

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:	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. 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.

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.

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.

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 *Wildlife Act*.

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.

Contact Information:

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Comment Summary

Pine Point Mining Limited (Proponent)

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
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 m ³ /day of water from a borehole or pit. PPML has continued collating available historical data from published sources and now considers that a 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 m ³ /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. Recommendation N/A		
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CIRNAC-CARD: Amy Allan

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Engagement Plan	Comment The project description and maps indicate that the proponent will be accessing and travelling over the Pine Point Railbed. The Pine Point Railbed and a portion of the land around it is crown land and is a contaminated site managed by CIRNAC-CARD. CIRNAC-CARD has not been listed as a interested party in the engagement plan. Recommendation As discussed with Pine Point Mining Limited, CIRNAC-CARD would like to be actively engaged throughout this project. We would like to work together with the proponent to ensure the safety of all workers that may access the Pine Point Railbed contaminated site and ensure environmental liabilities are managed appropriately.	Feb 2: PPML prefers to keep the Engagement Plan parties focussed on indigenous organizations governments, as per the MVLWB Engagement Guidelines. Regardless, PPML will continue to work with CIRNAC-CARD and continue to keep them advised of activities at Pine Point and provide support for their on-going work where possible.	

Deninu K'ue First Nation: Marc d'Entremont

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Project Description	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. Recommendation The Deninu Kue First Nation is presently conducting research on boreal	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.	

		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.		
2	Screening Impact Assessment	Comment Members of the Deninu Kue First Nation regularly hunt and trap in the Pine Point area.&nbsp; 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.	Feb 2: PPML commits to continued 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.	
3	Closure and Reclamation Plan	Comment The closure principles are appropriate and the DKFN would like to work with PPML to ensure these principles and&nbsp; the closure goals are met. 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 (Cladonia sub-genus Cladina) 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.	Feb 2: PPML agrees to work with DKFN to incorporate the outcomes of this study in the Closure and Reclamation Plan.	

4	Wildlife Monitoring Plan	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 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. 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.	Feb 2: The Pine Point area is a highly disturbed brownfield site, 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	
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			with the DKFN to better understand the concerns and find ways to further mitigate impacts.	
5	Wildlife Management and Monitoring Plan	Comment Wildlife Management and Monitoring Plan 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.	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 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 Staff Response
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 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	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.	

		that the water being returned to the environment is not deleterious. 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.		
2	Reference: Screening Impact Assessment Section 2.1 Project Summary	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. 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	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.	
3	Reference: Groundwater Management Plan Framework Table 1: Preliminary Summary of Groundwater Management during Testing	Comment Water quality is to be compared for compatibility for transfers between pits. This appears to be based solely on field-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. 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.	Feb 2: PPML thanks ECCC for this input and will address this recommendation in the next version of the Groundwater Management Plan, including plans to avoid fish-bearing waters.	
4	Reference: Groundwater Management Plan Framework Table 1: Preliminary Summary of	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	Feb 2: PPML thanks ECCC for this recommendation	

	Groundwater Management during Testing Section 4.2 Sampling Parameters	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. 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.	and PPML will endeavour to address this issue in the next version of the Groundwater Management Plan.	
5	Reference: Screening Impact Assessment Table 3: Screening-level Environmental Assessment for the Confirmation and Exploration Program Section 2.1 Project Summary	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 pits. Incineration and blasting can have emissions to the atmosphere that may not have been considered in the Screening Impact Assessment. 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.	Feb 2: PPML does not intend to update the Screening Impact Assessment, as it is intended only to support the 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.	
6	Reference: Waste Management Plan Section 6 Incinerator Operation Table 2: Waste Types Potentially Generated	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	Feb 2: Proposals for stack testing (if required) will be provided in an updated version of the Waste Management Plan.	

		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). 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.		
7	Species at risk potentially interacting with the project References: Wildlife Protection Plan, Section 4.0, Table 2: Wildlife species of concern that may interact with the Project. Screening-Level Environmental Assessment for the Confirmation and Exploration Program “Pine Point Project, Section	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 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. 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.	Feb 2: The Wildlife Protection Plan will be updated to include these species.	
8	Mitigation for migratory birds Reference: Wildlife	Comment ECCC notes that efforts will be made to use existing disturbed areas and to avoid the	Feb 2: PPML will provide more	

	Protection Plan Section 6.3 Bird Nesting and Bat Roosting Monitoring and Appendix B	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 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. 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	detail on nest monitoring and the pre-clearing monitoring as requested by ECCC in the next version of the Wildlife Protection Plan.	
9	Wildlife Protection Plan, Appendix B, Wildlife Incidental Reporting Procedure	Comment There is a typo in the ECCC email address to report wildlife incidents. Recommendation ECCC recommends the email to report wildlife incidents be corrected to: ec.dalfnord-wednorth.ec@canada.ca	Feb 2: This update will be made in the next version of the Wildlife Protection Plan.	
10	Species at Risk “ Bank SwallowReference:Wildlife Protection Plan Section 6.3 Bird Nesting and Bat Roosting Monitoring and Appendix B	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	Feb 2: This update will be made in the next version of the Wildlife Protection Plan.	

		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 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. 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.		
11	Species at Risk “Whooping Crane Reference: Wildlife Protection Plan Section 6.4 Pre-Clearing	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).	Feb 2: This update will be made in the next version of the Wildlife Protection Plan.	

Monitoring and Appendix B	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 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). 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.		
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Fisheries and Oceans Canada: Triage Group Fisheries Protection Program

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Pine Point Mining Limited - Land Use Permit and Water Licence Applications (MV2020L8-0012 MV2020C0017)	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. 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 proponent review	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.	

		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 Staff Response
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	
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	
3	26(1)(b) Time Condition 9 - Notification	Comment Condition requires 48 notification to the Inspector for commencement of the operation. Recommendation Remove the extensions for the Inspector's phone numbers.	Feb 2: Noted	

4	26(1)(b) Time - Weekly Reports	Comment The Inspector would like to receive weekly reports that contain a summary of the drilling operations completed in the past week. The report should include drill and access locations, a map and any unexpected occurrences. Recommendation Add Condition - The Permittee shall submit a progress report to Inspectors every 7 days during drilling operations.	Feb 2: Noted	
5	26(1)(f) Erosion, Flooding, Subsidence Condition 32	Comment Condition 32 does not allow the operation of heavy equipment within 100m of the OHWM, however Condition 35 allows for drilling with 100m of the OHWM which contradicts Condition 32. Recommendation Change Condition 32 to read "The Permittee shall not remove vegetation within 100m of the OHWM of any water course".	Feb 2: Noted	
6	26(1)(f) Erosion, Flooding, Subsidence - Ice Bridge Materials	Comment The intent of this condition is to keep Waste out of Watercourses. Logs, planks, sawdust, soil, etc. are prohibited because they become difficult, to remove before Spring Break Up. If not removed, they would be deposited into the Watercourse. Recommendation Add Condition - The Permittee shall not use any material other than clean water and snow in the construction of ice bridges.	Feb 2: Noted	
7	26(1)(f) Erosion, Flooding, Subsidence - Snowfill Materials	Comment The intent of this condition is to keep Waste out of Watercourses. Logs, planks, sawdust, soil, etc. are prohibited because they become difficult, to remove before Spring Break Up. If not removed, they would be deposited into the Watercourse. Recommendation Add Condition - The Permittee shall not use any materials other than clean snow and water in the construction of snow fills.	Feb 2: Noted	
8	26(1)(f) Erosion, Flooding, Subsidence - Remove or V-Notch Snowfills	Comment The intent of this condition is to prevent pollution and the alteration of drainage in streams. Recommendation Add Condition - Prior to spring break-up or completion of the land-use operation, the Permittee shall clean up and either remove or v-notch all snowfills from stream crossings, unless otherwise authorized in writing by an Inspector.	Feb 2: Noted	

9	26(1)(f) Erosion, Flooding, Subsidence - V-Notch Ice Bridge	Comment The intent of this condition is to prevent pollution and the alteration of drainage in streams. Recommendation Add Condition - Prior to spring break-up or completion of the land-use operation, the Permittee shall clean up and v-notch all ice bridges, unless otherwise authorized in writing by an Inspector.	Feb 2: Noted	
10	26(1)(h) Wildlife and Fish Habitat	Comment The operation requires water withdrawal from various water bodies in the area. A condition to prevent entrainment of fish is required. Recommendation Add Condition - The Permittee shall construct and maintain the water intake(s) with a fish screen designed to prevent impingement and/or entrainment of fish, in accordance with the best practices outlined in both the Department of Fisheries and Oceans's Freshwater Intake End-of-Pipe Fish Screen Guidelines, and Fish Screen Design Criteria for Flood and Water Truck Pump	Feb 2: This requirement is already included in Section 3.4 of the Water Withdrawal Plan.	
11	26(1)(m) Fuel Storage Condition 61 - Mark Containers and Tanks	Comment This condition isn't required as it applies to heavy use areas where more than one Permittee will be operating. The intent of marking containers is so the Inspector can identify the owner(s) of any containers left behind after operations cease.. Recommendation Remove Condition.	Feb 2: Noted	
12	26(1)(m) Fuel Storage	Comment If the weatherhaven style tents with oil heaters are going to be used a condition for fuel container stands should be added. Recommendation Add Condition - The Permittee shall only use stands approved by an Inspector for supporting Fuel Storage Containers that are in use.	Feb 2: Noted	
13	26(1)(n) Methods and Techniques for Debris and Brush Disposal	Comment Proponent is proposing to cut up any downed trees in to smaller pieces and roll back over the site once operation is completed. Land use condition is asking for progressive disposal of all brush and trees. The Inspector prefers to see the large timber (>13dbh) from the larger clearings salvaged and decked so that it can be utilized by the public as firewood. The Inspector recommends this be done in areas easily accessible by the public. It is important that discretion is given to the Inspector to insure that the Condition does not impede rollback on the access roads, trails and smaller clearings. Recommendation Add Condition - The	Feb 2: PPML is not proposing to cut downed trees into smaller pieces. The felled trees will be bucked (branches removed) to allow the trees to be placed back over the clear site during reclamation.	

