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September 17, 2021

Mackenzie Valley Environmental Impact Review Board
200 Scotia Centre
Box 938, 5102-50th Ave
Yellowknife, NT X1A 2N7

Attention: Chuck Hubert, Senior Environmental Assessment Officer

VIA EMAIL: chubert@reviewboard.ca

Re: Deninu Kue First Nation Comments on Draft Terms of Reference for Pine Point Mine Project - EA2021-01

I write on behalf of Deninu K'ue First Nation (DKFN) to provide comments regarding the Draft Terms of Reference ("ToR") for Pine Point Mine Project ("the Project") referenced above.

This letter addresses key overarching issues related to the cumulative effects assessment of the Project and to the proponent's engagement with DKFN in the preparation of the Developer's Assessment Report ("the Report"). It also addresses some stand alone matters in relation to specific sections of the ToR in Table 1, which includes additional technical comments on the ToR prepared by our consultant, LGL Limited.

1. Cumulative Effects

The profound legacy effects from the previous mine at the Project site and the ongoing impacts on DKFN cannot be understated. The cumulative effects assessment methodology in the ToR should be clarified to confirm that for all Valued Components (VCs), the cumulative effects assessment must consider any incremental impacts of the Project on a VC, taking into account past activities. This is particularly important with respect to the VCs of Indigenous (DKFN) Land Use, Culture, Human Health and Social and Community Conditions, but also applies to biophysical VCs.

Specific requirements for cumulative effects assessments are more explicit in the ToR for some VCs than for others. For example, for the vegetation VC, the developer is required to provide a “cumulative effects assessment to vegetation from the Project in combination with past disturbances from the historic Pine Point mine”. However, in this example, there is no baseline assessment requirement for a pre-disturbance abundance of vegetation. This information is critical to be able to meaningfully make the corollary cumulative effects assessment. In contrast, but equally problematic, the VC for Indigenous (DKFN) Land Use requires the proponent to provide a baseline description of “past and present traditional activities in the region” including hunting, fishing, trapping, gathering of edible and medicinal plants and use of cabins, camps, permanent residences, and staging areas; however, there is no corollary requirement for a cumulative effects assessment of the incremental impact of further land disturbance on the Project site. To meaningfully assess the cumulative impacts of the Project from past and future activities as the ToR purports to do, the ToR should require the proponent to determine the baseline of each VC prior to the Cominco mine development in 1964. This will provide a picture of the cumulative effects of the Project on DKFN land use in and around the Project footprint.

Some wording changes are required for Section 3.7. The current wording suggests that the developer only need to consider the cumulative effects of other projects, whereas the developer will need to consider the residual effects of other projects that act cumulatively with the residual effects of the Pine Point Mine. Likewise, the developer will need to identify mitigations that already exist or would be required to address cumulative effects beyond those for project specific effects. Further, in Section 3.8, clearer direction is required on how legacy effects are to be considered. We recommend these past legacy effects be considered in the cumulative effects assessment, as well as the assessment of effects at the systems level.

The approach set out above accords with best practices, and with the principles set out in sections 114 and 115 of the MVRMA. Moreover, the courts have found that governments are required to consider the incremental, cumulative effects of a proposed development on Aboriginal and Treaty rights.¹ DKFN has been advised that the Federal and Territorial governments intend to rely on the Review Board assessment process to at least partially meet their consultation requirements with DKFN. A clearly specified approach to cumulative effects assessment that takes into account the cumulative, incremental effects of the Project on DKFN’s exercise of its Aboriginal and Treaty rights is a critical component of this objective.

2. Requirements for Proponent Engagement for a Consultation Plan for Key Process Steps

We commend the Review Board for a detailed and thorough ToR. We are concerned, however, with the degree of complex, subjective information that is required to be gathered and assessed by the developer. Much of this information is deeply held within the community and requires

¹ See for example, *West Moberly First Nations v. British Columbia (Chief Inspector of Mines)*, 2011 BCCA 247 and *Yahey v British Columbia*, 2021 BCSC 1287

cultural context and sensitivity to understand and communicate. For example, the developer is asked to gather baseline information and assess matters such as “intangible values of the landscape”, “Indigenous law in communities and the region” and “language and place names, and the relationship to culture and knowledge transfer between generations”. The terms of reference, selection of experts and methodology for baseline studies and impact assessments studies of this nature must be done in collaboration with DKFN.

