to disturbance in areas of high potential for archaeological or burial sites identified in the Archaeological Overview, the Permittee shall conduct an Archaeological Impact Assessment of the sites where disturbance is planned and shall submit a summary report to the Board and the Prince of Wales Northern Heritage Centre. Please note that select areas within the current LUP application area have already been subject to AIA studies (Soriak 2019, Finch 2017, Stantec 2017, Rescan 2012) The AOA-High Potential Condition is meant to apply to areas of the current application that have not been subject to previous AIA studies.</p>	Feb 2: PPML is agreeable to making these clarifying amendments to Conditions 50 and 51.	The Board considered GNWT's recommendation for the conditions Archaeological Overview and AIA-High Potential to complete the preliminary screening.

Katlodeeche First Nation: Patrick Riley

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
3	Project Description - Page 7.	<p>Comment Document states: It is estimated that up to 3,000 drill sites are to be drilled. This may increase if additional information is needed.</p> <p>Recommendation KFN notes that the existing authorizations (Permit MV2017C0024, Permit MV2018C0005, and Licence MV2018L2-0003) are for 4000 drill</p>	Feb 2: PPML is may require up to 3,000 drill holes under the requested application. Drilling has been ongoing under the previous permits,	See Board Decision for GNWT, comment 30.

		holes. KFN requests that PPML clarify the number of drill sites/holes that PPML is requesting in their application.	reducing the overall total of holes required for this application.	
4	Project Description - page 9.	<p>Comment Document states: These pits will be used to assess the availability of construction materials (e.g., gravel, sand) at approximately 200 to 300 sites around the Project area and in some cases provided samples of bedrock.. Each of the pits will be dug using dozers, excavators, loaders and dump trucks. Typically, the pits will be 3 to 5 m deep, 5 to 6 m long, and 1.5 to 2.0 m wide but may be smaller or larger depending on the local conditions. The disturbed area at each site will be approximately 20 m by 20 m in extent. In some cases, if the bedrock is close to surface, the depth of the pits will be down to bedrock (up to 5 m depth).Once the samples have been collected, the pits will be back filled with the remaining excavated material, graded to restore the natural drainage to the extent possible, overburden will be spread over the disturbed area and finally saved organic material will be distributed over the site.</p> <p>Recommendation In Ontario, during pitting and trenching programs, the Provincial Standards must be followed for an exploration plan and an exploration permit where a pit wall or vertical man-made rock face is greater than three metres in height: Install a high visibility barrier fence of at least one metre in height, with a setback of at least 3 metres from the brow of the rock face or pit. (from the Ontario Provincial Standards on test pitting https://www.mndm.gov.on.ca/sites/default/files/pitting-trenching-activity-e.pdf): KFN understands that if the test pits are open for a short period of time, that they may not need to fence the test pits. However, test pits greater than 3 m high could pose a hazard to wildlife, if they are open for extended period of time. KFN recommends that PPML describe: How long will the test</p>	<p>Feb 2: It should be noted that there were over 50 open pits mined at Pine Point, many of which are still open and with significant rock faces that are not protected by a barrier. The geotechnical test pits proposed by PPML should be viewed in in this context. The pitting and trenching operations are intended to be 5m or less in depth. The slope of the sides of the pits will take into account the stability of the material removed and comply with all safety requirements of the Mine Health and Safety Act. The pits will be refilled immediately after the sample is collected, or PPML will place temporary barriers if this is any delay to refilling.</p>	The Board used the mitigations proposed in PPML's response to complete the preliminary screening.

		pits likely be open for? If the pits are open for an extend period of time, how will PPML mitigate the wildlife hazard?		
7	Project Description - page 15	<p>Comment Document states: Accommodation for up to 249 people will be required at the site to undertake the CEP. The main accommodations will continue to be at the location of the existing camp, but some of this capacity may be at satellite camps.</p> <p>Recommendation KFN is seeking clarity through the following questions: How many days will 249 people be present in the camps? Will a smaller skeleton crew be present for a portion of the year? Who will be providing the camp services and where will the camp workers be coming from? Will they be dry camps? Will there be a rotation? Timing of work - will all of the exploration work be conducted during the winter or will some work be completed in the summer?</p>	<p>Feb 2: The camp schedule is yet to be fully determined. It will likely consist of a starter stage then be expanded as operational requirements necessitate. There may be periods when occupancy is minimal. During such periods a caretaker staff will be in put in place. Camp services will be provided by contractors, preferably those that are locally based and are indigenous owned or have indigenous partners. The camp will be dry. Crews will be sourced locally where possible or from other regions if necessary. Crews will be on rotations. COVID19 protocols will be in place to prevent transmission as required. Work is expected to be year round depending on results, however spring thaw and fall freezeup may</p>	<p>The Board used the information provided in PPML's response to complete the Social and Economic Well-being section of the preliminary screening.</p>

			result in periods of reduced activity.	
10	Groundwater Management Plan Framework - Pages 7 - 8.	<p>Comment Document states: Water Quality: Prior to the start of testing, a water sample will be collected from both the extraction pit and receiving pits or injection well and will be reviewed at a high level for compatibility.</p> <p>Recommendation KFN is seeking clarity through the following questions: How will PPML determine what is a high level for compatibility between the water collected at the extraction pit and the receiving pit? What parameters is PPML proposing to measure to determine compatibility?</p>	<p>Feb 2: Testing is planned such that any groundwater pumped as part of the testing programs which is being re-injected subsurface, will be injected into the same aquifer, zone or formation. This will prevent the mixing of different groundwater types and eliminate the need for compatibility assessments and mixing of groundwater types. In the unanticipated event where groundwater would be re-injected into a different formation, aquifer or zone the water quality of the producing and receiving zones would be considered. Testing will determine the vertical variation of water chemistry and insure proper mixing and water compatibility. This is focused on ensuring saline waters are not being placed into</p>	<p>The Board used KFN's recommendation to complete the preliminary screening, and note that this topic was discussed during the technical session and resulted in IR 2.</p>

			<p>freshwater. The parameters of interest would be specific to the water types of the particular test on a case-by-case basis, however, would generally be comprised of major ions, total dissolved solids and metals. Other important considerations are temperature variation which is expected to be low during testing, pumping volumes and durations. These items would be considered in an assessment to determine if one groundwater source would be anticipated to impact another. As the planned testing is generally short duration in nature, this is not anticipated to have a substantial impact. An impact is considered a degradation of water quality which would substantially change an aquifer's chemistry.</p>	
MVLWB: Kim Murray				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision

2	The Boards' Water Effluent and Management Policy	<p>Comment The Boards' Water and Effluent Quality Management Policy describes the Boards' approach to managing the deposit of waste to the receiving environment through enforceable terms and conditions set in water licences. Such terms and conditions include, but are not limited to: effluent quality criteria (EQC), activities related to waste management, monitoring programs, adaptive management planning, and/or other management plans. The Application describes the transfer of water from one aquifer to another. Because water quality data (of either the source aquifer or receiving aquifer) are not included in the Application, it is unclear if this practice meets the definition of the deposit of waste as per the Waters Act. In order for the Board to fully consider the terms and conditions regarding this activity, as per the Policy, further data is required by the Proponent. The Board notes that the Proponent has suggested that groundwater management practices be considered for approval by the Board post-issuance via the submission of the Groundwater Management Plan. Should the review of the Groundwater Management Plan reveal that the deposit of waste requires new water licence conditions (i.e., the development of EQC), then an application to amend the water licence will be required so that the Board may fully consider terms and conditions related to this activity.</p> <p>Recommendation In order for the Board to fully consider the potential deposit(s) of waste by the proposed project, can PPML provide water quality data for groundwater being transferred and the groundwater quality data for the receiving environment of that water?</p>	<p>Feb 2: Testing is planned such that any groundwater pumped as part of the testing programs which is being re-injected subsurface, will be injected into the same aquifer, zone or formation. This will prevent the mixing of different groundwater types and eliminate the need for compatibility assessments and mixing of groundwater types. In the unanticipated event where groundwater would be re-injected into a different formation, aquifer or zone the water quality of the producing and receiving zones would be considered. Testing will determine the vertical variation of water chemistry and insure proper mixing and water compatibility. This is focused on ensuring saline waters are not being placed into freshwater. The parameters of</p>	The Board notes that this topic was discussed during the technical session and resulted in IR 2.
---	--	---	---	--

			<p>interest would be specific to the water types of the particular test on a case-by-case basis, however, would generally be comprised of major ions, total dissolved solids and metals. Other important considerations are temperature variation which is expected to be low during testing, pumping volumes and durations. These items would be considered in an assessment to determine if one groundwater source would be anticipated to impact another. As the planned testing is generally short duration in nature, this is not anticipated to have a substantial impact. An impact is considered a degradation of water quality which would substantially change an aquifer's chemistry.</p>	
3	Draft Licence Conditions - Effluent Quality Criteria for	<p>Comment PPML has indicated in Part F, condition 13 of the proposed draft Licence that EQC will be "determined prior to installation of the Waste Water Treatment Plant". Board staff note that PPML's</p>	<p>Feb 2: If PPML decides to install a Waste Water Treatment Plant, PPML would apply</p>	<p>The Board notes this was discussed at the technical session, and resulted in IR 4.</p>

	the Waste Water Treatment Plant	<p>proposal to determine EQC prior to installation of the Waste Water Treatment Plant would require an amendment application to the Type A Licence, as EQC are included as a Licence condition.</p> <p>Recommendation Is PPML able to provide data that would enable the Board to consider EQC for the Waste Water Treatment Plant during this proceeding, or is it PPML's intention to apply for an amendment to this proposed Licence so that the Board may consider EQC for the use of the Waste Water Treatment Plant after Licence issuance? Or does PPML intend to transport sewage to the Town of Hay River's Sewage Disposal Facilities throughout the duration of the project?</p>	for an amendment to this licence to include effluent quality criteria. A decision to install a Waste Water Treatment Plant has not yet been made and will not be made in time for this application process. See Section 10.3 of the Project Description	
12	Waste Management Plan: ANFO Vehicle Wash Runoff	<p>Comment Section 4.4. Management of Non-Mineral Liquid Waste indicates that water will be treated with an oil/water separator as necessary, prior to being discharged to an appropriate sump. What will be the criteria for treating water? Will there be any follow up monitoring to ensure water is of appropriate quality to be discharged to a sump?</p> <p>Recommendation PPML to provide further details about the management of ANFO Vehicle Wash Runoff.</p>	Feb 2: As per Section 8.2 of the Project Description, vehicle washing of the bulk delivery truck will predominately be used prior to the returning to a populated area. As such, this is not expected to be a large or ongoing source. The volumes of wash water are expected to be small, and the ANFO residual on the trucks is expected to be limited and will flush out with the wash-down. The sump will be located at a site that has been approved by the Lands Inspector to	The Board used PPML's response to complete the preliminary screening regarding mitigations to the ANFO Vehicle Wash runoff water.