		Permittee shall salvage all portions of trees cleared that are larger than thirteen (13) centimetres in diameter and pile all salvaged wood at locations identified by an Inspector, unless otherwise authorized by the Inspector.		
GNWT - Lands: Horatio Sam-Aggrey				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
61	General File	Comment (doc) GNWT Cover Letter nbsp; 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 implications for boreal caribou,	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	

	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 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	and distribution with the CEP requirements. The outcome of this review will form the basis of further conversations regarding the Wildlife Protection Plan.	
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		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 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		
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		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 minimize impacts to caribou or to determine the extent of residual impacts to boreal caribou and habitat resulting from the proposed activities. 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.		
3	None	Comment None 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.	Feb 2: Noted	
4	None	Comment None Recommendation 3) The GNWT recommends that PPML work with the GNWT to conduct a	Feb 2: PPML is willing to discuss	

		population survey to determine how many boreal caribou occur within the project area.	this with the GNWT.	
5	2. Workplan	Comment 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; .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. Recommendation The GNWT's recommends the following : The Board revise its workplan to include when the Board intends to make its preliminary screening determination; The Board confirm if lines 20, 21 and 22 include draft land use permit conditions, as well as draft water licence conditions; The Board confirm if line 25 includes issuance of the land use permit; and The Board hold a technical session.	Feb 2: No comment.	
6	3. Wildlife Management and Monitoring Plan (WMMP)	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 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	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 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	

		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". 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.	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 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	
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			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.	
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 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. 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	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 blasting. Further detail will be provided on deterrent procedures in the next version of the Wildlife Protection Plan.	

		should be done from behind a vehicle or piece of equipment to prevent personnel from going too close to the animal.		
9	None	Comment None Recommendation 2) PPML should ensure that an Incident Report is completed for all wildlife deterrent actions taken and submitted to the GNWT. Blank incident report forms can be downloaded from the following link: https://www.enr.gov.nt.ca/sites/enr/files/resources/sample_procedural_manual_and_reporting_templates_june_2019.pdf	Feb 2: The suggested Incident Report Form is already included in the Wildlife Protection Plan.	
10	5. Wildlife: Bear Den Surveys	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. 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.	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.	
11	None	Comment None Recommendation 2) If an active bear den is detected, or suspected, implement and maintain an 800 m buffer zone until the bear emerges in spring.	Feb 2: See above.	
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.	
13	6. Reporting Wildlife Sightings	Comment Section 6.5 (Wildlife Incident Reporting) of the Wildlife Protection Plan includes mention that wildlife incidents should be reported to ENR. Additionally, Section 6.1.1 (Monitoring - Methods) discusses the requirement that all wildlife sightings be recorded on the Wildlife Sighting Procedure	Feb 2: PPML can provide ENR with copies of all raw data, which will include the parameters specified where	

		and Form (Appendix B). However, the Proponent is encouraged to include in the revised WMMP that information about wildlife sightings will be submitted to ENR's Wildlife Management Information System (WMIS). Recommendation 1) PPML is encouraged to include in the revised WMMP that information about wildlife sightings (species, date, time, location, number of individuals, sex, behavior, etc.) will be submitted to ENR's Wildlife Management Information System (WMIS) at WMISTeam@gov.nt.ca. For further information on the WMIS consult: https://www.TheGNWT.gov.nt.ca/en/services/recherche-et-donnees/wildlife-management-information-system	possible, at the end of each year. This commitment will be added to the next revision of the Wildlife Protection Plan.	
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.	
15	None	Comment None Recommendation 2) In addition to draft Land Use Permit condition #45, it is recommended the Board include a permit condition that requires the Proponent to store wastes which may attract wildlife in wildlife-proof containers, and that those containers should be regularly cleaned.	Feb 2: Noted	
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.	Feb 2: PPML camp managers will obtain this training and communicate bear response procedures to workers. Bear	

		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 the risk of wildlife mortality resulting from kills in defense of life and property.	response procedures will be included in the camp orientation.	
17	None	Comment None Recommendation 2) The GNWT recommends the Proponent consult the "Safety in Grizzly Bear and Black Bear Country" brochure, available at the following link: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf	Feb 2: This document is already cited in the Wildlife Protection Plan.	
18	9. Cumulative Effects	Comment It is unclear in the application to what extent the project will contribute to the amount of disturbed habitat in the area. PPML should keep track of the disturbance footprint of development activities. This tracking should encompass both re-disturbance of currently disturbed (i.e. brownfield) areas that may be regenerating and new disturbance in undisturbed areas. This is an important component of tracking and informing the management of cumulative effects on wildlife and wildlife habitat. To better understand cumulative effects in the NWT, ENR's NWT Cumulative Impact Monitoring Program has developed the 'Inventory of Landscape Change' (ILC). One of the layers incorporated in the ILC is derived from public registry documents and validated through satellite imagery. Submission of standardized spatial data to public registries facilitates data acquisition for this layer. Recommendation 1) The GNWT recommends that PPML submit geospatial data for the proposed project footprint and for the completed project footprint to the Land and Water Board for placement on the public registry. Furthermore, PPML should identify which areas of the proposed project footprint are currently disturbed (i.e. brownfield) and undisturbed areas. The MVLWB's Standards for Geographic Information Systems (GIS) Submissions should be followed when submitting spatial data.	Feb 2: This information can be provided at the close of the land use permit. It is not within the ability of PPML or any other developer conducting an exploration program to be able to provide a list of exploration sites in advance of starting work. PPML has some areas of interest within the mining leases and mineral claims, but specific locations cannot be provided. Regardless, exploration activity will preferentially select disturbed areas as it is both easier and causes less environmental impact. If the Project proceeds to mining, PPML commits to	

			providing the spatial data for the proposed mining operations.	
19	10. Species at Risk	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-speciesatrisk.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 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	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.	

		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. Recommendation 1) The GNWT recommends PPML's revised WMMP include searching for potential bat 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.		
20	None	Comment None Recommendation 2) PPML's revised WMMP should include reporting any sightings of wood bison by PPML project staff immediately to ENR at 1-866-629-6438.	Feb 2: PPML will add this to an updated version of the Wildlife Protection Plan.	
21	11. Closure and Reclamation	Comment The Confirmation and Exploration Program (CEP will) involve drilling at over 3000	Feb 2: Few brownfield	

		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). 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.	(existing) trails have naturally revegetated, however, those that have will be reclaimed as if a "new" disturbance.	
22	None	Comment None Recommendation 2) The GNWT recommends that the proponent clarify number of drill holes and total drill pads (sites), including mineral exploration and geotechnical drill holes.	Feb 2: The project description submitted with the permit application estimates drilling 3300 geological and geotechnical drill holes, or more depending on results. In some cases it may be possible to drill more than one drill hole from a cleared site, but at a minimum there	

			would be one hole per drill site.	
23	12. Waste Management Plan: Table 2 : Waste Types Potentially Generated, Page 7	Comment The disposal method for construction wastes such as wood, metal and other solids is stated to be removed from site, burned or incinerated. It is also not specified how inert construction wastes such as metals and treated wood will be managed. Recommendation 1) The GNWT recommends the proponent specify which construction wastes are intended to be "burned". It should be noted that only paper products, paperboard packaging and untreated wood wastes should be burned as per the guidance document "Municipal Solid Wastes Suitable for Open Burning" which is stated in section 4.3 of the Plan.	Feb 2: Section 4.0 of the Waste Management Plan can be updated to clarify management of inert non-combustible waste, such as metal and treated wood. Section 4.3 specifies which materials may be burned.	
24	13. Waste Management Plan: Table 1 : Waste Management Principles, Page 3	Comment The Table 'Waste Management Principles' in this section highlights the waste management hierarchy. It would be appropriate to rephrase 'release to the environment' as 'disposal', as the former gives a sense of uncontrolled, unscientific disposal, which is not in line with the waste hierarchy. Recommendation 1) The GNWT recommends the Proponent rephrase "release to the environment" with "disposal" to avoid misinterpretation of terms.	Feb 2: This change can be made to the next version of the Waste Management Plan.	
25	14. Waste Management Plan: 4.3. Management of Non-Mineral Combustible Waste, Page 8; 5. Infrastructure Required for Waste Management, Page 10; 6.1. Background page 11.	Comment It is stated that: "Non-hazardous combustible waste may, depending on composition of the waste, be treated as non-combustible waste (Section 4.2) or open-burned or incinerated to reduce volume and to reduce potential wildlife attractants" and goes on to say that "Open burning may be used for paper, paperboard packaging and untreated wood only". It is further stated that: "Incineration in an appropriately sized dual-chamber incinerator may be used to reduce putrescible (eg., Food waste) as well as other waste streams compatible with the incinerator being used." Section 5 also emphasizes that burn pit shall be used "for disposal of oversized, nonhazardous paper and wood". On the other hand, in Section 6.1 of the plan paper products, wood products etc. are said to be incinerated. From these statements, it isn't clear how the decision on the treatment technique shall be made, and what kind of segregation would be	Feb 2: Table 2 in the Waste Management Plan lists the items considered to be non-mineral and under the "Disposal" method column indicates if that the material may be considered for incineration. The text in Sections 4.2, 5.0 and 6.1 will be reviewed for consistency in the next version of the Plan.	