First, with respect to specific communities and Indigenous groups, the ToR should not allow for aggregate information for all Indigenous groups, but rather, it must require specific references to each Indigenous community who will be differentially impacted by the Project, including DKFN members who live in very close proximity to the Project site. Second, to ensure that DKFN is meaningfully involved in this work, the ToR should require that the proponent collaboratively develop a consultation plan with each affected Indigenous community who wishes to have such a plan in place for the development of the Report. The ToR should specify that plans will address, at a minimum:

- how information will be shared between the proponent and the community, including information about potential adverse effects on relevant VCs;
- how the proponent will involve the community in the development of the environmental assessment, including the terms of reference, selection of experts and participants, and the use of previously gathered information for specific baseline and impact assessment studies, such as traditional use studies and socio-economic studies;
- how potential approaches to avoid, mitigate or manage potential adverse effects on relevant VCs, including alternatives assessments, will be developed with and communicated to the community;
- how input on proposed monitoring plans will be incorporated into the assessment; and
- a budget of any anticipated, associated costs including a budget for participation of the Indigenous community.

3. Stand Alone Specific Issues

Stand along technical issues on the draft Terms of Reference are presented in Table 1 below.

We thank you for integrating our comments into the draft ToR. Should you wish to discuss any comments in this letter in further detail, please contact Carol Ann Chaplin, Senior Administrative Officer, at sao@dkfn.ca

Mashi,



Chief Louis Balsillie.

Table 1. Detailed Comments on the Pine Point Mine Project environmental assessment draft Terms of Reference.

#	Section	Page	Text Under Review	Comment
1	All sections	All	All sections	<p>Some bullet points seem to have a strikethrough (e.g., p. 24 last black bullet point and p. 27 last open bullet point). Please justify or harmonize the choice of these bullet symbols.</p> <p>Some paragraphs still have remains of change tracking (e.g., p. 50). Please accept all changes in the document.</p> <p>Other grammatical errors have been noted, so we recommend a thorough review of the final document.</p>
	1. Introduction	1	The project includes the open pit and underground mining of zinc and lead deposits over five years	10-15 years of mine life is stated in other sections of the ToR. Please clarify the actual life of the mine.
	2.1. Scope of Development	5	Transportation	Another subject to consider is the use of public roads (e.g., highways) for the movement of mined rock.
	2.1. Scope of Development	5	Power	While the project will use the NTPC network, it is our understanding that this network is being upgraded. The ToR should be clear on whether this upgrade is a direct result of the mine (i.e., should be included in the scope) or is being upgraded for other reasons.
	2.2.2. Key Lines of Inquiry	7	<p>managing water so that it remains clean in the future</p> <p>lasting well-being</p>	This key line of inquiry is awkwardly worded. Please revised to provide clarity on what this actually means.
	2.2.2. Key Lines of Inquiry	7	Of the listed species at risk assessed in this EA, the developer will pay particular attention to	Here, and in other section of the ToR (e.g., 2.2.1 Valued Components), the specific reference to whooping cranes (and boreal caribou) has the unanticipated intention of undermining other species at risk in the project area that need to be assessed. While, whooping crane and boreal caribou are highly important, so are

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			assessing and preventing any effect on whooping crane.	other species at risk and the terms of reference should not be seen as favouring one species over another. All species at risk need to be equally assessed.
	3.7. Cumulative Effects Assessment	12	The developer will estimate the significance of residual project effects which may combine with cumulative environmental effects from other human activities and identify mitigations that already exist or would be required for cumulative effects beyond those for project specific effects.	This wording suggest that the developer only need to consider the cumulative effects of other projects, whereas the developer will need to consider the residual effects of other projects that act cumulatively with the residual effects of the Pine Point Mine. Likewise, the development will need to identify mitigations that already exist or would be required to address cumulative effects...
	3.8. Closure and Legacy Effects	12	These legacy effects from past developments need to be considered in the description of baseline conditions.	Clearer direction is required on how these legacy effects are to be considered. These past legacy effects should be considered in the cumulative effects assessment, as well as the assessment of effects at the systems level.
2	4.1.5. Surface and groundwater quality and quantity	20	<ul style="list-style-type: none"> • describe past and current surface water and groundwater quality baseline characterization programs including information about: <ul style="list-style-type: none"> o sampling site selection and locations o monitoring duration and frequency o sampling methods and analytical protocol, including quality assurance and quality control measures (...) 	We recommend adding to the bullet point list a list of parameters measured.
3	4.1.5. Surface and groundwater quality and quantity	20	<ul style="list-style-type: none"> • explain how baseline data were gathered at a scale and resolution that allows for the results about groundwater and surface water to be 	This sentence is somewhat confusing, we recommend rephrasing it for better clarity.