			avoid potential for effects to nearby waterbodies.	
13	Spill Contingency Plan: On-site treatment at a facility approved for the purpose	<p>Comment Under section 10.0 Disposal Methods in the Spill Contingency Plan, it indicates that an option for disposal in the event of a spill could be "on-site treatment at a facility approved for the purpose". Can PPML clarify what the on-site treatment would include? Board staff note any landfarm constructed on site would be required to meet the Board's Guideline for Design, Operation, Maintenance, and Closure of Petroleum Hydrocarbon-Contaminated Soil Treatment Facilities in the Northwest Territories. This would also have implications for Licence conditions.</p> <p>Recommendation PPML to clarify what type of spill disposal associated on site treatment facility is being referred to in section 10.0 of the Spill Contingency Plan.</p>	<p>Feb 2: As stated in the Spill Contingency Plan, the landfarm is an option under consideration, and PPML expects that the construction of a landfarm would comply with the Boards Guideline and that PPML will seek necessary approval if it is decided that one is required. It has not yet been decided if a landfarm is required.</p>	The Board included "Construction and operation of a Petroleum Hydrocarbon-Contaminated Soil Treatment Facility" in the preliminary screening scope, and have used PPML's commitment to comply with the Board's Guideline as a mitigation to this activity.
15	Bedrock Sampling Management Plan and Geochemical Criteria	<p>Comment Board staff note that Schedule 3 in the draft Licence proposed by PPML has a requirement for the Bedrock Sampling Management Plan to include a description of geochemical characterization, including a characterization of rock types, assessment of potential for Acid/Alkaline Drainage and Metal Leaching, and a description of the sampling program and analytical methods that will be used to support the operational classification and management of all rock types. The Bedrock Sampling Management Plan Framework submitted with the Application does not include geochemical details under section 3.0 Waste Rock Management. Has PPML considered developing geochemical criteria for classifying, managing, and placing Waste Rock be developed?</p> <p>Recommendation PPML to discuss if developing geochemical criteria for classifying, managing, and placing Waste Rock would be appropriate.</p>	<p>Feb 2: PPML has not considered developing geochemical criteria for the waste rock, as the waste rock will be placed back in the sample hole to restore natural drainage after the sample has been collected (as described in Section 3.2 of the Bedrock Sampling Management Plan).</p>	The Board notes that this was discussed on Day 2 of the Technical Session. The Board used information from the technical session discussion to complete the preliminary screening re: waste rock associated with metallurgical sampling.

17	Bedrock Sampling Management Plan and Seepage quality and quantity	<p>Comment Section 3.0 Waste Rock Management of the Bedrock Sampling Management Plan Framework submitted with the Application also does not include details of monitoring to evaluate Seepage quality and quantity associated with the proposed waste rock management activities.</p> <p>Recommendation PPML to discuss how the quality and quantity of Seepage generated from waste rock management activities will be monitored and evaluated.</p>	<p>Feb 2: Seepage is not anticipated, as the waste rock will be returned to the sample hole following collection of the sample (as described in Section 3.2 of the Bedrock Sampling Management Plan)</p>	See Board Decision for GNWT, comment 29.
18	Explosives Storage and Handling	<p>Comment It is noted that mitigations/precautions for surface blasting are listed in the Bedrock Sampling Management Plan Framework considering fish/aquatic organisms, but no monitoring is included. Has PPML considered ammonia nitrate monitoring to understand possible effects of surface blasting on fish or other aquatic organisms?</p> <p>Recommendation PPML to discuss if ammonia nitrate monitoring has been considered to understand effects of surface blasting on the receiving environment, including waterbodies.</p>	<p>Feb 2: PPML will propose a setback of 100 metres from all waterbodies for any blasting activity in the next version of the Bedrock Sampling Management Plan.</p>	The Board used the recommendation and response to complete the preliminary screening.
19	Explosives Storage and Handling - AN storage area pads	<p>Comment In section 8.2 of the Project Description, it is indicated that the AN storage area pads will hold double-bagged totes, and that the pads will be constructed to provide for level storage and handling areas.</p> <p>Recommendation Given that the pad will hold double-bagged totes, will PPML consider lining the pad?</p>	<p>Feb 2: If bulk AN is used, the bags will be stored in a lined pad.</p>	The Board used the recommendation and response to complete the preliminary screening.
27	Groundwater Management Plan Framework - Section 4.2 Sampling Parameters	<p>Comment PPML has proposed to sample the groundwater quality at the extraction and receiving sites. The proposed parameters include pH, temperature, redox potential, and total dissolved solids. Can PPML provide further rationale for the proposed parameters? For example, how will PPML ensure the groundwater quality at the extraction site is not worse than the receiving site. PPML should comment on how the selected parameter will ensure the Board's Water and Effluent Quality</p>	<p>Feb 2: See response to MVLWB#2</p>	See Board Decision for MVLWB, comment 2.

		<p>Management Policy to minimize waste is met. Has PPML considered setting site specific water quality objectives?</p> <p>Recommendation Elaborate on how PPML intends to mitigate the potential impacts of the aquifer testing on the groundwater quality at the receiving site.</p>		
28	Groundwater Management Plan Framework - Section 4.2 Sampling Parameters	<p>Comment See comment above.</p> <p>Recommendation Can PPML clarify how total dissolved solids will be measured in the field as well as explain why a more standard field parameter such as specific conductivity would not be included.</p>	<p>Feb 2: Further detail will be provided in the next version of the Groundwater Management Plan with a comprehensive list of field water quality parameters. Electrical conductivity and specific conductance are standard and would be included. Total dissolved solids and other field parameters are often measured with industry standard equipment which will be calibrated.</p>	See Board Decision for MVLWB, comment 2.
29	Groundwater Management Plan Framework - Section 4.2 Sampling Parameters	<p>Comment PPML has proposed to conduct additional water quality sampling and compatibility studies should the injection well be in a different aquifer. Can PPML clarify what additional parameters will be analyzed? What criteria is the water sample being compared with? Will PPML be seeking Inspector approval prior to commencement of aquifer testing?</p> <p>Recommendation PPML to elaborate on the sampling and compatibility studies described in section 4.2 of the Groundwater Management Plan Framework.</p>	<p>Feb 2: See response to MVLWB#2</p>	See Board Decision for MVLWB, comment 2.
31	Groundwater Management	<p>Comment Will PPML consider providing a list of operational contingency options for</p>	<p>Feb 2: Further detail will be</p>	The Board used the

	Plan Framework - Contingency	the groundwater management (e.g., if the transfer pipe burst, etc.)? Recommendation PPML to consider including operational contingencies in the Groundwater Management Plan.	provided in the next version of the Groundwater Management Plan.	recommendation to complete the preliminary screening. Also, see Board Decision for MVLWB, comment 2.
32	Groundwater Management Plan, Schedule 2 of Proposed Licence	Comment Board staff note that PPML has included a proposed Licence condition for the submission of a Groundwater Management Plan with the requirements of the Plan listed in Schedule 2. Board staff note that Schedule 2 reflects a Schedule that is similar to requirements for a groundwater monitoring plan, where groundwater monitoring is used to ensure a project is not affecting the receiving groundwater environment. It is also noted that PPML did not include a requirement to establish any groundwater quality criteria or action levels for the Groundwater Management Plan as is typical of a groundwater monitoring plan. Recommendation Can PPML clarify if the Groundwater Management Plan is intended to include the operational and monitoring details for the physical management of groundwater between wells/pits as described in the Groundwater Management Plan Framework AND to also include groundwater monitoring to ensure the project does not impact the regional groundwater quality?	Feb 2: Further detail will be provided in the next version of the Groundwater Management Plan.	See Board Decision for MVLWB, comment 2.
33	Groundwater Management Plan, Baseline Data	Comment It is noted that section 9.4 of the Project Description indicates that up to 12 monitoring wells will be installed at various locations around the property to monitor baseline groundwater conditions in response to the pump tests and within the Project area. However, based on the proposed Schedule 2 of the Licence, it is not clear how the baseline data that will be established will be used in the Plan to ensure operations do not impact the receiving groundwater environment. Recommendation How will PPML use the Groundwater Management Plan to establish	Feb 2: See response to MVLWB#2	See Board Decision for MVLWB, comment 2.

		groundwater monitoring quality criteria or action levels for the proposed groundwater operations, such that the baseline groundwater quality is not impacted by project operations, such as establishing action levels and corrective actions? Does PPML have a proposed groundwater quality monitoring network for the SNP of the Licence?		
34	Groundwater Management Plan, Baseline Data	<p>Comment See comment above.</p> <p>Recommendation Will the baseline groundwater quality data be used to determine "compatibility" between pits/wells, as described in the Groundwater Management Plan Framework? Will baseline groundwater quality data inform the parameters that will be compared for compatibility? How will parameters be determined (i.e., ruled in or out)?</p>	Feb 2: See response to MVLWB#2	See Board Decision for MVLWB, comment 2.
35	Groundwater Management Plan, Schedule 2 of Proposed Licence	<p>Comment The Groundwater Management Plan Framework lists indicator parameters as pH, temperature, redox potential, and total dissolved solids, but does not include justification for the use of these parameters and does not list any other parameters for analysis. Given this area has been impacted by mining activities, having a complete understanding of the baseline concentrations of a more comprehensive suite of parameters seems critical to confirming compatibility between water sources.</p> <p>Recommendation Will PPML consider other groundwater quality parameters (i.e., dissolved metals, major ions) for analysis of compatibility between pits/wells?</p>	Feb 2: See response to MVLWB#2	See Board Decision for MVLWB, comment 2.

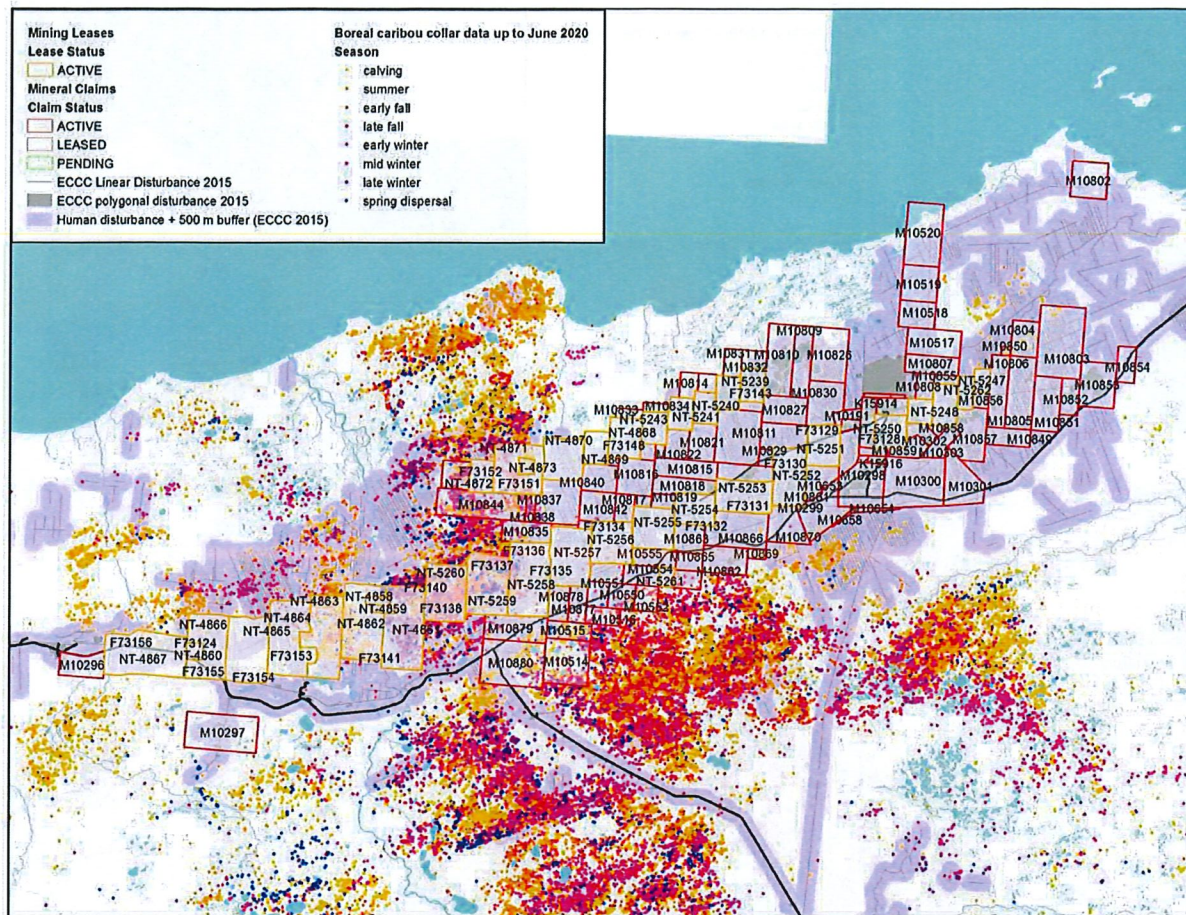


Figure 1. Boreal caribou GPS collar locations colour-coded by behavioural season from 27 individuals collared between 2015 and 2020, and are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder of the year.