		in place to implement this action. There is also a lack of clarity of which fraction of the waste stream will be burned and which fraction will be incinerated. Recommendation 1) The GNWT recommends the proponent state what materials/composition will be treated as "non-mineral non-combustible", and what fraction of wastes will be incinerated.		
26	None	Comment None Recommendation 2) The proponent should also specify what segregation system, manual/automated/at-source etc., is in place to implement these practices.	Feb 2: All waste is segregated at source.	
27	None	Comment None Recommendation 3) The phrase "oversized non-hazardous paper and wood" is vague and needs to be clarified in the Plan. If there is a limiting size for burn pit, this should be specified in the Plan.	Feb 2: This can be clarified in the next version of the Waste Management Plan. It is intended for burnable waste products (paper, cardboard and untreated wood) that would not readily fit within an incinerator.	
28	15. ARKTIS Solutions Inc. Memorandum	Comment The GNWT retained ARKTIS Solutions Inc. to conduct a review of Pine Point Mining Limited (PPML)'s Groundwater Management Plan Framework as part of a Type A Water Licence Application for the Confirmation and Exploration Program. The GNWT has extracted and summarized the comments and recommendations from the memorandums and provided them below. The GNWT has also included the ARKTIS Solutions Inc. memorandum which provides additional background for the Board's information. Recommendation 1) The GNWT recommends the Board refer to the attached memorandum for additional background and context supporting the GNWT's comments and recommendations.	Feb 2: PPML notes that the questions provided in the Arktis memorandum are included in the GNWT recommendations, and responses have been provided.	
29	16. Seepage Monitoring	Comment Section 4.1 of the Project Description states that the Bedrock 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	Feb 2: The Bedrock Sampling Management Plan clarifies that all rock will be	

		the Bedrock Management Plan Framework. 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.	returned to the test pit immediately following collection of the sample, so no seepage is anticipated.	
30	17. Drilling	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. 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.	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.	
31	18. Updates to Groundwater Management Plan	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 Proponent is seeking a seven year Water Licence term. It isn't 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) The GNWT recommends that PPML 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.	Feb 2: PPML plans to provide a single version of the GMP for approval, but cannot rule out the possibility that updates may be required to reflect the Project needs and preliminary findings.	
32	None	Comment None Recommendation 2) The GNWT recommends the Proponent provide a list of all items that will be included in the updated Groundwater Management Plan. It is understood that the	Feb 2: PPML has provided a Framework Groundwater Management Plan	

		locations for wells and pits to be utilized are only two of these items and there may be others. This will allow reviewers an opportunity to properly review this plan in the future.	for preliminary discussion. PPML will discuss the Groundwater Management Plan with GNWT prior to preparing a final version to better understand GNWT requirements.	
33	19. Groundwater Management Plan - Artesian Wells	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. Recommendation 1) The GNWT recommends the Proponent detail how they will manage and abandon an artesian well.	Feb 2: Land Use Permit Condition 24 will require that boreholes with flowing water be permanently plugged and reported.	
34	20. Groundwater Management Plan - Water Sampling and Compatibility Studies	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) 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.	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 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	
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			a substantial impact. An impact is considered a degradation of water quality which would substantially change an aquifer's chemistry.	
35	None	Comment None Recommendation 2) The GNWT recommends 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.	Feb 2: PPML appreciates this input and will discuss the Groundwater Management Plan with GNWT prior to preparing a final version to better understand GNWT requirements.	
36	21. Water Withdrawal Plan “Water Sources	Comment The GNWT notes that Section 2.0, Tables 1 and 2 of the Water Withdrawal Plan indicate whether each waterbody and watercourse was considered as a potential water source. The GNWT notes that it isn't clear why PPML has included waterbodies and watercourses that are not being considered as water sources in these tables. While not identified as a source for usage, waterbodies listed include the Teck Tailings Storage Area Pond, which is not an appropriate water source, as well as waterbodies that are located a large distance outside the mineral claim and lease boundaries. The inclusion of water sources which are not likely to be utilized unnecessarily complicates the submission and makes it difficult to actually assess sources that are legitimately being considered by PPML. This practice should be avoided in future. The Water Withdrawal Plan should only focus on waterbodies and watercourses being considered as water sources. All waterbodies and watercourses not being considered as a water source should be removed from the Plan, or included in a separate table, for clarity. Recommendation 1) The GNWT recommends that PPML clarify why waterbodies and watercourses that are not being considered as	Feb 2: PPML has included waterbodies that were removed as possible sources to make clear to all reviewers that some waterbodies were excluded for not meeting the stated criteria, and so that each waterbody identified on the map has an associated tabular entry. Further, it is anticipated that more waterbodies will be removed in future as more information becomes available (such as conflicting use of a waterbody or not having sufficient depth), so the currently layout will be	

		water sources are included in Tables 1 and 2 of the Water Withdrawal Plan.	helpful to keep a record of which waterbodies have been removed in future versions of the Water Withdrawal Plan.	
37	None	Comment None Recommendation 2) The GNWT recommends that only those waterbodies or watercourses being considered as water sources be included in the Water Withdrawal Plan, and that all waterbodies and watercourses not being considered be removed from the Plan, or included in a separate table.	Feb 2: PPML would agree to moving waterbodies that are not being considered for use into a separate table.	
38	22. Water Withdrawal Plan “ Water Withdrawal Limits	Comment Section 3.0 of the Water Withdrawal Plan includes two different methods for the calculation of water withdrawal volume when bathymetry is not available. Recommendation 1) The GNWT recommends that if bathymetry is not available, the water withdrawal limit be determined by the multiplication of the surface area (m2) by 0.1m.	Feb 2: Section 3.1 bullet #3 can be removed from future versions of the Water Withdrawal Plan to remove this repetition.	
39	23. Water Withdrawal Plan “ Table 1	Comment As noted previously, Table 1 is challenging to review and contains information on many waterbodies and watercourses that are not being considered as potential water sources. The GNWT notes that the list of water sources being considered should be updated as per previous comments. For additional clarity, The GNWT suggests that water sources could be presented in three separate tables: a table containing potential water sources with known bathymetry, and corresponding water withdrawal limits, a table for potential water sources with the withdrawal limit based on the volume calculation of surface area x 0.1m, and a third table presenting waterbodies and watercourses not being considered as potential water sources. Recommendation 1) The GNWT recommends that the list of waterbodies and watercourses listed in Table 1 be refined based on comments provided.	Feb 2: PPML would agree to moving waterbodies that are not being considered for use into a separate table. PPML does not see value to further splitting the table into waterbodies with and without bathymetry, particularly as these will be updated when additional bathymetry is obtained.	
40	None	Comment None Recommendation 2) The GNWT recommends that potential water sources be divided into three tables as follows: a) A table containing potential water sources with known	Feb 2: PPML would agree to moving waterbodies that are not being considered for use	

		bathymetry and corresponding water withdrawal limits; b) A table for potential water sources with the withdrawal limit based on the volume calculation of surface area x 0.1m; and c) A third table presenting waterbodies and watercourses not being considered as potential water sources.	into a separate table. PPML does not see value to further splitting the table into waterbodies with and without bathymetry, particularly as these will be updated when additional bathymetry is obtained.	
41	24. Bedrock Sampling Management Plan Framework	Comment Section 2.0 of the Bedrock Sampling Management Plan Framework states that blasting may include use of packaged explosive cartridges, ammonium nitrate fuel oil (ANFO), and explosive or emulsion explosives. The GNWT notes that it isn't clear when a preferred explosive type will be selected, and/or if PPML proposes to use a mixture of the listed types. Recommendation 1) The GNWT recommends that the Bedrock Sampling Management Plan Framework be updated to clarify whether or not all the listed explosive types may be used, and/or when the explosive type(s) will be determined.	Feb 2: PPML can provide this information in a future version of the Bedrock Sampling Management Plan.	
42	25. Metallurgical Sampling “ Bedrock Sampling	Comment Section 8.0 of the Project Description is titled "Metallurgical Sampling" but does not contain any information about metallurgical testing. For example, what parameters are the samples being tested for in the bedrock samples? Section 3.0 of the Bedrock Sampling Management Plan Framework also refers to bedrock samples but does not contain details of the purpose for the sampling. Recommendation 1) The GNWT recommends that the Project Description, as well as the Bedrock Sampling Management Plan, be updated to describe the purpose of the bedrock sampling, and provide details on the analytical testing to be performed on the samples.	Feb 2: The exact details of the metallurgical testing have not yet been developed, but will involve sample collection for laboratory analysis. As the analytical testing does not require any additional land use, water use or production of waste not already described in the application, this is not required information for the Bedrock Sampling Management Plan.	

43	26. Waste Management Plan	Comment Section 2.5 of the Waste Management Plan states that the location and waste management layout for the new camp has not yet been determined. Recommendation 1) The GNWT recommends that PPML clarify when the location and waste management layout for the new camp will be determined. This information should be provided for review.	Feb 2: PPML will provide this information in an updated version of the Waste Management Plan.	
44	27. Off-site Disposal Locations	Comment Section 4.2 of the Waste Management Plan states that non-combustible solid wastes will be removed from the site and disposed of at an approved facility for receiving solid waste (e.g., Hay River). Approved waste receiving facilities are also listed in Section 5.0, Table 3. The GNWT notes that as per the Guidelines for Developing a Waste Management Plan (MVLWB, 2011), a letter confirming the acceptance of this material from all selected off-site locations is required prior to the approval of the Waste Management Plan. Recommendation 1) The GNWT recommends that a letter of acceptance be provided from any locations selected for off-site disposal of waste prior to Board approval of the Waste Management Plan.	Feb 2: PPML will provide this information in an updated version of the Waste Management Plan.	
45	28. Spill Contingency Plan “ Map	Comment As per the Guidelines for Spill Contingency Planning (INAC, 2007), the Spill Contingency Plan should include a map that shows all surface water bodies and direction of water flow including catchment basins, storage locations of each hazardous material, probable spill locations and direction of flow on land and water, locations of all response equipment, environmentally sensitive areas, and approved disposal sites. The GNWT notes that the figures and maps provided do not contain all the required information. Recommendation 1) The GNWT recommends that the Spill Contingency Plan be updated to include a map that contains the items listed above, as per the Guidelines for Spill Contingency Planning (INAC, 2007).	Feb 2: This information can be provided in an updated version of the Spill Contingency Plan for the camp and areas of bulk storage of hazardous materials. It is not possible to provide this level of detail for each drilling location in the context of an exploration program.	
46	29. Surveillance Network Program	Comment The GNWT notes that PPML has not included a Surveillance Network Program (SNP) with their application. The GNWT acknowledges that it may not be deemed necessary for this particular project; however, additional details regarding the groundwater testing are required	Feb 2: SNP programs are typically used for long-term compliance monitoring. As	

		in order for the GNWT to make an adequate assessment. The GNWT notes that an SNP may be required to ensure that the water quality of lakes in proximity to pits receiving discharge water is maintained and not negatively impacted by groundwater testing. Recommendation 1) The GNWT recommends that the Board consider the applicability of an SNP for protecting the water quality of nearby lakes.	each of the groundwater tests are anticipated to be completed within days, PPML suggests that the Groundwater Management Plan is a more useful regulatory compliance tool than an SNP for transfers of water between, or to, the existing mined-out pits. Table 1 of the Groundwater Management Plan Framework outlines the proposed monitoring for the Project; the details will be determined in the version of the plan to be submitted for approval and prior to initiation of the testing, based on the details of the program.	
47	30. Closure and Reclamation Plan - General	Comment The GNWT has reviewed the details of the Closure and Reclamation Plan (CRP) and associated RECLAIM estimate. As part of the application process, the GNWT has some items that require further clarification from the proponent (as requested below) prior to the GNWT's recommendation of security to be held for the project. Recommendation 1) The GNWT recommends that the proponent provide a (provisional) estimate of the number of test pits for mineral sampling, and the disturbed area of each.	Feb 2: Section 8.1 of the Project Description clarifies that up to 20 bedrock sampling sites may be required. The area of disturbance for each is estimated to be up to 100m by 100m, depending on the depth of the bedrock at the sample site.	
48	None	Comment None Recommendation 2) The GNWT recommends	Feb 2: Table 3 of the Project	

		that the proponent provide an estimate of the volume of water to be pumped from pits in groundwater drawdown/recharge tests.	Description shows that up to 3,600 cubic metres of water per day may be moved during the groundwater tests. More detail will be provided in the next version of the Groundwater Management Plan.	
49	31. Drill Site Reclamation	Comment The CRP does not provide enough details on reclamation of the drill sites. For example, concerning drill sites (and assuming 10 drill-holes per site and 0.1 ha disturbed area), the total disturbed area assumed by the GNWT is 30 ha. The CRP does not provide enough details on reclamation of the drill sites. For example, 10 drill-holes at average 200 m using HQ drill core will yield 8 m³ of drill cuttings. In a small deep sump this is could be a hazard to wildlife. In a broad flat pond, it will be slow to revegetate due to sterile aspects of the cuttings. Would it not be more reasonable to place the stripped overburden and conduct seeding to reclaim these drill sites? Recommendation 1) The GNWT recommends that the proponent provide rationale as to why not replace stripped overburden and conduct seeding to re-initiate vegetation for the drill sites.	Feb 2: The disturbance for drill pads would be a total 27 ha within a total lease area of 46,473 hectares. Each drill pad area is small (900m²) and revegetation would occur naturally with seeds being provided by the surrounding natural vegetation. In general, each drill hole will be drilled at a new site, so that the cuttings over 10 holes are not accumulated at one location but spread across several sumps. Section 6 of the Project Description identifies that "drill cuttings will be placed in the nearest natural sump, existing human-made depression or pit, interred in a completed drill hole within the overburden zone and/or above a	

			plugged/cemented casing" as is normal practice for any drilling program. Deposit of drill cuttings to a sump is allowable with a type B Licence, and is within the scope of this application.	
50	32. CRP Schedule	Comment The application lacks the details on the schedule for exploration work and the reclamation activities. Recommendation 1) The GNWT recommends the proponent provide a (provisional) schedule for the exploration works and reclamation activities.	Feb 2: Reclamation would be undertaken progressively while the exploration work is undertaken and would occur generally between 2021 and 2024 but may extend beyond this. The CRP will be updated prior to expiry of the authorisations and will include details of reclamation completed.	
51	33. CRP - Roads	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. 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? Recommendation 1) The GNWT recommends that the proponent provide an estimate of disturbed area associated with new roads.	Feb 2: It is estimated that the majority of new access trails will utilize previously 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.	
52	None	Comment None Recommendation 2) The GNWT recommends that the proponent provide a rationale as to	Feb 2: The CRP does not specify scarification.	

		why only scarification is needed (for reclamation of roads, or provide further details on the reclamation of the roads for review.	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 undertaken when the ground is frozen.	
53	34. RECLAIM Estimate - Hydrocarbon Contaminated Soil	Comment The GNWT has reviewed the RECLAIM estimate submitted with the application. However, the GNWT notes that considering up to 200 mobile equipment units working on over 300 sites, numbers provided in the RECLAIM estimate for hydrocarbon investigation and remediation seem very inadequate (i. e., too low) for a reasonable remediation of an exploration site. Inspection of 300 sites, testing at some modest percentage (say 5%), and follow up removal of contaminated soil and re-testing is a significant effort. Recommendation 1) The GNWT recommends that PPML review and amend the scope and RECLAIM security estimate for the hydrocarbon contaminated soil work.	Feb 2: PPML will review and amend the estimate for hydrocarbon contaminated soil work.	

54	35. RECLAIM Estimate â€“Test Pits	Comment The GNWT notes that the CRP identifies test pits with blasting for mineralogical sampling. However, these are not currently addressed in RECLAIM Open Pit worksheet. Recommendation 1) The GNWT recommends that the proponent review and amend the scope and RECLAIM security estimate for the blasting for mineralogical sampling.	Feb 2: PPML will review the Open Pit worksheet and amend for the blasting for the mineralogical sampling.	
55	36. RECLAIM Estimate â€“Inflation	Comment The GNWT notes that the proponent has included a RECLAIM security inflation amount of 8% since 2014. The GNWT supports this estimate. Recommendation None.	Feb 2: No comment.	
56	37. Draft Licence Conditions â€“Discharge Criteria	Comment Schedule 1, Condition 1, l) v in PPML's proposed Draft Water Licence conditions states that results of water quality testing to meet discharge criteria will be included in the Annual Report. The application does not appear to include discharge criteria. Recommendation 1) The GNWT recommends that PPML clarify if discharge criteria are being proposed, and what is meant by discharge criteria in Schedule 1, Condition 1, l) v.	Feb 2: The GNWT is correct that the proposed groundwater testing does not include discharge of waste, and so 'discharge criteria' is not an appropriate term. PPML proposes that Schedule 1, Condition 1, l) v. be changed to 'Results of water quality testing.'	
57	38. Technical Session	Comment The GNWT notes that the Board is seeking input on whether a technical session/workshop is necessary. The GNWT supports a technical session given the scope of the project and technical nature of the proposed groundwater testing. Recommendation 1) The GNWT recommends that a technical session be held as part of this Water Licensing Process to further discuss the project, specifically the proposed groundwater testing.	Feb 2: PPML will endeavor to address as many issues as possible before and during the technical session.	
58	39. Protection of historical, archaeological and burial sites	Comment The proposed activities described in the LUP application may place recorded and unrecorded archaeological sites at risk of impact. 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	Feb 2: PPML is agreeable to making these clarifying amendments to Conditions 50 and 51.	