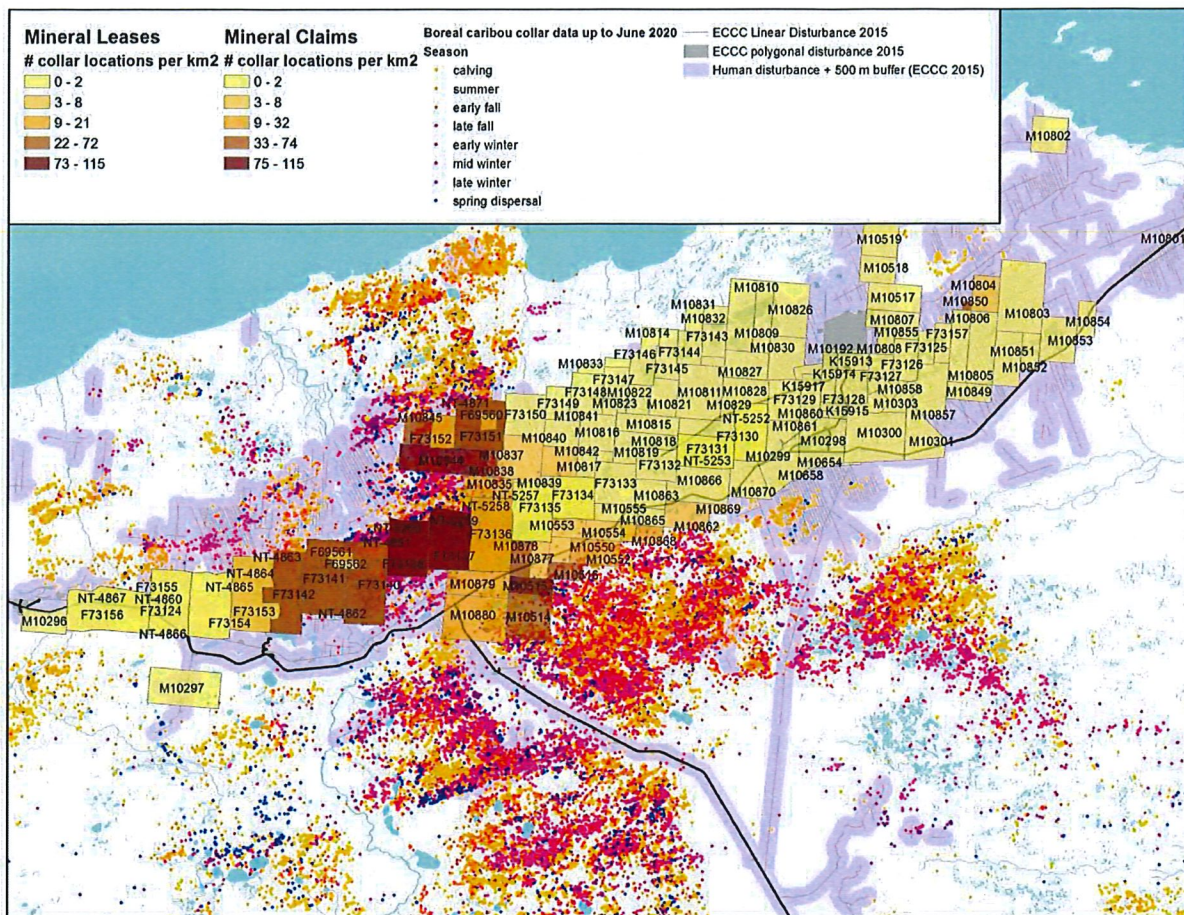


Figure 3. Density of boreal caribou collar locations (# locations/km²) within Pine Point Mining Ltd.'s mineral claims and mineral leases obtained from 27 individuals collared between 2015 and 2020. Collar locations are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder of the year.



BANK SWALLOW (*Riparia riparia*)

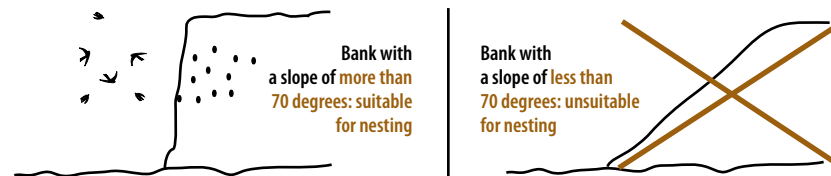
in sandpits
and quarries



Did you know?

The Bank Swallow is a declining migratory bird species that has lost 98% of its Canadian population over the last 40 years. The Bank Swallow is listed on Schedule 1 of the *Species at Risk Act* as Threatened.

This insectivorous bird is particularly drawn to sandpits, quarries, stock piles of sand and soil, and sandy banks along water bodies and roads. **Bank Swallows generally dig their burrows in near-vertical banks (slopes of at least 70 degrees) that are more than 2 metres high.** Bank Swallows typically use their nesting sites from mid-April to late August. This is the sensitive period during which the risk of harming the birds is especially high. The absence of the birds in August is a good indicator that the breeding season is over.



The best way to minimize the possibility of contravening the *Species at Risk Act* and the *Migratory Birds Convention Act, 1994* is to fully understand the impact that your activities could have on Bank Swallows and to take reasonable precautions and appropriate avoidance measures. In fact, under these Acts, it is an offence for anyone to kill, harm, harass or capture an individual or to damage, destroy, remove or disturb its nest or eggs or residence without a permit.

The sand and gravel industry can play a major role in the conservation of Bank Swallows by adopting operating practices that do not harm the species.

www.ec.gc.ca/paom-itmb

Paper: Cat. No.: CW66-522/2016
ISBN 978-0-660-23221-8

Pdf: Cat. No.: CW66-522/2016-PDF
ISBN 978-1-100-25596-5

For information regarding reproduction rights, please contact Public Works and Government Services Canada at 613-996-6886 or at droitdauteur.copyright@tpsgc-pwgsc.gc.ca

Photos: Bank Swallow © Photos.com

© Her Majesty the Queen in Right of Canada, represented by the Minister of the Environment, 2016

Aussi disponible en français

What you can do

Before the breeding season (generally before mid-April)

- Prevent Bank Swallows from nesting in areas where operations will be carried out during the breeding season by contouring your piles to have a slope of less than 70 degrees and by creating suitable nesting habitat in inactive areas with vertical faces of at least 70 degrees.
- Install scaring devices to deter Bank Swallows from establishing colonies in active areas.

During the breeding season (generally from mid-April to late August)

- Avoid intense activity near the colony. You can prevent disturbance by marking off a protective buffer zone around the colony and notifying all employees of its existence.
- Generally speaking, there is a particularly high risk of disturbing nesting when noisy activities or vibrations occur within 50 metres of the bird colony. This protective radius is only a rough guideline and must be adjusted after an assessment of the risk factors. In some cases, where operating activities are intense, a larger protective radius may be needed to minimize the risk of disturbance.
- Spend a few minutes flattening vertical faces in active areas at the end of the day to prevent Bank Swallows from digging burrows in them overnight or on weekends.
- Stop excavation work if Bank Swallows colonize a bank in an active area. Activities cannot resume until the birds leave at the end of the breeding period.
- Do not use scaring devices once the colony is established as they may interfere with ongoing Bank Swallow breeding activities.

After the breeding season (generally after late August)

- If a nesting site needs to be excavated after the birds leave, compensate by providing an alternate site that can support nesting in the following year. To be suitable for nesting, the bank must have a slope of at least 70 degrees.

Notify your employees of the restrictions and techniques that can be implemented to prevent detrimental effects on the species.

Thank you for
participating
in the conservation
of Bank Swallows.



Le saviez-vous ?

Ce que vous pouvez faire

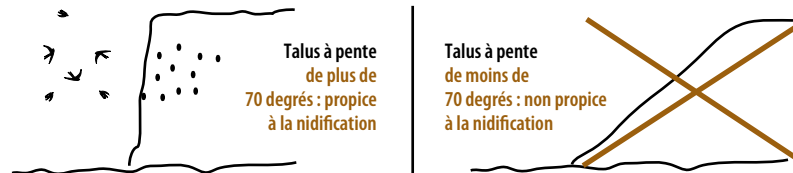
L'HIRONDELLE DE RIVAGE

(Riparia riparia)

dans les sablières
et les gravières

L'Hirondelle de rivage est un oiseau migrateur en déclin dont la population canadienne a chuté de 98 % au cours des 40 dernières années. L'Hirondelle de rivage est inscrite à l'annexe 1 de la Loi sur les espèces en péril à titre d'espèce menacée.

Cet oiseau insectivore est très attiré par les sablières et les gravières, les amas de sable et de terre, et les talus sablonneux en bordure des plans d'eau et des chemins. **En général, les Hirondelles de rivage creusent leur terrier dans des fronts de talus presque verticaux (pente d'au moins 70 degrés) à plus de 2 m de hauteur.** Les Hirondelles de rivage utilisent généralement les sites de nidification de la mi-avril à la fin d'août. Il s'agit de la période sensible durant laquelle le risque de nuire aux oiseaux est particulièrement élevé. L'absence des oiseaux en août est un bon indicateur de la fin de la nidification.



La meilleure approche afin de réduire au minimum la possibilité d'enfreindre la *Loi sur les espèces en péril* et la *Loi de 1994 sur la convention concernant les oiseaux migrateurs* consiste à bien comprendre le risque d'incidence potentiel de vos activités sur les hirondelles de rivage et à prendre des précautions raisonnables et des mesures d'évitement appropriées. En effet, selon ces lois, quiconque tue, nuit, harcèle ou capture un individu ou endommage, détruit, enlève ou dérange leurs nids, leurs œufs ou leur résidence sans permis commet un délit.