		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.		
59	40. General	Comment No public roads are anticipated to be closed as a result of mining activities (eg. Blasting). Recommendation In the event that a road closure is required during mining activities, Pine Point shall notify the Department of Infrastructure a minimum of forty eight (48) hours in advance of the activity. The South Slave Regional office can be contacted at 867-874-5000.	Feb 2: PPML will not anticipate the need to require the closure of any public roads for the proposed exploration activities but will contact the South Slave Regional Office if such a step is necessary.	
60	41. General	Comment Rock fragments littering the public roads or highways surrounding a blast site shall be removed to the satisfaction of the Department of Infrastructure. Recommendation N/A	Feb 2: Blasting is not planned near roads, and flyrock will be controlled for the blasting required during the metallurgical sampling.	
Katlodeeche First Nation: Patrick Riley				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	N/A	Comment Board staff are seeking input on whether a technical session or workshop is necessary. Recommendation KFN has reviewed the	Feb 2: PPML will endeavour to resolve as many issues as possible	

		project description and associated plans for PPML's Land Use Permit and Water License Applications (MV2020L8-0012 and MV2020C0017). The purpose of the 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. This application includes a Groundwater Management Plan Framework and a Wildlife Protection Plan. KFN would benefit from a technical session to discuss the application and associated plans particularly the Groundwater Management Plan Framework.	before and, if required, during the technical session.	
2	Spill Contingency Plan " pages 7-9	Comment Pages 7 to 9 of the Spill Contingency Plan detail the spill response and communication actions Recommendation KFN recommends that the communication actions include: if the spill meets or exceeds a reportable quantity, an email communication is sent to KFN's environmental program manager at kfnenvironmental@katlodeeche.com	Feb 2: PPML will make this update to a revised version of the Spill Contingency Plan	
3	Project Description " Page 7.	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. Recommendation KFN notes that the existing authorizations (Permit MV2017C0024, Permit MV2018C0005, and Licence MV2018L2-0003) are for 4000 drill holes. KFN requests that PPML clarify the number of drill sites/holes that PPML is requesting in their application.	Feb 2: PPML is may require up to 3,000 drill holes under the requested application. Drilling has been ongoing under the previous permits, reducing the overall total of holes required for this application.	
4	Project Description " page 9.	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	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	

		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. 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 pits likely be open for? If the pits are open for an extend period of time, how will PPML mitigate the wildlife hazard?”	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.	
7	Project Description “ page 15	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. 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?	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 result in periods of reduced activity.	
10	Groundwater Management Plan Framework “ Pages 7 & 8.	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. 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?	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 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	
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			a substantial impact. An impact is considered a degradation of water quality which would substantially change an aquifer's chemistry.	
MVLWB: Kim Murray				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Definition of Waste, Waters Act	Comment As per the Waters Act: "waste" means (a) a substance that, if added to water, would degrade or alter or form part of a process of degradation or alteration of the quality of the water to an extent that is detrimental to its use by people or by an animal, fish or plant, or (b) water that contains a substance in such a quantity or concentration, or that has been so treated, processed or changed, by heat or other means, that it would, if added to other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water to the extent described in paragraph (a), and includes (c) a substance or water that, for the purposes of the Canada Water Act, is deemed to be waste, (d) a substance or class of substances prescribed by regulations made under subparagraph 63(1)(b)(i), (e) water that contains a substance or class of substances in a quantity or concentration that is equal to or greater than a quantity or concentration prescribed in respect of that substance or class of substances by regulations made under subparagraph 63(1)(b)(ii), and (f) water that has been subjected to a treatment, process or change prescribed by regulations made under subparagraph 63(1)(b)(iii); Recommendation For information. See next comment and recommendation.	Feb 2: No comment.	
2	The Boards' Water Effluent and Management Policy	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	Feb 2: Testing is planned such that any groundwater pumped as part of the testing programs which is	

		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. 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?	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 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	
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			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.	
3	Draft Licence Conditions - Effluent Quality Criteria for the Waste Water Treatment Plant	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 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. 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	Feb 2: If PPML decides to install a Waste Water Treatment Plant, PPML would apply 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	

		Sewage Disposal Facilities throughout the duration of the project?	Section 10.3 of the Project Description	
4	Dewatering Test	Comment In the table on page 3 of the cover letter PPML indicated that the anticipated volume of waste for the dewatering test is 3,600 m3/day for the duration of the groundwater testing. Section 3.2.1 of the Groundwater Management Plan Framework indicates each aquifer test for each phase (extraction and recovery) would be 48 to 72 hours. However, the Application does not indicate the total duration of groundwater testing, which is required to understand the anticipated total volume of waste generated for the dewatering test. Recommendation PPML to discuss the duration of groundwater testing that will produce 3,600 m3/day Waste, as indicated in the table on page 3 of the cover letter.	Feb 2: The total volume will depend on site specific conditions. Typically, testwork of this type will be undertaken over a period of 1 to 3 days per site.	
5	Project Description - Section 8.3 Water	Comment On page 11 of the Project Description under section 8.3 Water, it is indicated that "A water sample for metallurgical testing consisting of up to 10 m3 spread over up to twenty locations will be obtained from the existing open pits". Recommendation PPML to discuss if the twenty locations referenced under section 8.3 are currently known.	Feb 2: These sites have not been selected and will be selected as this program is developed.	
6	Draft Licence Conditions	Comment PPML has not included a definition of "Engineered Structure" in the Draft Licence Conditions document submitted with the Application. As per the Board's Standard Water Licence Conditions and Schedules, Engineered Structure is defined as "any structure or facility related to Water Use or the deposit of Waste that is designed by a Professional Engineer, including but not limited to the [enter list of structures/facilities] associated with the Project". It appears that this definition may be necessary given that "Construction, operation and maintenance of Wastewater Treatment Plant" has been included as item k) in the Draft Licence scope. Does PPML foresee any other structures that may need to be designed by a Professional Engineer (e.g., waste rock pile, berms, ditches)? Recommendation PPML to provide a list of possible Engineered Structures, or provide further information for why this definition is not relevant to the draft Licence.	Feb 2: Possible engineered structures for the Project are limited to a possible septic system for camp waste and a possible modular Wastewater Treatment Plant. It has not yet been determined if these will be constructed.	

7	Draft Licence Conditions	Comment Board staff note that no conditions have been included in the Construction section of the draft Licence submitted by PPML. As per the comment above, it appears that the Wastewater Treatment Plant may be considered an Engineered Structure. As per the Board's Standard Water Licence Conditions, a Design and Construction Plan and Design Drawings are typically required for Engineered Structures. A Structure Description and Construction Plan would typically be required for all other structures, excluding Engineered Structures, intended to contain, withhold, divert, or retain Water or Wastes. Recommendation PPML to provide a list of other structures, excluding Engineered Structures, intended to contain, withhold, divert or retain Water or Wastes for the Project.	Feb 2: See response to MVLWB#6	
8	Draft Licence Conditions - Schedule 1, Condition 1, item i)	Comment In PPML's Draft Licence Conditions Schedule 1, Condition 1, item i) includes i. A summary of approved updates or changes to the process or facilities required for the management of Water and Waste, and ii. Monthly and annual quantities/volumes by location of Water and Waste managed under the plan. It is unclear to Board staff what Water is being referred to in these draft requirements - is it Water from the Wastewater Treatment Plant? Recommendation PPML to clarify what the Water referred to in Schedule 1, Condition 1, item 1 i) i. and ii. is referring to.	Feb 2: PPML offers the following correction. Schedule 1, Condition 1, item 1 i) can be updated to state "Monthly and annual quantities/volumes by location of Waste managed under the plan."	
9	Waste Management Plan: Project Description - Section 10.3 Wastewater Treatment	Comment On page 17 of the Project Description under Section 10.3 Wastewater Treatment, PPML has indicated that treatment sludge would be trucked to the nearest facility with sufficient capacity. Board staff acknowledge that in the Waste Management Plan, PPML has indicated that the plan will be updated prior to the establishment of a wastewater/sewage treatment facility. Board staff would like to remind PPML that if PPML does establish a wastewater/sewage treatment facility, written confirmation from a NWT facility stating that they will accept the type and volume of sludge would be necessary prior to the Board approving the updated Waste Management Plan. Recommendation PPML to confirm that they	Feb 2: PPML will provide this written confirmation if this option is required, as an appendix to the Waste Management Plan.	

		will obtain written confirmation from an NWT facility to accept sludge if a wastewater/sewage treatment facility is established onsite.		
10	Waste Management Plan: Approved Waste Receiving Facilities	Comment Board staff note that PPML has listed a number of disposal facilities for different waste types in Table 3 of the Waste Management Plan. Board staff would like to remind PPML that written confirmation from any NWT facilities stating that they will accept the type and volume of waste will be necessary prior to Board approval of the Waste Management Plan. Recommendation PPML to confirm that they will obtain written confirmation from any NWT facilities to accept the waste types identified in Table 3.	Feb 2: PPML will provide this written confirmation in an updated Waste Management Plan.	
11	Waste Management Plan: Sumps	Comment According to section 3.4.3 of the Board's Guidelines for Developing a Waste Management Plan, proponents should include the following information specific to an on-site sump: (a) Description of waste generation volumes and waste types/properties; (b) Details of a waste volume balance and sump sizing; (c) Details of the local environmental conditions (e.g., local terrain, permafrost, drainage, etc.) at the proposed sump location; and (e) Details of monitoring of the sump and local environment and an explanation of how environmental monitoring will be linked to any management response. Board staff note that details for the greywater sump are provided in PPML's Waste Management Plan, but not for sumps to be used for drill cuttings disposal or ANFO Vehicle Wash Runoff. Recommendation PPML to discuss the required details for the sumps to be used for drill cutting disposal and ANFO Vehicle Wash Runoff, or clarify when these details will be known and incorporated into the Waste Management Plan.	Feb 2: The sump for the ANFO Vehicle Wash Runoff will be provided in an updated version of the Waste Management Plan, when known. Section 4.5 of the Waste Management Plan describes the proposed disposal of mineral waste (drill cuttings) into sumps.	
12	Waste Management Plan: ANFO Vehicle Wash Runoff	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? Recommendation PPML to provide further details about the management of ANFO Vehicle Wash Runoff.	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 avoid potential for effects to nearby waterbodies.	
13	Spill Contingency Plan: On-site treatment at a facility approved for the purpose	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. 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.	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.	
14	Spill Contingency Plan: Worse Case Spill	Comment Under section 12.0 Spill Scenarios of the Spill Contingency Plan, for Worst Case Spill, PPML has indicated that "The worse case spill scenario is one in which multiple containment layers of an engineered storage tank are perforated and product is released". Is the engineered storage tank being referred to in this statement already built? Construction of an engineered storage tank could have	Feb 2: The Spill Contingency Plan will be updated to clarify that engineered fuel tanks are not proposed. Fuel will be stored in pre-	