L'industrie des sablières et des gravières peut jouer un rôle important dans la conservation de l'Hirondelle de rivage en adoptant des pratiques d'exploitation qui ne nuisent pas à l'espèce.

www.ec.gc.ca/paom-itmb

Paper: Cat. No.: CW66-522/2016
ISBN 978-0-660-23221-8

Pdf: Cat. No.: CW66-522/2016-PDF
ISBN 978-1-100-25596-5

Pour obtenir de plus amples renseignements sur les droits de reproduction, veuillez communiquer avec Travaux publics et Services gouvernementaux Canada (TPSGC) au 613-996-6886, ou à : droitdauteur.copyright@tpsgc-pwgsc.gc.ca.

Photos : Bank Swallow © Photos.com

© Sa Majesté la Reine du chef du Canada, représentée par la ministre de l'Environnement, 2016

Avant la période de nidification

(en général avant la mi-avril)

- Évitez que des Hirondelles de rivage nichent dans les zones qui seront exploitées durant la période de nidification en profilant vos talus avec une pente inférieure à 70 degrés, et en créant des zones propices à la nidification dans des zones non exploitées, avec des talus dont la pente est d'au moins 70 degrés.
- Installez des dispositifs d'effarouchement pour dissuader les Hirondelles de rivage d'établir une colonie dans les zones exploitées.

Pendant la période de nidification

(en général de la mi-avril à la fin d'août)

- Évitez les activités intenses à proximité de la colonie. Vous pouvez empêcher le dérangement en délimitant une zone de protection autour de la colonie et en informant tous les employés de l'existence de cette zone.
- En général, le risque de déranger la nidification est particulièrement élevé si des activités bruyantes ou des vibrations ont lieu à moins de 50 m de la colonie d'oiseaux. Cette distance de protection ne constitue qu'un ordre de grandeur et doit être ajustée après évaluation des facteurs de risque. Dans certains cas, lorsque les activités d'exploitation sont intenses, une plus grande distance de protection peut être nécessaire afin de réduire au minimum le risque de dérangement.
- Prendre quelques minutes à la fin de la journée pour supprimer les talus verticaux afin d'éviter que des Hirondelles de rivage ne commencent à creuser des nids durant la nuit ou durant les fins de semaine.
- Cessez toute activité d'excavation si des Hirondelles de rivage colonisent un talus dans une zone exploitée, et ce jusqu'au départ des hirondelles à la fin de la période de nidification.
- N'utilisez pas de dispositifs d'effarouchement une fois la colonie établie, tant et aussi longtemps que cela peut interférer avec les activités courantes de nidification des Hirondelles de rivage.

Après la période de nidification

(en général après la fin d'août)

- Si un site de nidification doit être exploité après le départ des oiseaux, en guise de compensation, voyez à fournir un site de remplacement pouvant soutenir la nidification l'année suivante. Pour être propice à la nidification, le talus doit avoir une pente d'au moins 70 degrés.

Informez vos employés des interdictions et des techniques qui peuvent être mises en œuvre pour éviter les effets néfastes sur l'espèce.

Merci de participer à la conservation de l'Hirondelle de rivage.



Ms. Jacqueline Ho, Regulatory Specialist
Ms. Jen Potten, A/Regulatory Manager
Ms. Kim Murray/ Regulatory Specialist
Mackenzie Valley Land and Water Board
7th Floor YK Centre Mall
4922 – 48th Street
PO BOX 2130
YELLOWKNIFE NT X1A 2P6

JAN 19 2021

by Email

Dear Ms. Ho, Ms. Potten, and Ms. Murray:

The Government of the Northwest Territories' comments on Pine Point Mining Limited's application for Land Use Permit and Water Licence (MV2020L8-0012 MV2020C0017).

I am writing on behalf of all Government of the Northwest Territories (GNWT) departments. The GNWT is pleased to provide comments on the above-noted applications and accompanying workplan for the consideration of the Mackenzie Valley Land and Water Board (the Board). I confirm that all GNWT departments with interests related to the Pine Point Land Use Permit and Water Licence reviewed the above-mentioned applications; the departments of Lands; Environment and Natural Resources; Industry, Tourism and Investment; Health and Social Services, and Education, Culture and Employment contributed comments. Any comments from Land Use Inspectors will be submitted separately.

The GNWT's comments and recommendations are posted to the Board's Online Review System (ORS).

The GNWT's comments on the workplan include:

- The need to set out in the plan when the Board intends to make its preliminary screening determination;

.../2

- The need to confirm if lines 20, 21 and 22 include draft land use permit conditions, as well as draft water licence conditions;
- The need to confirm if line 25 includes issuance of the land use permit; and
- Support for the Board's proposal to hold a technical session.

Some of the topics highlighted in the GNWT's comments on the applications include:

- The potential impacts of Pine Point Mining Limited's (PPML) proposed Confirmation and Exploration Program (CEP) activities on Boreal Woodland Caribou;
- PPML's Wildlife Protection Plan and requirements of Section 95(1)(a-d) of the *Wildlife Act*;
- Cumulative effects related to PPML's CEP and legacy mining activities;
- The limited scope of PPML's Closure and Reclamation Plan (CRP);
- Concerns regarding water, including water management and monitoring procedures;

Below are some topics that the GNWT would like to elaborate upon in this letter. The GNWT believes that these topics require highlighting due to their importance for the Water Licencing and Land Use Permitting processes.

Potential Impact of PPML's CEP on Boreal Caribou

PPML's proposed CEP is within the range of Boreal Woodland Caribou, which are listed as a threatened species under both the federal *Species at Risk Act* and the *Species at Risk (NWT) Act*. The Proponent has not provided sufficiently detailed information in their application for GNWT to assess the potential for significant adverse impacts to boreal caribou, or whether potential impacts to boreal caribou can be mitigated.

Boreal caribou movement data collected by the GNWT over the past 5 years (up to end of June 2020) indicates substantial use of the Proponent's CEP area, particularly to the west and south of the most heavily disturbed areas of the former Pine Point Mine site.

Attached to this letter are three figures showing collar locations and movement paths of individual boreal caribou colour coded by behavioural season. Figure 1 and Figure 2 display movement data from 27 caribou collared between 2015 and 2020, and indicate year-round use of the western half of PPML's mineral leases and mineral claims. Figure 3 illustrates the minerals leases and claims with the highest densities of collar locations (see Appendix A for more details).

The CEP will involve drilling at over 3000 sites at unspecified locations within the Proponent's mineral claims and leases. The CEP also includes clearing new 10m wide access trails, clearing drill sites and test pit locations, blasting or using a rock breaker attachment on an excavator at an unspecified number of sites to obtain metallurgical samples, digging test pits at 200-300 sites using dozers, excavators, loaders and dump trucks, and construction of temporary water pipelines. These activities have the potential to cause sensory disturbance, direct habitat loss, indirect habitat loss through avoidance of areas of sensory disturbance, creation or widening of new access trails which could facilitate access for predators, hunters, and recreational land users, and potential for direct mortality from wildlife-vehicle collisions.

Although the Proponent has provided a high-level assessment of these types of impacts in their Screening Impact Assessment or Wildlife Protection Plan, they have not specifically assessed their implications for Boreal Caribou, nor have they proposed specific mitigation measures for Boreal Caribou that could help to minimize some of these impacts.

In this light, the GNWT makes the following recommendations:

- a. that PPML provide more detailed information on the specific locations, timing and frequency of activities proposed for this project, as well as an estimate of how much new habitat disturbance will occur as a result of widening existing trails, creating new access trails, and clearings for drill sites, test pits, and water pipelines, so that impacts to boreal caribou and their habitat can be properly assessed.

- b. that the Board require further studies under Mackenzie Valley Land Use Regulations, section 22 (2) (b). It is the GNWT's understanding that the Board cannot make a preliminary screening decision until after further studies have been completed.
- c. that PPML work with the GNWT to conduct a population survey to determine how many Boreal Caribou occur within the project area.

Section 95(1) of the Wildlife Act and PPML's WMMP

The GNWT notes that PPML's proposed CEP is an advanced mineral exploration program requiring a Type A Water Licence. According to Section 3.1.1 of the WMMP Guidelines, such projects are deemed always likely to satisfy one or more of the criteria set out in Section 95(1)(a-d) of the *Wildlife Act*, and will therefore very likely require a WMMP. As such, at the completion of the current public review period associated with PPML's application, PPML can expect to receive a letter from the Minister of ENR outlining whether an approved WMMP will be required for this project to proceed, and the specific tier of WMMP required for this project. The GNWT notes that if a Minister-approved WMMP is required for the project, PPML may not be able to undertake the proposed activity until the plan is approved by the Minister.

The GNWT recommends that PPML take into account all reviewers' views on the sufficiency of the mitigation and monitoring measures outlined in PPML's Wildlife Protection Plan Version 1.0. These comments should be considered when PPML revises its WMMP for this project, to satisfy the Minister of ENR's requirements as laid out in Section 95(2) of the *Wildlife Act* and the WMMP Process and Content Guidelines. Additionally, the GNWT recommends that PPML ensure that the WMMP prepared for the CEP program explicitly contain elements minimizing and monitoring impacts to boreal caribou and boreal caribou habitat associated with this project.

GNWT recommends the inclusion of technical session

The GNWT notes that the Board is seeking input on whether a technical session/workshop is necessary. The GNWT supports the Board's idea of a technical session, given the scope of the project and technical nature of the proposed groundwater testing. Consequently, the GNWT recommends that a technical session be held as part of this Water Licensing and land use permitting process to further discuss the project, specifically the proposed groundwater testing.

The GNWT thanks the Board for the opportunity to provide comments. If the Board has any questions or concerns or requires additional information, please contact Mr. Horatio Sam-Aggrey, Project Assessment Analyst, at Horatio_Sam-Aggrey@gov.nt.ca or (867) 767-9180 ext. 24023 or me at Lorraine_Seale@gov.nt.ca or (867) 767-9180 ext. 24020.

Sincerely,



Lorraine Seale
Director
Securities and Project Assessment
Lands

Attachments

GNWT Comments Excel file

ARKTIS Solutions Inc. Memorandum

Figure 1. - Map illustrating Boreal caribou GPS collar locations colour-coded by behavioural season, from 27 individuals collared between 2015 and 2020

Figure 2. - Map illustrating Boreal caribou movement paths colour-coded by behavioural season.

Figure 3. - Map illustrating Density of boreal caribou collar locations (# locations/km²) within Pine Point Mining Ltd.'s mineral claims and mineral leases.

Appendix A

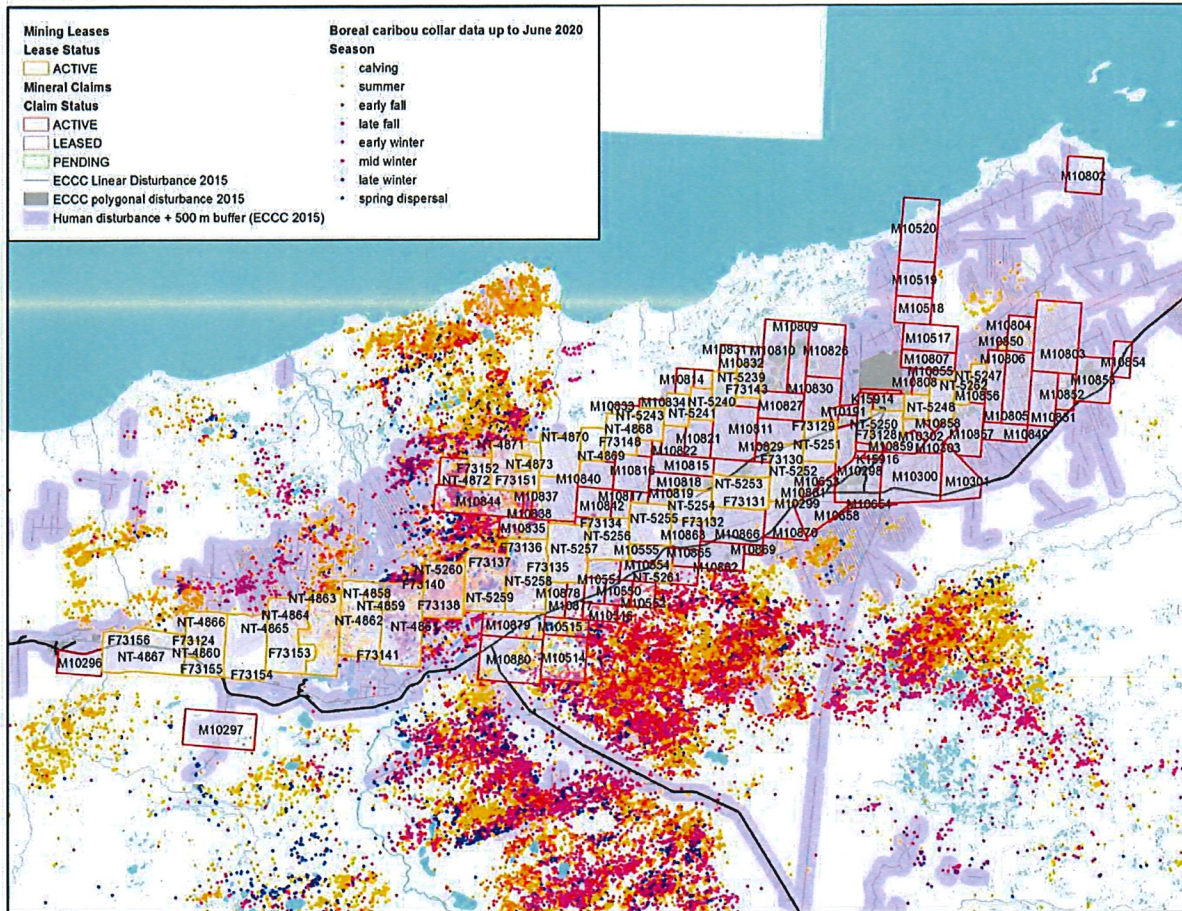


Figure 1. Boreal caribou GPS collar locations colour-coded by behavioural season from 27 individuals collared between 2015 and 2020, and are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder of the year.

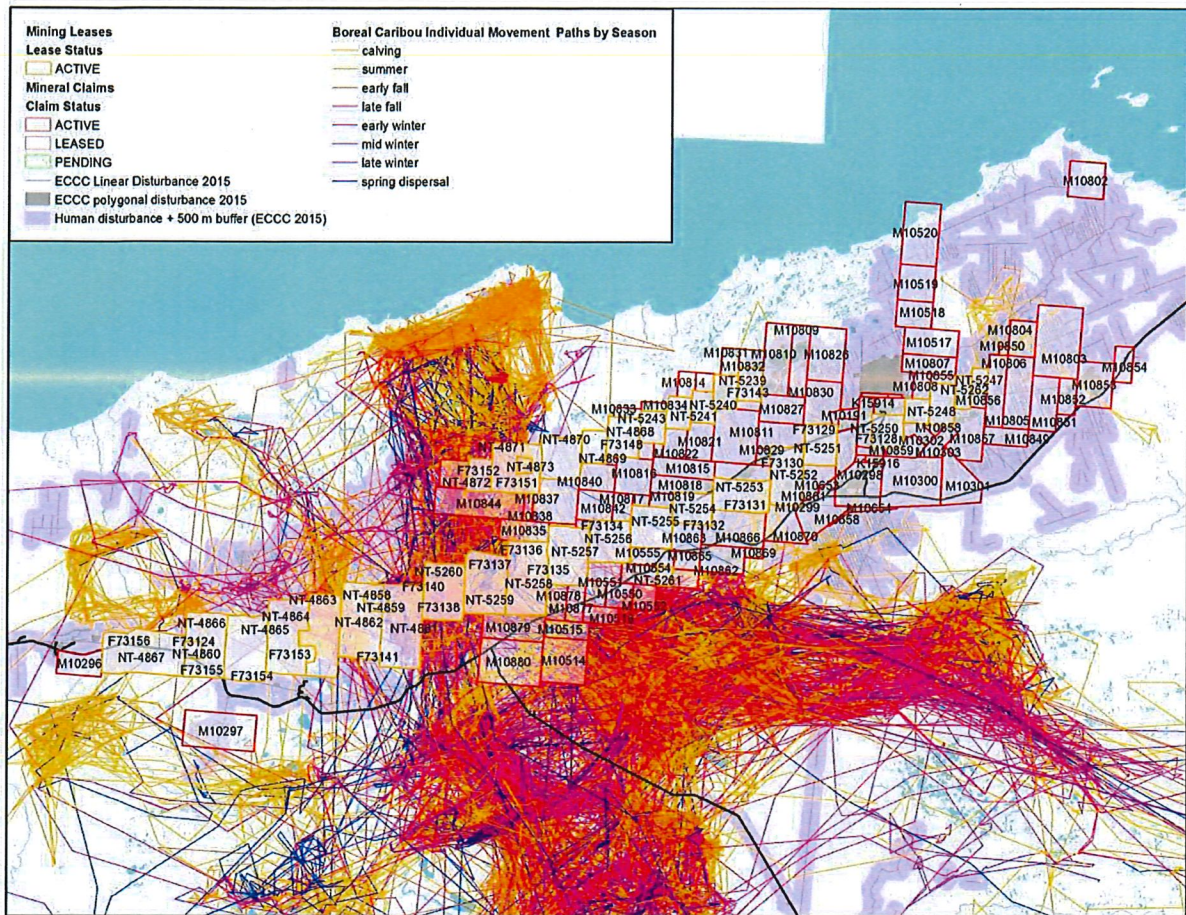


Figure 2. Boreal caribou movement paths colour-coded by behavioural season from 27 individuals collared between 2015 and 2020.

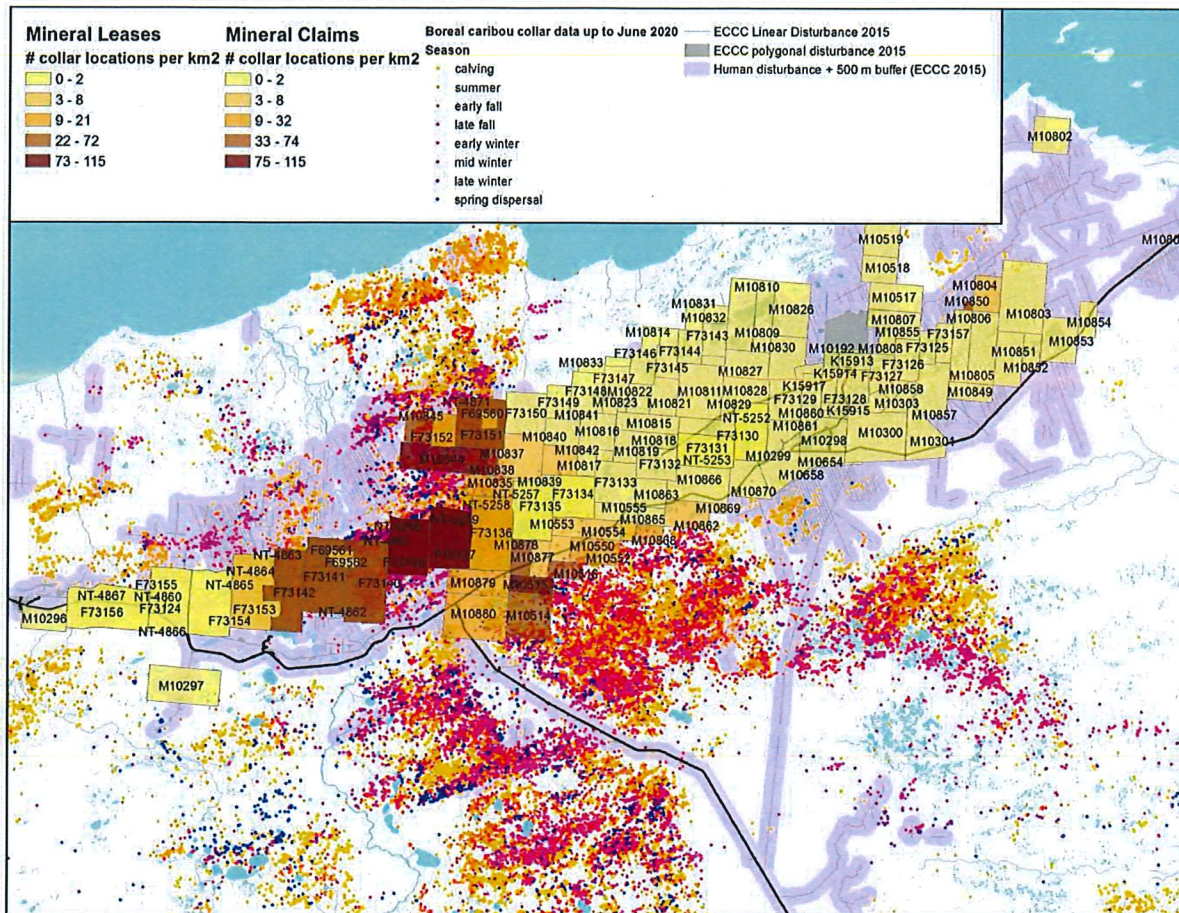


Figure 3. Density of boreal caribou collar locations (# locations/km²) within Pine Point Mining Ltd.'s mineral claims and mineral leases obtained from 27 individuals collared between 2015 and 2020. Collar locations are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder of the year.

MEMORANDUM

File:	2021-GNWT
To:	Government of the Northwest Territories, Environment and Natural Resources
Attention:	Laura Malone, Regulatory & Science Advisor
Subject:	Pine Point Mining Ltd. – Confirmation and Exploration Program Application for MV2020L8-0012 and MV2020C0017
Author:	Jamie Van Gulck, Ph.D., P.Eng., Principal
Page Total:	2
Revision:	1
Date:	January 12, 2021

PREAMBLE

The Government of the Northwest Territories (GNWT) has contracted ARKTIS Solutions Inc. (ARKTIS) to complete a review of Pine Point Mining Ltd.'s (Proponent) Confirmation and Exploration Program (herein referred to as the Project) Water Licence MV2020L8-0012 and Land Use Permit MV2020C0017 application submitted to the Mackenzie Valley Land and Water Board (MVLWB). This review is limited to an evaluation of the Proponent's plans associated with groundwater management.