		implications for the Licence conditions. Recommendation PPML to provide more details about the engineered storage tank referred to in the Spill Contingency Plan.	fabricated double-walled tanks only.	
15	Bedrock Sampling Management Plan and Geochemical Criteria	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? Recommendation PPML to discuss if developing geochemical criteria for classifying, managing, and placing Waste Rock would be appropriate.	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).	
16	Bedrock Sampling Management Plan and Acid Rock Drainage/Metal Leaching Potential	Comment See comment above. Recommendation Has previous geochemical characterization for Acid Rock Drainage/Metal Leaching potential occurred at the site? Does PPML intend to develop criteria for defining PAG, non-PAG and Metal Leaching materials?	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).	
17	Bedrock Sampling Management Plan and Seepage quality and quantity	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	Feb 2: Seepage is not anticipated, as the waste rock will be returned to the sample hole following	

		management activities. Recommendation PPML to discuss how the quality and quantity of Seepage generated from waste rock management activities will be monitored and evaluated.	collection of the sample (as described in Section 3.2 of the Bedrock Sampling Management Plan)	
18	Explosives Storage and Handling	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? Recommendation PPML to discuss if ammonia nitrate monitoring has been considered to understand effects of surface blasting on the receiving environment, including waterbodies.	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.	
19	Explosives Storage and Handling - AN storage area pads	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. Recommendation Given that the pad will hold double-bagged totes, will PPML consider lining the pad?	Feb 2: If bulk AN is used, the bags will be stored in a lined pad.	
20	Aquifer Testing - Drawdown Vs. Dewater	Comment PPML has proposed dewatering tests for groundwater modelling. PPML's proposed scope indicates "drawdown of existing open pits and moving water between pits". The Board's standard Licence conditions defines dewatering as complete removal of water from an existing waterbody, whereas drawdown is partial removal of water. Is it PPML's intention to completely remove water from the open pit or partially drawdown water from the open pit? Recommendation PPML to clarify whether the proposed aquifer testing is to dewater or drawdown.	Feb 2: The intent is to drawdown the water to assess the rate of recharge. No dewatering will be required under this water licence.	
21	Water Withdrawal Plan - section 2.0 Water Sources	Comment PPML has proposed to use all water sources within 500 m of the waterbodies identified in Table 1. Are these additional water sources included on the maps in the Water Withdrawal Plan? Will the additional water source only be used if it meets the criteria including that the surface area is at least 1,000 m ² and it is not of conflicting use? Recommendation PPML to clarify the use of	Feb 2: The proposal to include waterbodies within 500 metres of identified waterbodies is intended to account for waterbodies that may not be	

		additional water sources within 500 m of the water sources identified in Table 1.	included in the hydrographic data provided by Natural Resources Canada, which was used as the basis for the Water Withdrawal Plan. PPML is not aware of any specific waterbodies that meet this criteria, but expects that they exist and so this buffer is included for clarity. Any such waterbodies would still need to meet the criteria of having a surface area of 1,000 m ² and a verified depth of 3 metres.	
22	Water Withdrawal Plan - Field Confirmation	Comment PPML describes the field confirmation of water source depth prior to withdrawal from ice-covered lakes. Will PPML be submitting the field data including the precise location and water depths measured to the Inspector for confirmation, and to the Board for the record? Recommendation PPML to clarify if the water source depth field data will be confirmed and submitted to the Inspector and the Board.	Feb 2: PPML proposes to provide this information to the Inspector and will keep records of all depth measurements for any future requests.	
23	Water Withdrawal Plan - Table 1. Waterbody	Comment In the Water Withdrawal Plan, PPML has provided the name, location, estimated volume, and maximum withdrawal limit. It is unclear what the proposed quantity to be used is, and how that compares to the available capacity. In addition, what is PPML's proposed daily maximum quantity, i.e., the maximum water use per day and per year that is expected to be withdrawn from each source. Recommendation PPML to clarify the total proposed water use compared to the available capacity for each water source, and the maximum water use per day and per year from each source.	Feb 2: The nature of mineral exploration requires maximum flexibility in the water sources used to support drilling, so that drills may follow geological targets as the results from drilling come in and are analysed in real-time. The MVLWB's Method for Determining	

			Available Winter Water Volumes for Small-Scale Projects was developed with this constraint in mind, and the Methods does not require that water use by day and by year for each source be provided in advance. PPML will adhere to the Water Withdrawal Plan, which specifies that daily water withdrawal limits must not exceed the water licence limits (Section 3.1 of the Plan and Table 3 of the Project Description), all water use will be documented and provided in the annual report.	
24	Water Withdrawal Plan - Table 2. Watercourse	Comment PPML has provided the proposed watercourse in Table 2 of the Water Withdrawal Plan. It is unclear what PPML's proposed water use is for the water sources listed in Table 2. Recommendation PPML to provide the proposed water use for watercourses listed in Table 2.	Feb 2: The introduction in the Water Withdrawal Plan states that the water will be withdrawn for camp use, exploration drilling, dust control, and aquifer testing.	
25	Water Withdrawal Plan - Water Source	Comment PPML has provided Table 1 to identify all the proposed water sources. Table 1 also includes water sources that PPML is not proposing to use (e.g., water sources within 500 m of the Buffalo River). Can PPML verify how many water sources in total is PPML proposing to use? Recommendation PPML to verify the total number of proposed water sources.	Feb 2: There are 6096 waterbodies identified in the Water Withdrawal Plan; 4765 of these are considered for water use. For clarity, it is not known how many waterbodies will	

			actually be used, but it will be a small fraction of the 4765 identified as candidate sources.	
26	Water Withdrawal Plan - Water Source	Comment Board staff note that it is helpful to know which water source PPML is not intending to use as indicated in the "Considered for Water Use?" column in Table 1. PPML has proposed a lot of water sources in Table 1. Has PPML considered taking out the water sources that PPML is not proposing to use in a separate table? This way the draft licence condition could specifically refer to the Table 1 in the Water Withdrawal Plan. Recommendation PPML to comment on formatting of, and content included in, Table 1.	Feb 2: PPML feels that the current layout with a single table provides the simplest layout, as the document can be easily updated to remove water sources from potential use with a simple update to the "Considered for Water Use?" column. However, the information can be split into two tables at the request of the MVLWB if this is required for clarity of providing MVLWB approval.	
27	Groundwater Management Plan Framework - Section 4.2 Sampling Parameters	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 Management Policy to minimize waste is met. Has PPML considered setting site specific water quality objectives? Recommendation Elaborate on how PPML intends to mitigate the potential impacts of the aquifer testing on the groundwater quality at the receiving site.	Feb 2: See response to MVLWB#2	
28	Groundwater Management Plan Framework - Section 4.2 Sampling Parameters	Comment See comment above. Recommendation Can PPML clarify how total dissolved solids will be measured in the field as well as explain why a more standard field	Feb 2: Further detail will be provided in the next version of the	

		parameter such as specific conductivity would not be included.	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.	
29	Groundwater Management Plan Framework - Section 4.2 Sampling Parameters	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? Recommendation PPML to elaborate on the sampling and compatibility studies described in section 4.2 of the Groundwater Management Plan Framework.	Feb 2: See response to MVLWB#2	
30	Groundwater Management Plan Framework - Location	Comment Board staff understands PPML is uncertain where the aquifer testing will take place. The Project Description has indicated there are 12 monitoring wells, one of them is an observation well. Board staff understands PPML has applied for an amendment to its Permit MV2017C0024 to include a drill rig for drilling holes for future groundwater testing. Can PPML provide a list of potential locations for aquifer testing? Recommendation PPML to provide a list of potential locations for the aquifer testing.	Feb 2: Further detail will be provided in the next version of the Groundwater Management Plan.	
31	Groundwater Management Plan Framework - Contingency	Comment Will PPML consider providing a list of operational contingency options for the groundwater management (e.g., if the transfer pipe burst, etc.)? Recommendation PPML to consider including	Feb 2: Further detail will be provided in the next version of the	

		operational contingencies in the Groundwater Management Plan.	Groundwater Management Plan.	
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.	
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 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?	Feb 2: See response to MVLWB#2	
34	Groundwater Management Plan, Baseline Data	Comment See comment above. Recommendation Will the baseline groundwater quality data be used to determine	Feb 2: See response to MVLWB#2	

		"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)?		
35	Groundwater Management Plan, Schedule 2 of Proposed Licence	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. Recommendation Will PPML consider other groundwater quality parameters (i.e., dissolved metals, major ions) for analysis of compatibility between pits/wells?	Feb 2: See response to MVLWB#2	
36	Groundwater Management Plan, Approach to Groundwater Management	Comment Board staff note that PPML has proposed a single observation well to target the underlying Chinchaga Formation to see if there is a groundwater level response to any testing activities as well as to collect samples for analysis. Recommendation PPML to provide further details about the observation well, including further rationale for use of a single well and what parameters the groundwater samples from the well will be analysed for.	Feb 2: Will incorporate this feedback in next version of the Plan.	