ARKTIS reviewed the following documentation that was included within the Proponent's application:

- Pine Point Mining Ltd.'s Project Description for the Confirmation and Exploration Program Pine Point District, Northwest Territories. Version 1.
- Pine Point Mining Ltd.'s Groundwater Management Plan Framework for the Confirmation and Exploration Program Pine Point District, Northwest Territories. Revision 0.

The purpose of this Memorandum is to summarize ARKTIS' review and present draft information requests (IRs) to the Proponent that the GNWT may consider issuing to the MVLWB. Reviewer IRs are due January 19, 2021 (as per MVLWB Work Plan V.1).

SUMMARY

The Proponent plans to complete hydrogeological evaluation of the subsurface soils and rock to understand the physical, chemical, and hydraulic characteristics. An aquifer stress test (pump test) will occur. Two methods of pump tests will be completed:

- Method 1 – Extraction of water from an existing pit and discharge of this water to a different pit or an injection well.
- Method 2 – Extraction of groundwater from a well and discharge to a pit or injection well.

The test methods proposed are considered industry standard practice. Each method aims to change the water pressure in the subsurface soil/rock during the test. Measurement of the water quantity extracted and the water pressure over time and at various locations in the subsurface are then used to deduce the hydrogeologic properties of the soil/rock. These characteristics of the subsurface are critical to understand the rates of groundwater and solute transport movement within the project site, as well as predictions of groundwater inflows to pits during mining. During the pump test, water quality testing is proposed to evaluate the water chemistry.

For test method 1, water from one open pit will be removed and piped overland to a different open pit for discharge or to an injection well for discharge to the subsurface. The duration of the test is unknown currently and is dependent on the quantity of water in the open pit and the pumping rate. The Proponent has not identified which pits will be subject to testing.

For test method 2, water will be extracted from an extraction well and will be piped to a pit for discharge or to an injection well for discharge to the subsurface. Typical test durations are 2 to 3 days; however, this is dependent on the pump rate and subsurface hydraulics which are currently unknown. Monitoring wells in the vicinity of the extraction well will be drilled to permit the measurement of water pressures in the subsurface during the test. The Proponent has not yet determined the locations for testing or the number

of tests and claims this will be informed by the mine design. The Proponent commits to providing this information in an updated Groundwater Management Plan, which would be provided to the MVLWB for approval.

The schedule and location of aquifer testing remains to be determined by the Proponent. The Proponent commits to providing this information in an updated Groundwater Management Plan.

INFORMATION REQUESTS

IR# 1

Comment

The open pits and the locations of the extraction and injection wells that will be used to complete the aquifer testing are not defined by the Proponent. The Proponent notes that a final version of the Groundwater Management Plan will be submitted to the MVLWB after the details are determined (see Sections 1.0, 3.2 and 3.3 of the Groundwater Management Plan Framework). The scheduling for aquifer testing is not yet known by the Proponent but it is likely it would occur over more than one year. The Proponent is seeking a seven year water licence term. It is not clear if the Proponent is planning more than one Groundwater Management Plan submission that is informed over time based on previous results and decisions regarding mine development.

Recommendation

1. It is recommended the Proponent clarify the frequency of updating the Groundwater Management Plan with details regarding the open pits and locations of injection and extraction wells that are to be used as part of the aquifer testing.
2. It is recommended the Proponent provide a list of all items that will be included in the updated Groundwater Management Plan. It is understood that the locations for wells and pits to be utilized are only two of these items and there may be others.

IR# 2

Comment

Section 2.1 of the Groundwater Management Plan Framework notes that the northwest portion of the site has a piezometric surface that is higher than the ground surface. The proponent has not described how it will manage and abandon an artesian well, assuming one is encountered.

Recommendation

1. It is recommended the Proponent detail how they will manage and abandon an artesian well.

IR# 3

Comment

As described in Section 4.1 and 4.2 of the Groundwater Management Plan Framework, if the injection well is in a different aquifer than the source water, additional water quality sampling and compatibility studies would be conducted, which "may include a mixing model of chemistry and adverse groundwater quality changes". The results of these studies would inform if groundwater testing can proceed. The Framework is limited in detail to understand the details of the proposed mixing model and how "adverse" changes to groundwater quality will be quantified.

Recommendation

1. It is recommended the Proponent provide additional details regarding the water sampling and compatibility studies that may be conducted. It is recommended the response specifically describe the objective of the compatibility study, discuss the mixing model of chemistry and how adverse changes to groundwater quality will be determined.
2. It is recommended the Proponent clarify if the groundwater tests will proceed if the source water is of poorer quality than the groundwater associated with the injection well. Under this scenario, there is potential to degrade the aquifer groundwater quality.

Review Comment Table

Board:	MVLWB
Review Item:	Pine Point - Land Use Permit and Water Licence Applications (MV2020L8-0012 MV2020C0017) - Confirmation and Exploration Program - Technical Session - Responses to Information Request
File(s):	MV2020C0017 MV2020L8-0012
Proponent:	Pine Point Mining Limited
Document(s):	Response to IR 4 - Wastewater Treatment Options (145 KB) Response to IR 5 - RECLAIM Estimate - Spreadsheet (498 KB) Response to IR 5 - RECLAIM Estimate (975 KB) Response to IR 1 - Water Quality Data (70 KB) Responses to IR 6-10 (70 KB) Response to IR 2 - Compatibility Criteria (2036 KB) Response to IR 3 - Water Withdrawal Plan V1.1 (56351 KB)
Item For Review Distributed On:	Mar 16 at 11:07 Distribution List
Reviewer Comments Due By:	Mar 26, 2021
Proponent Responses Due By:	Mar 30, 2021
Item Description:	Please note that there is a separate Pine Point Mining Limited environmental assessment proceeding for Mining and Milling activities at Pine Point with the Mackenzie Valley Review Board (EA2021-01). There is no MVLWB Licence or Permit number associated with this environmental assessment. Pine Point Mine Project - EA2021-01 Review Board
	March 22, 2021: Pine Point Mining Limited has submitted its responses to Information Request #3 for a revised Water Withdrawal Plan Version 1.1. The Review Comment Deadline has been extended to March 26, 2021 .
	On February 24 and 25, 2021, a Technical Session was held for Pine Point Mining Limited (PPML)'s type A water licence (licence) and type A land use permit (permit) for the Confirmation and Exploration Program at Pine Point, NT. Information Requests were generated from the Technical Session. On March 12, 2021, PPML submitted responses to the Information Requests.

	<p>PPML has requested an extension to submit response to IR 3 regarding the Water Withdrawal Plan on March 17, 2021. Board staff will distribute the response to IR 3 once submitted and notify the distribution list.</p> <p>Using the Online Review System (ORS), reviewers are invited to submit comments and recommendations on the documents linked below by the review comment deadline specified. Reviewers may also wish to consider providing an overarching recommendation regarding whether the Board should approve the submission, to provide context for the comments and recommendations and assist the Board with its decision. Notices of intent to file a claim for water compensation must also be submitted by the review comment deadline. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the Applicant prior to submitting comments and recommendations.</p> <p>Under the Preliminary Screening Requirement Regulations, the Board must conduct a preliminary screening for a proposed development, unless it is exempt from preliminary screening in accordance with the Exemption List Regulations. Reviewers are encouraged to provide comments and recommendations (e.g., on impacts and mitigation measures) to assist with the Board’s preliminary screening determination.</p> <p>Please be advised that comments made by reviewers regarding impacts of this project to wildlife and wildlife habitat in this preliminary screening will inform the GNWT Minister of Environment and Natural Resources’ determination regarding whether a Wildlife Management and Monitoring Plan will be required for this project as per section 95 of the <i>Wildlife Act</i>.</p> <p>All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.</p> <p>Please see the following documents associated with the proceeding:</p> <ul style="list-style-type: none"> • Work Plan Version 1 • Technical Session Transcript Day 1 • Technical Session Transcript Day 2 • Technical Session Presentations • Information Requests
Contact Information:	<p>Jacqueline Ho 867-766-7455 Jen Potten 867-766-7468 Kim Murray (867) 766-7458</p>

Comment Summary

Pine Point Mining Limited (Proponent)				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	General File	Comment (doc) Water Quality Data Recommendation		
Environment and Climate Change Canada: Victoria Shore				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	Topic: Drilling Footprint Reference: Proponent response to technical session Information Request 8	Comment In the response to IR 8, PPML indicates that approximately 10% of new drill holes will be in undisturbed areas and that disturbances to greenfield areas will be minimized. It is important that PPML provide more details of how they will define or classify "disturbed" vs "undisturbed" areas or "brownfield" vs. "greenfield" areas. Although, they are proposing to avoid undisturbed areas and use disturbed areas in 90% of cases, the disturbed sites may in fact be functional habitat for some wildlife species if they have been left untouched since 1988. The effectiveness of avoidance as a mitigation measure therefore depends on the extent of regrowth at disturbed sites. Clearly defining these terms or even further categorizing disturbed areas (e.g. bare ground still visible from aerial/satellite imagery, still useable today without clearing vs. no longer visible from imagery, clearing required to use) would help in assessing potential impacts and developing	Mar 30: PPML takes steps to reduce impacts to existing vegetation and soils regardless of the category of the areas (i.e., greenfield or brownfield). This includes using drills on tracks to limit disturbance and limiting the size of the area cleared for a drill pad (current target is 20 x 20 m or less). PPML cautions against placing too much emphasis on the categories of "disturbed" vs "undisturbed" areas and "brownfield" vs. "greenfield" areas. ECCC is correct that there are gradients of disturbance across the entire Project property and that some previously disturbed areas have returned to being functional wildlife habitat for some species. It has been useful to apply these broad descriptive terms to aid reviewers' understanding of the	The Board used PPML's response to complete the preliminary screening.