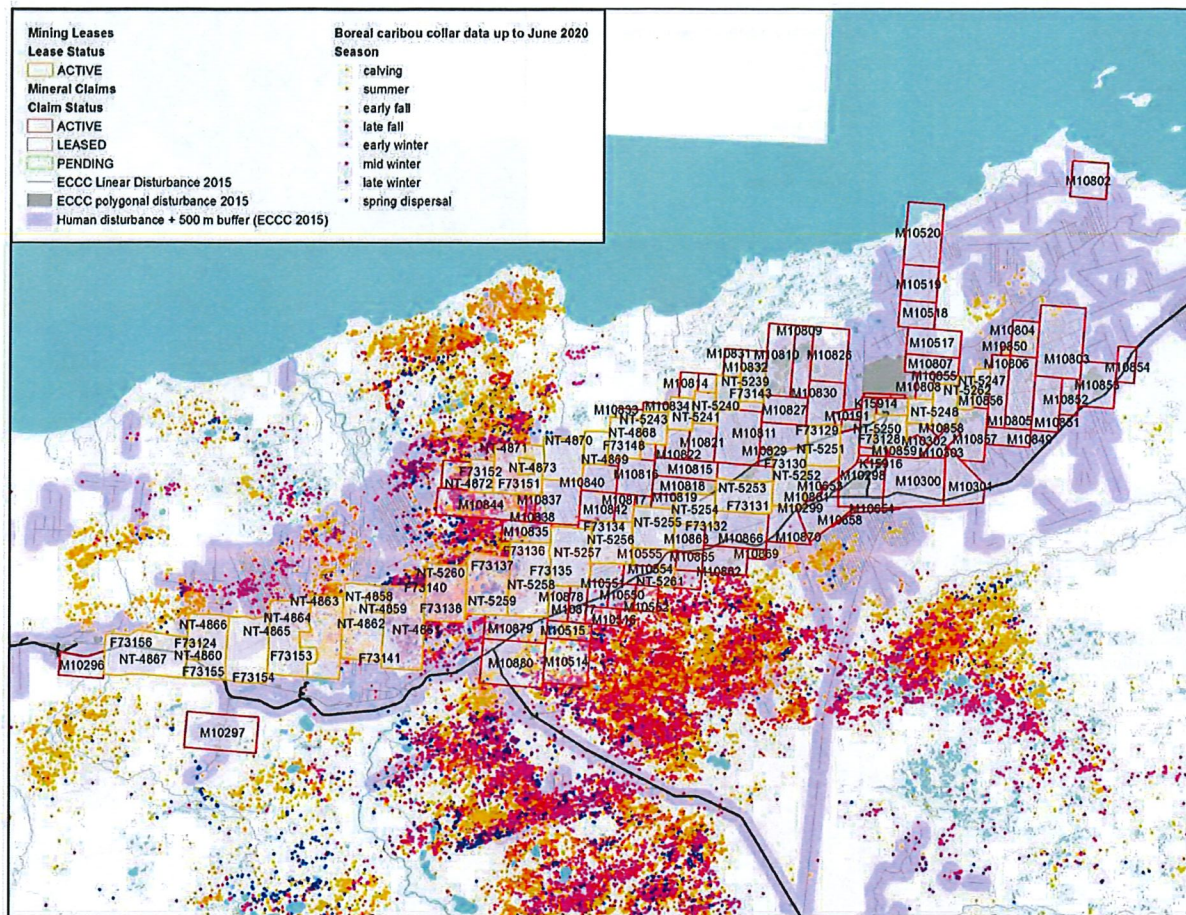
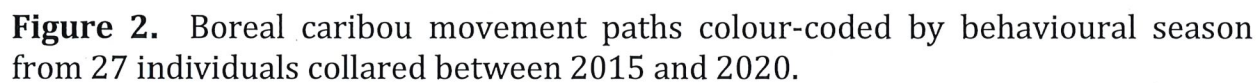


Figure 1. Boreal caribou GPS collar locations colour-coded by behavioural season from 27 individuals collared between 2015 and 2020, and are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder of the year.



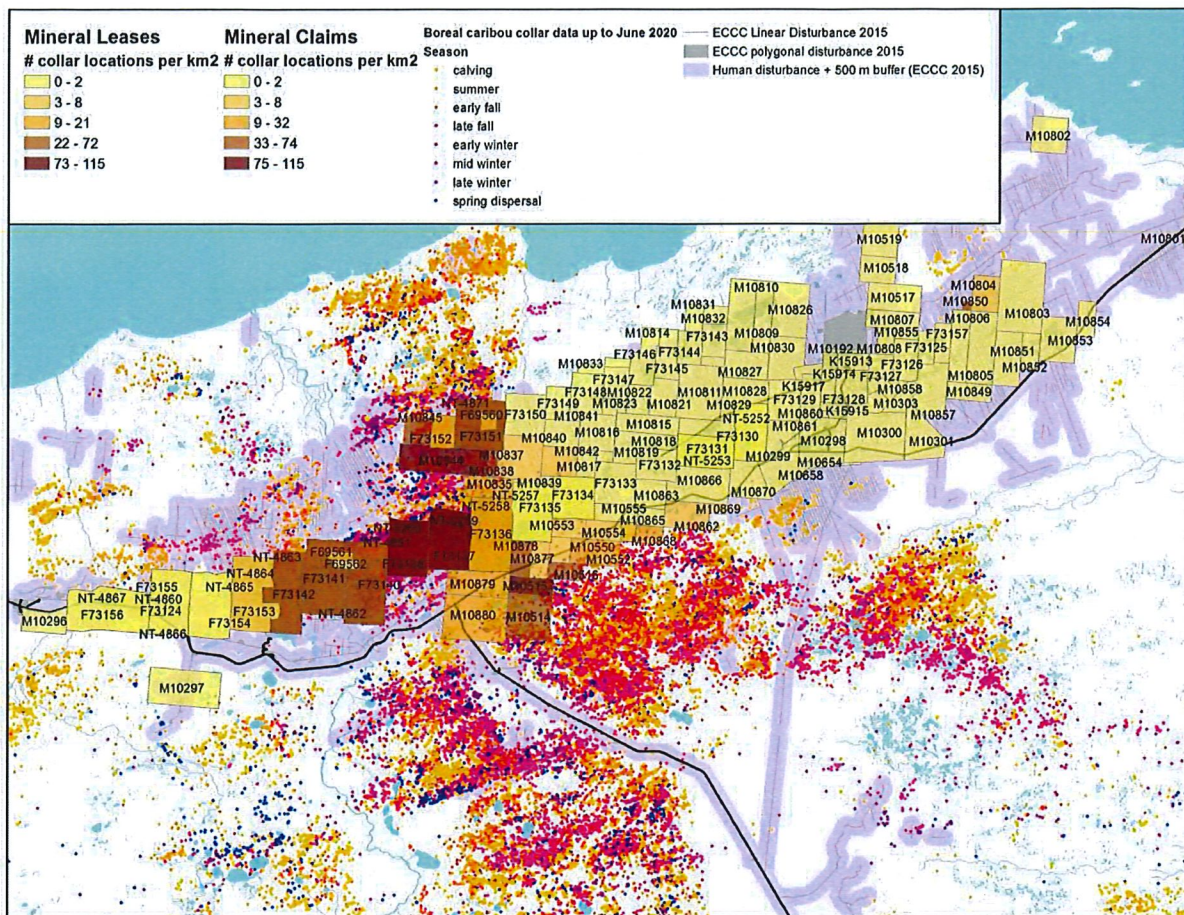


Figure 3. Density of boreal caribou collar locations (# locations/km²) within Pine Point Mining Ltd.'s mineral claims and mineral leases obtained from 27 individuals collared between 2015 and 2020. Collar locations are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder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

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.



Ms. Jacqueline Ho, Regulatory Specialist
Ms. Jen Potten, A/Regulatory Manager
Ms. Kim Murray/ Regulatory Specialist
Mackenzie Valley Land and Water Board
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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