		<p>interventions.</p> <p>Recommendation ECCC recommends that PPML define and further categorize "disturbed" vs "undisturbed" areas and "brownfield" vs "greenfield" areas.</p>	<p>Project, to highlight that there has been historic development at Pine Point and to describe PPML's intent to avoid clearing vegetation. Broadly speaking, 'undisturbed' areas are defined as areas where vegetation clearing will be required prior to drilling, regardless of whether that vegetation is original growth or regrowth. Greenfield areas are broadly defined as the area west of a line between the Highway 5 and Highway 6 junction to Sulphur Point, at the western extent of historic mining at Pine Point. For additional detail on existing disturbances and areas of interest for exploration, PPML refers ECCC to the slides on collared caribou locations from the Technical Session, as well as the Project Description and Mapbook provided with the Application. In responding to IR#8 from the Technical Session, PPML provided an approximate estimate that reflects both the difficulty in defining the terms, and the uncertain nature of exploration.</p>	
--	--	---	--	--

2	<p>Topic: Groundwater Management Plan - Criteria for Determining Compatibility Reference: Proponent response to technical session Information Request 2</p>	<p>Comment A summarized water quality comparison would be helpful to support the conclusions presented in this response. Assuming that the Proponent's response accurately characterizes baseline water quality conditions for surface and groundwater, the 30% TDS factor would be acceptable for transfers to injection wells, and transfers to pits that do not have fish or any connections to fish-frequented waters. Prior to transferring water to any pits with fish, baseline water quality should be reviewed for the full suite of parameters analyzed and there should be confirmation that water quality is acceptable for discharge to an aquatic environment. ECCC notes that Figure 2-2 (Pit Water Management Decision Tree) does not include a "no" response option for the question "Is groundwater injection an option?"; therefore, it is unclear how water would be managed in the event that groundwater water injection is not an option.</p> <p>Recommendation ECCC recommends that PPML: - Provides a summarized water quality comparison to support the conclusions presented in response to IR 2 (Criteria for Determining Compatibility); -Monitor and review pre-activity (baseline) water quality for a full suite of parameters, and confirms</p>	<p>Mar 30: In Figure 2-2, in the case where the answer to "Is water injection is an option:" is "No", then the path would be to return to the beginning of the flow chart by selecting a different pit. In Figure 2.2, water would only be transferred if the receiving pit or water injection site is considered compatible.</p>	<p>The Board used PPML's response to complete the preliminary screening.</p>
---	---	--	--	--

		parameter concentrations are acceptable for discharge to an aquatic environment, before any transfers to pits with fish; and -Clarify the following: -How water would be managed if the answer to the decision tree (Figure 2-2) question Is groundwater injection an option? Is “No” and Whether groundwater would be withdrawn only after determining that there is a compatible receiving pit or injection site.		
3	Topic: Waste Management Plan - Septic System and Wastewater Treatment Plant Reference: Proponent response to technical session Information Request 4	<p>Comment ECCC notes an apparent error regarding the destination for trucked sewage waste. The Proponent’s response states that a holding tank may be installed for sewage waste and this waste would be trucked to the Hay River Solid Waste Facility. The destination for trucked sewage waste should be corrected to read “sewage treatment facility”. ECCC also notes that any future installations for sewage treatment should include details of discharge locations and distance to surface waters, and that EQC should be reviewed based on the system configuration.</p> <p>Recommendation ECCC recommends 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</p>	<p>Mar 30: PPML clarifies that any trucked sewage would be taken to the Hay River Sewage Lagoon for disposal. PPML will submit for Board approval an updated Waste Management Plan with details of the locations of discharge locations, including distance to surface waters and EQC based on the system configuration.</p>	<p>The Board notes that a future Wastewater Treatment Facility will require EQC, whether that be developed during this proceeding or through an amendment process.</p>

		distance to surface waters; and EQC be reviewed based on the system configuration.		
GNWT - Lands: Horatio Sam-Aggrey				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
17	General File	Comment (doc) Cover Letter – GNWT’s Comments on PPML’s Responses to IRRs from the Technical Session Recommendation		
1	TDS Compatibility Criteria	Comment Total Dissolved Solids (TDS) are proposed to be used as the only water quality indicator and parameter of concern in the compatibility analysis to determine if the transfer of pit waters to other pits or from groundwater wells to injection sites can occur. PPML noted in the Information Request #2 Response that additional parameters are excluded from consideration on the basis that no distinct spatial trends were identified for these constituents in the pit waters across the area of the Project or because TDS is a reasonable analogue for major ions (e.g., chloride, sulphate). PPML has not provided an analysis to justify this conclusion and support the selection of TDS as the only parameter of concern. Missing is the supporting data analysis demonstrating the spatial variability (or lack thereof) of water quality across site. Recommendation ENR recommends that PPML complete a data analysis to	Mar 30: PPML will complete an analysis of the available historical pit water and groundwater quality data to determine spatial variability across the historical Pine Point mine site. Results will be provided in a memo. There is currently no plan to place groundwater from a well into a pit, as was initially proposed.	Noted. The Board included PPML’s commitment to provide the memo in the preliminary screening. The Board also updated the mitigations discussed in the preliminary screening to clarify that there is no longer a plan to place groundwater from a well into a pit, as was initially proposed.

		show the spatial variability (or lack thereof) of water quality across site, specifically the variation of parameter concentrations other than TDS between pits and groundwater, as well as the variation within pits with depth.		
2	Water Quality Trends	<p>Comment Table 2-1 from Information Request #2 Response presents ranges for TDS at 15 different pit locations between years 2005 to 2020, demonstrating the spatial variability of TDS, but no data showing the spatial variation of other parameters in pits, or for groundwater, is provided. The presented pits are also limited to the north and central zones of the Project area, with no data presented for the remaining spatial extent of the property (i.e., west, east and N-204 zones). Thus, there is uncertainty in the assumptions regarding water quality trends (i.e., spatial and depth variability for non-TDS parameters) for the Project area. In the Information Request #3 Response, water quality data for additional pits appears to be presented. It is not clear if this data has also been considered in the Proponent's Information Request #2 Response.</p> <p>Recommendation ENR recommends that PPML clarify and present the data assessed in order to confirm all available or applicable water quality data has been</p>	<p>Mar 30: PPML will complete an analysis of the available historical pit water and groundwater quality data to determine spatial variability across the historical Pine Point mine site. Results will be provided in a memo.</p>	<p>The Board used PPML's commitment to provide the memo in the preliminary screening.</p>

		considered in the assessment of water quality trends.		
3	Spatial Variability	<p>Comment In response to Information Request #1, the Proponent provided their complete water quality database, constituting 73 samples from pits and groundwater between 1980 and 2020. It is not clear from the database which samples are from groundwater, surface water or pits. The Proponent states groundwater samples were collected in years 1980, 1983, 2006, 2011, and 2018. Based on these years, there are at most 10 groundwater samples on which the Proponent bases their rationale. This may be regarded as a relatively limited dataset for both pit and groundwater for an area with over 15 pits across 60 km. cursory review of the dataset indicates that while some parameters remain relatively consistent, there appears to be enough variability that the claim of spatial consistency may not be completely accurate. For example, aluminum ranges from 4 to 6600 mg/L between possible pit samples, and iron ranges from 85 to 15,500 mg/L between possible groundwater sites. Additionally, although there is strong correlation to support the use of specific conductivity as an analogue for TDS concentrations, the</p>	<p>Mar 30: PPML will complete an analysis of the available historical pit water and groundwater quality data to determine spatial variability across the historical Pine Point mine site. Results will be provided in a memo.</p>	<p>See Board Decision for GNWT, comment 3.</p>

		<p>primary constituents influencing conductivity and thus TDS appear to consist of calcium, chloride, sodium and sulphate. Correlations with other major ions are weaker, limiting the argument for the use of TDS as an analogue for all major ions (i.e., calcium, magnesium, sodium, potassium, carbonate, bicarbonate, chloride, sulphate and nitrate). It is noted that this interpretation of the provided data may be incorrect due to uncertainty in the sample types (e.g., pit, groundwater), their relative locations, or the locations of anticipated source and receiving water sites.</p> <p>Recommendation ENR recommends that PPML provide additional information to confirm the concentration ranges of parameters across areas likely to be within the same transfer zone or aquifer, or provide their interpretation of the spatial variability across the proposed area of testing.</p>		
4	Spatial Variability	<p>Comment ENR notes that overall, there is uncertainty in the Proponent's rationale for using TDS as the only parameter of concern for compatibility criteria. From initial inspection of the water quality database, there are differences in select water quality parameters that differ by more than one order of</p>	<p>Mar 30: PPML will complete an analysis of the available historical pit water and groundwater quality data to determine spatial variability across the historical Pine Point mine site. Results will be provided in a memo.</p>	<p>See Board Decision for GNWT, comment 3.</p>

		<p>magnitude between sampling locations. Thus, it is plausible that select water quality parameters may have large differences.</p> <p>Recommendation ENR recommends that PPML provide the following additional supporting analysis of the spatial variability between and/or within pit water and groundwater, including the following: i. Provide a map that denotes the pit and groundwater sample locations associated with the water quality database. ii. Provide a table comparing the minimum, median and maximum parameter concentrations in pit water and groundwater from the available water quality database. Include sample counts and non-detect counts. Provide comment on noted differences between conventional parameters, major ions, nutrients and metals between pit water and groundwater. iii. Provide a table comparing the minimum, median and maximum parameter concentrations of pit water from different depths. Include sample counts and non-detect counts. Provide comment on noted differences between conventional parameters, major ions, nutrients and metals with depth. iv. Using maps, figures or appropriate analysis, provide further information to describe the</p>		
--	--	---	--	--

		spatial variability of water quality throughout the Project area. Identify any Project areas where there is limited water quality data to support this analysis.		
7	Potential Water Transfer Scenarios	<p>Comment ENR notes that only the pit to pit and groundwater to groundwater scenarios are clearly identified as occurring for the proposed Groundwater Management Plan, with defined compatibility criteria for each (i.e., $\pm 30\%$ TDS acceptability factor). The groundwater to pit scenario is not identified in PPML's Response to IR #2, and it is not clear if pumping of groundwater to a receiving pit will occur. This scenario was contemplated in PPML's Groundwater Management Framework. However, no criteria are specifically identified for this scenario. Decision trees for all scenarios except for pit to pit are further absent from PPML's response. The water transfer scenarios that are to occur, and compatibility criteria and decision trees for each, need to be clearly identified to better understand where information may be missing and inform an evaluation on the acceptability of each approach.</p> <p>Recommendation ENR recommends PPML provide the following additional information: i. A water management decision tree</p>	Mar 30: To be provided by 20 Apr 2021	The Board used the information from GNWT's comment to complete the preliminary screening.

		for the groundwater to groundwater scenario. ii. Confirm if groundwater to pit water transfer is a proposed activity. If yes, identify the compatibility criteria for this scenario and provide the water management decision tree. iii. Confirm if pit to groundwater water transfer is a proposed activity. If yes, identify the compatibility criteria for this scenario and provide the water management decision tree.		
9	Response to IR #4	<p>Comment PPML states that there are three wastewater treatment options under consideration. ENR notes that as discussed at the Technical Session, the proposed wastewater treatment process must be indicated in order for the Board to draft a Licence for this project. ENR is unable to complete an adequate assessment of PPMLs proposed waste treatment system without additional information on the selected option. ENR notes that this information is required in order to provide final recommendations to the Board. Any additional delays in receiving this information should be taken into consideration by the Board, and updates to the work plan made accordingly.</p> <p>Recommendation ENR recommends that PPML provide their selected wastewater treatment method as soon as possible.</p>	<p>Mar 30: PPML will select the wastewater treatment method as soon as possible. PPML wishes to further clarify that this decision will be made to coincide with preparations to expand the exploration camp site capacity and will depend on the timing and planned capacity required at that time.</p>	See Board Decision for ECCC, comment 3.

11	Figure 2-2	<p>Comment PPML indicates the TDS 30% acceptability factor is appropriate to remain protective should aquatic biota be present in pit waters. This suggests water will be pumped into pits even if fish are present. However, the decision tree in Figure 2-2 of the response to IR #2 indicates that should fish be present in a pit lake, water should be transferred to another pit or injected underground instead. Thus, it is unclear if water will be transferred to pits containing fish.</p> <p>Recommendation ENR recommends that PPML confirm if water transfer to pits containing or potentially containing fish is proposed.</p>	<p>Mar 30: Figure 2-2 of the "Groundwater Management Plan - Criteria for Determining Compatibility" confirms that PPML will avoid transferring water into fish bearing pit.</p>	Noted.
12	IR Response - Fish Presence Determination	<p>Comment Section 3.2 describes different groundwater testing methods for pits where fish are not present, and those that may have fish. ENR notes that it is not clear how the presence of fish will be determined or verified to ensure that the methods applying for pits with no fish are not conducted on a pit where fish are in fact present.</p> <p>Recommendation ENR recommends PPML clarify the methods that will be used to determine which pits are free of fish, and which may or may not contain fish prior to conducting groundwater pumping tests.</p>	<p>Mar 30: Minnow trapping and seine netting around the shoreline are expected to be the primary methods, supplemented by backpack electrofishing and small mesh multi-panel gill nets where conditions are suitable. This methodology was successfully used in the summer of 2020 to establish the presence of small-bodied fish in some existing flooded pits and to confirm the absence of fish in other pits.</p>	The Board used PPML's response to complete the preliminary screening.
13	Inspector Notification	<p>Comment PPML indicates that prior to pumping, in situ</p>	<p>Mar 30: PPML will provide the Inspector</p>	The Board used PPML's response

		<p>field measurements will be collected and the Inspector notified. It is unclear if PPML is implying Inspector review of results and approval is required for pumping to proceed. The draft water licence conditions only indicate an annual water licence report will be submitted containing a summary of activities and results from groundwater management in the previous year. No other reporting is identified. Reporting to the MVLWB should occur prior to, during and following pumping as a process through the Water Licence and Land Use Permit to confirm that work is being executed as per the Groundwater Management Plan. Reporting details should include dates of pumping, flow rates, water chemistry results from the compatibility evaluation, and monitoring results, among other items. The details regarding the reporting to be implemented are necessary to assess and confirm its acceptability.</p> <p>Recommendation ENR recommends that PPML confirm if reporting to the MVLWB will occur prior to pumping for approval to proceed, as well as during and/or after pumping to confirm work is being executed per the Groundwater Management Plan. PPML should identify the information to be</p>	<p>with the information necessary as per the Groundwater Management Plan for confirmation by the Inspector prior to commencing pumping. PPML will provide this information in the annual water licence report.</p>	<p>to complete the preliminary screening for impacts associated with the groundwater testing.</p>
--	--	--	--	---

		reported (e.g., water quality and/or field measurement results, dates of pumping, flow rates, monitoring results, etc.) and timing of reporting that is necessary to obtain pumping approvals prior to tests, and confirm to the MVLWB that work is being executed per the Groundwater Management Plan.		
14	Groundwater Levels	Comment Changes in water levels within pits and wells will impact groundwater levels in their vicinity. If there is a surface waterbody or watercourse within the zone of groundwater level change, there could be a temporary change in water level in response. The Proponent has not quantified the anticipated change in groundwater levels around source and receiving pits and wells resulting from the pump tests. It is unknown if monitoring of surrounding groundwater or surface water levels will occur during the pump test. Nor is it clear if there are specific thresholds for groundwater or surface water level changes that if exceeded, adaptive management would be implemented and what it would entail. Additional information is needed from the Proponent to identify how they will detect and mitigate potential changes in surface water levels in response to pump tests, including any set back	Mar 30: During the pumping tests, PPML will visually monitor nearby waterbodies (lakes, swamps, and streams) where they exist in reasonable proximity to the test site for changes in surface level. As stated in the Project Description (Sections 9.1 and 9.2), monitoring wells will also be installed at various distances from the source water site to monitor changes in the groundwater levels. The volumes of water to be withdrawn would not have any impact on larger rivers or lakes (e.g., Buffalo River, Great Slave Lake) so they will not be monitored.	The Board used PPML's response about monitoring following pumping to complete the preliminary screening re: mitigations associated with groundwater testing.

		<p>distances between waterbodies/watercourses and wells/pits, or restrictions on pumping to mitigate impacts to surrounding water levels.</p> <p>Recommendation ENR recommends PPML clarify if monitoring (e.g., visual) of nearby surface waterbodies or watercourses will be completed during a pump test to assess if a change in the surface water level occurs. Is there a threshold for water level change beyond which an adaptive management response will occur? If so, what is this threshold value and what adaptive management response would be completed (e.g., stop the pump test)? ENR recommends that PPML clarify if monitoring of groundwater levels will occur during the pump test. Are there opportunities to use the groundwater level data to inform the adaptive management associated with changes to surface water levels?</p>		
15	Pit water for Dust Control	<p>Comment ENR understands that PPML has submitted a memo providing justification for use of pit water for dust control as part of their response to Information Request #3. Based on a review of consolidated pit and natural surface water quality data, the memorandum concludes that despite some variability between pit water and</p>	<p>Mar 30: PPML suggests that the question is taking a narrow view of the issue. PPML is proposing to undertake dust suppression to address concerns related to the effects of dust on vegetation and caribou. While some of the pit water may exceed CCME guidelines, this is also</p>	<p>The Board uses the mitigations proposed by PPML to complete the preliminary screening.</p>

		<p>surface water quality, pit waters can be considered as a source of dust suppression water for the access roads in the Project area. This is primarily justified on the basis that there is high connectedness of the groundwater systems and the surface waters, that dust water application will be periodic and in small volumes, and any loading to natural water systems (i.e., creeks) will be small compared to natural loading. However, it is noted that pit water can exceed CCME guidelines for two parameters (uranium and thallium) that has not been observed in natural surface waters, among other differences. The potential effects of applying water that has water quality parameters exceeding CCME guidelines, or higher than background concentrations, are uncertain. Therefore, it is questionable if this activity is protective of the environment.</p> <p>Recommendation ENR recommends that PPML confirm if pit water quality would be sampled prior to use of the water for dust suppression. ENR recommends that PPML describe the potential effects resulting from a situation where the applied water has parameters that exceed CCME guidelines or background concentrations. ENR recommends that PPML</p>	<p>the case for calcium chloride, an approved product for dust suppression under the GNWT Guidelines for Dust Suppression (2013), or sodium chloride used to de-ice NWT highways. When applying water as a dust suppressant, PPML will follow the mitigation provided in the Guidelines including limiting the application to the roadway, monitoring the application rate to avoid pooling or runoff, and not exceeding the minimum application to effectively suppress dust. PPML is not committed to using dust suppression and has not yet determined if this will be necessary, but is requesting that this be included as a water use in the Licence in the case that dust suppression is requested by other Parties.</p>	
--	--	---	---	--

		describe any mitigations that are available to limit the application of water that exceeds CCME guidelines or background concentrations.		
16	Reference	Comment CCME (Canadian Council of Minister of the Environment), 1999 (with updates to 2020). Canadian Environmental Quality Guidelines, Water Quality Guidelines for the Protection of Aquatic Life. Canadian Council of Ministers of the Environment, Winnipeg. Recommendation N/A	Mar 30: N/A	Noted.
MVLWB: Jacqueline Ho				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
2	Information Request #2	Comment The Board's Water and Effluent Quality Management Policy states that the Boards will set EQC in the water licence...for any contaminant or parameter of the waste which, in the Boards' opinion, has the potential to adversely affect water quality in the receiving environment. PPML has only presented information of criteria for TDS. Recommendation Does the water being managed by PPML contain other parameters that could be considered to adversely affect water quality in the receiving environment? I.e. are any other parameters above a particular guideline or elevated above background or destination water quality concentrations?	Mar 30: The intent of the CEP program is to obtain information that will support the development of a water management plan for the proposed mine that is undergoing environmental assessment. The test program would move water from selected existing pits to another existing pit or from wells to reinjection wells once compatibility has been confirmed. PPML will use the results of the analysis of spatial variability to support a further response to this comment, which will be provided in a memo format.	See Board Decision for GNWT, comment 1.

12	Information Request #3 - Water Withdrawal Plan Section 3.2 Water Withdrawal Limits from Pits from Groundwater Pumping Tests	<p>Comment Board staff understand it is not PPML's intention to dewater any pits. For fish-bearing pits, is PPML proposing to conduct aquifer/groundwater testing in ice-covered conditions where the available water volume is less?</p> <p>Recommendation PPML to clarify if the aquifer/groundwater testing will be conducted in ice-covered and fish-bearing pits?</p>	<p>Mar 30: Figure 2-2 of the "Groundwater Management Plan - criteria for Determining Compatibility" confirms that PPML will avoid transferring water into a fish-bearing pit. No water testing is proposed for winter conditions where the pits may be ice-covered.</p>	Noted.
14	Information Request #3 - Water Withdrawal Plan - Dust Control	<p>Comment Board staff appreciate the technical memorandum to justify using pit water for dust control on the roads. As per the Board's Water and Effluent Quality Management Policy, one of the Board's objective is "The amount of waste to be deposited to the receiving environment is minimized", and "The Boards expect proponents to identify and implement waste prevention and/or minimization measures, whenever feasible." Board staff notes that Table 2 of the Appendix shows that the water quality in Great Slave Lake is better than the pit water, and there is also road access to Great Slave Lake. Please comment on how PPML is meeting the Board's Policy by using the pit water for dust control, when there is a higher quality water source available.</p> <p>Recommendation PPML to further elaborate on how</p>	<p>Mar 30: The nearest road access to Great Slave Lake from the proposed camp area is approximately 30 km by road. Unfortunately, the water supply line trail is not a useable road, and is nevertheless approximately 10 km from the camp. PPML proposes to draw dust suppression water from the pits as they have an ample supply of water and are the closest sources to roads that may cause dust emissions. PPML encourages the MVLWB to consider that PPML is offering to apply water to roads to reduce dust emissions which may be of concern to the terrestrial environment, that minimizing driving distances to obtain water for dust</p>	The Board used PPML's response to complete the preliminary screening.

		using pit water for dust control aligns with the Board's Water and Effluent Quality Management Policy.	suppression also reduces dust and greenhouse gas emissions, and that the roads are constructed from material drawn from the same pits that will be the water sources for dust control.	
--	--	--	--	--



BY ONLINE REVIEW SYSTEM

Ms. Jacqueline Ho, Regulatory Specialist
Ms. Jen Potten, A/Regulatory Coordinator
Ms. Kim Murray/ Regulatory Specialist
Mackenzie Valley Land and Water Board
7th Floor YK Centre Mall
4922 – 48th Street
PO BOX 2130
YELLOWKNIFE NT X1A 2P6

MAR 26 2021

Dear Ms. Ho, Ms. Potten, and Ms. Murray:

The Government of the Northwest Territories has provided comments on Pine Point Mining Limited's Responses to Information Requests generated at the Technical Session, for the Land Use Permit and Water Licence Applications (MV2020L8-0012 MV2020C0017) relating to its Confirmation and Exploration Program.

I am writing on behalf of all Government of the Northwest Territories (GNWT) departments. I confirm that all GNWT departments with interests related to the Pine Point Land Use Permit and Water Licence reviewed the Mackenzie Valley Land and Water Board's request for comments to Pine Point's responses to information requests, dated March 16, 2021. The Department of Environment and Natural Resources has provided comments, which are submitted with this letter.

If the Mackenzie Valley Land and Water Board has any questions or concerns or requires additional information, please contact Mr. Horatio Sam-Aggrey, Project Assessment Analyst, at Horatio_Sam-Aggrey@gov.nt.ca or (867) 767-9180 ext. 24023 or me at Lorraine_Seale@gov.nt.ca or (867) 767-9180 ext. 24020.

Sincerely,

Lorraine Seale
Director
Securities and Project Assessment
Lands

Attachments