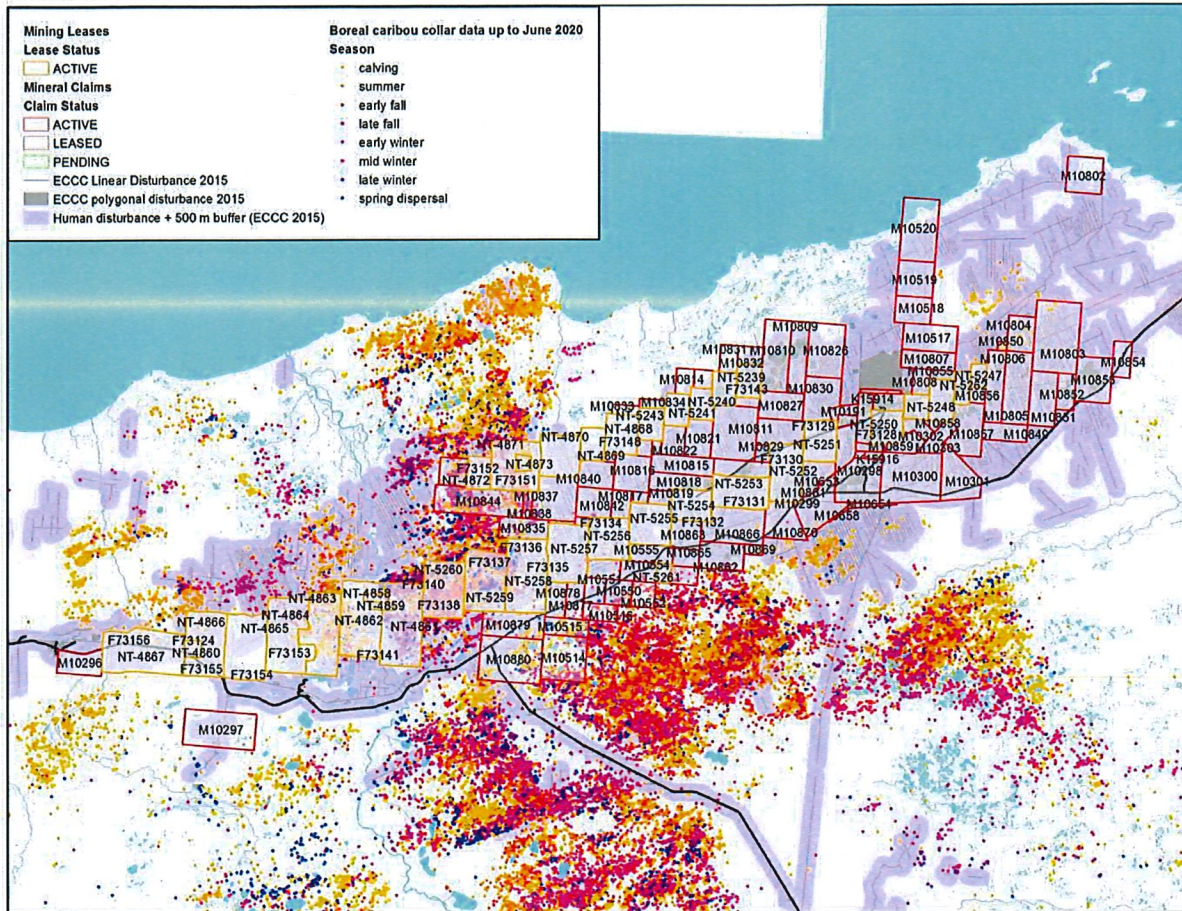


Figure 1. Boreal caribou GPS collar locations colour-coded by behavioural season from 27 individuals collared between 2015 and 2020, and are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder of the year.

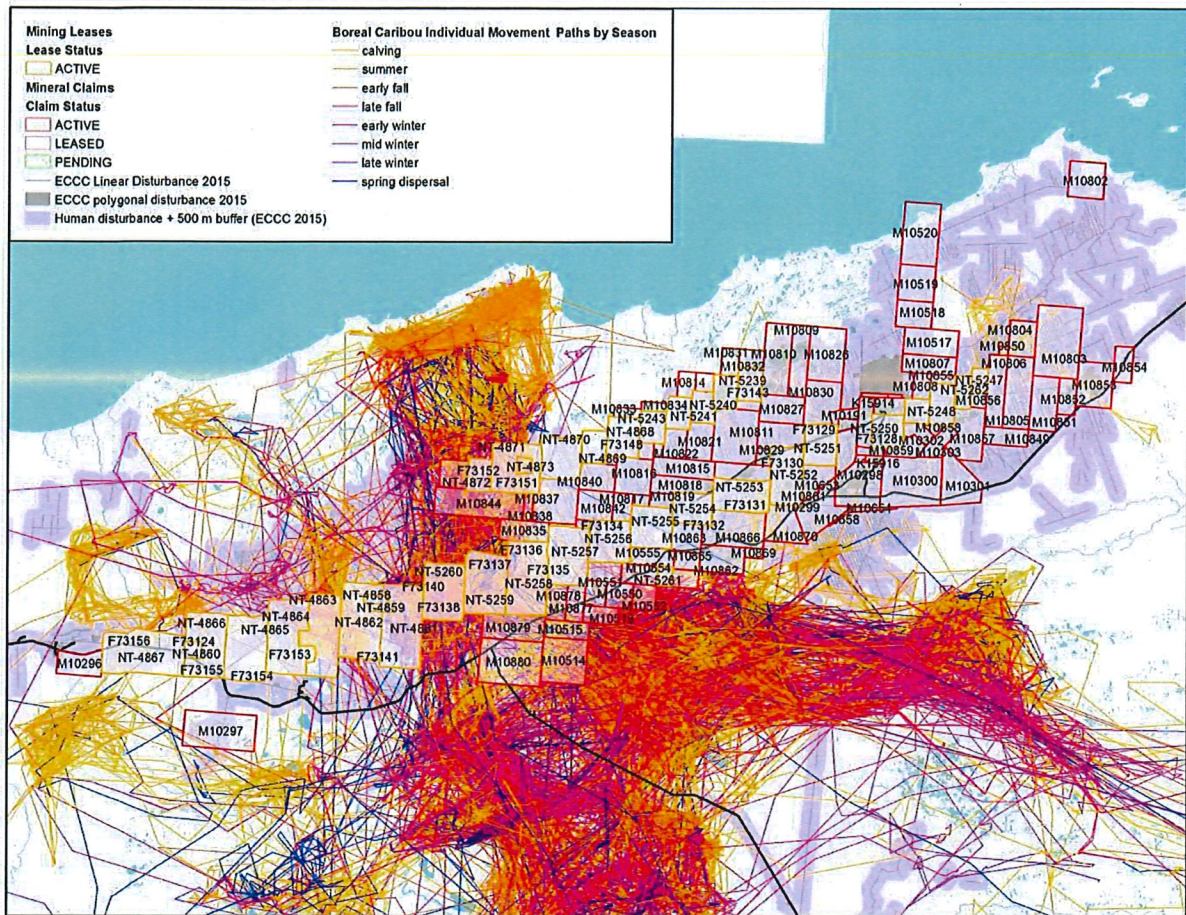


Figure 2. Boreal caribou movement paths colour-coded by behavioural season from 27 individuals collared between 2015 and 2020.

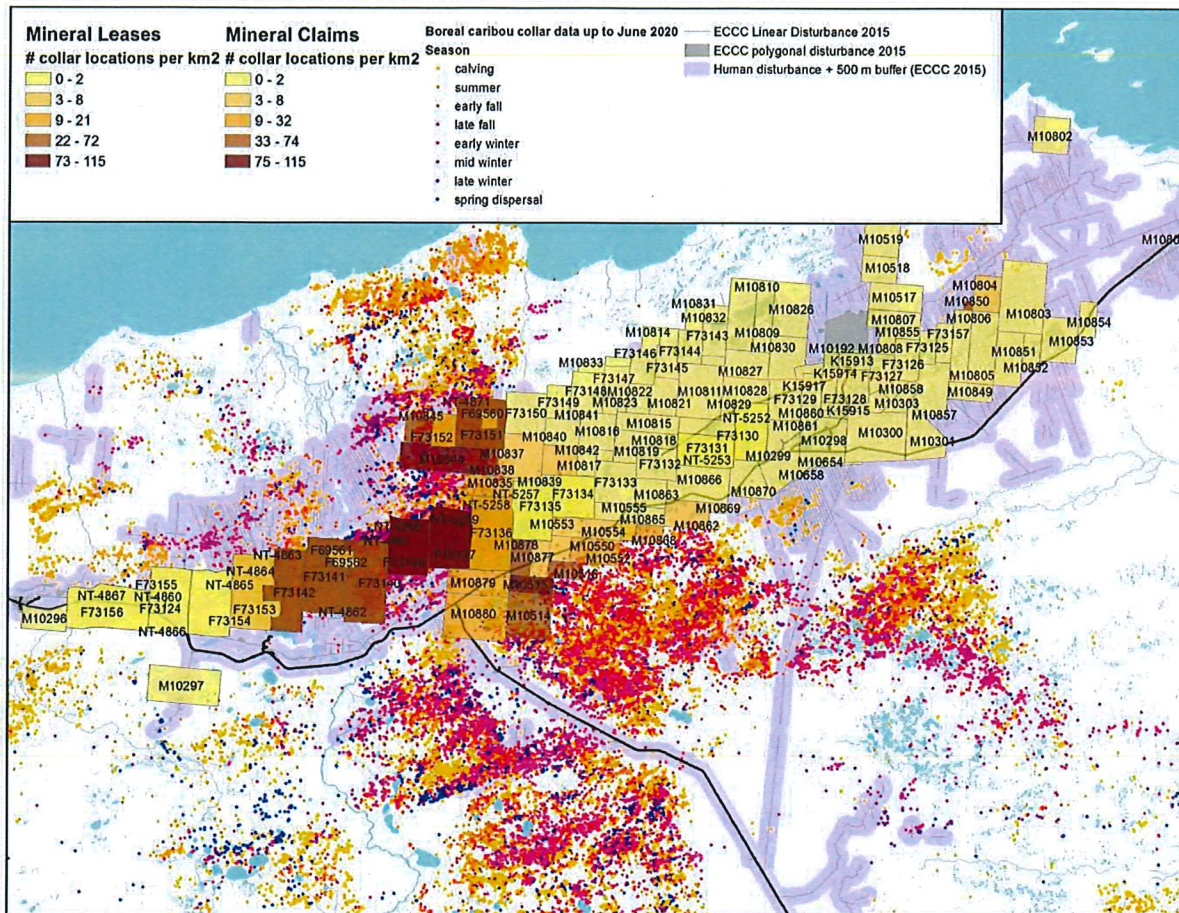


Figure 3. Density of boreal caribou collar locations (# locations/km²) within Pine Point Mining Ltd.'s mineral claims and mineral leases obtained from 27 individuals collared between 2015 and 2020. Collar locations are collected every 2 hours between April 29 – June 08, and every 8 hours for the remainder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



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

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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.



L'HIRONDELLE DE RIVAGE

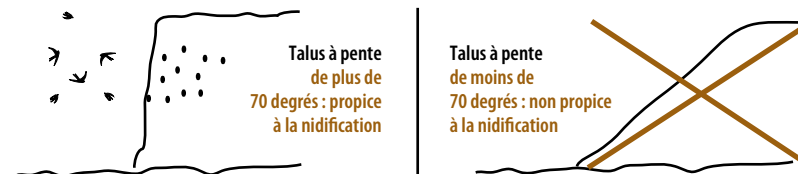
(Riparia riparia)

dans les sablières
et les gravières

Le saviez-vous ?

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

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Ce que vous pouvez faire

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.