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			applied in the assessment of other parts of the environment.	
	4.1.5. Surface and groundwater quality and quantity	20	“Present a conceptual model of the hydrogeological and hydrological environment for the current conditions”	Further onsite investigations such as well drilling should be requested to help update aquifer mapping in the groundwater/surface water study area (LSA and RSA), specifically in the western region (<i>Figure 3-1 of Volume 1 – Project Description</i> ; PPML, 2020). Wells could serve dual purpose and act as observation wells for helping characterize aquifer flow characteristics during pump testing.
4	4.1.5. Surface and groundwater quality and quantity	21	<ul style="list-style-type: none"> ○ provide baseline data for physicochemical parameters and relevant chemical constituents for surface water and groundwater 	On page 27, there is a footnote saying “ ¹¹ Relevant physicochemical parameters include, at minimum, temperature, pH, electrical conductivity, dissolved oxygen, turbidity, total suspended solids, total hardness, and total dissolved solids. Relevant chemical constituents include, at minimum, major and minor ions, and total and dissolved trace metals.” We recommend adding this footnote to the bullet point on page 21 as well.
5	4.1.5. Surface and groundwater quality and quantity	21	<ul style="list-style-type: none"> • at minimum, the groundwater characterization and conceptual model development will: <ul style="list-style-type: none"> ○ (...) ○ provide baseline data for physicochemical parameters and relevant chemical constituents for surface water and groundwater 	Even though groundwater and surface water are connected, we recommend the Developer present baseline groundwater quality data in the groundwater section and baseline surface water quality data in the surface water section. As such, we recommend changing the sentence for: “provide baseline data for physicochemical parameters and relevant chemical constituents for groundwater”
6	4.1.5. Surface and groundwater quality and quantity	21	<ul style="list-style-type: none"> • minimum requirements for the surface water characterization and conceptual model development include: 	We recommend adding the bullet point “provide baseline data for physicochemical parameters and relevant chemical constituents for surface water” under surface water characterization.
7	4.1.5. Surface and groundwater quality and quantity	21	<ul style="list-style-type: none"> • minimum requirements for the surface water characterization and conceptual model development include: (...) 	We recommend adding a list of all parameters that will be measured during the baseline study and the aquatic effects monitoring program, not only the “contaminants of potential concern” as some parameters (e.g., nitrate) could become a “potential concern” only after several years of operation. Baseline

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			<ul style="list-style-type: none"> ○ identification of contaminants of potential concern through screening against relevant guidelines (for example, CCME) 	<p>information on all nutrients and metals would be important. As such, we recommend adding the same footnote as on page 27, (i.e., “¹¹ Relevant physicochemical parameters include, at minimum, temperature, pH, electrical conductivity, dissolved oxygen, turbidity, total suspended solids, total hardness, and total dissolved solids. Relevant chemical constituents include, at minimum, major and minor ions, and total and dissolved trace metals.”)</p>
8	4.1.5. Surface and groundwater quality and quantity	22	<ul style="list-style-type: none"> • within the limits of available data, describe impacts of historical mining or stresses on local and regional surface and groundwater quantity and quality, including if the system is in a state of equilibrium or may still be changing because of historical activities 	<p>We recommend the Developer presents trends in historical water quality, water quantity and water flows, if data is available.</p>
	4.1.5. Surface and groundwater quality and quantity	22	<p>“Present a 3-dimensional numerical groundwater flow model based on the conceptual model of the hydrogeological environment for current conditions and use that model to estimate changes related to the project”</p>	<p>Steady or transient state 3-dimensional flow models require detailed input values for calibration. Additional field testing (pumping test) should be performed to confirm seasonality of hydraulic head and hydraulic gradient for the various mined zones. Further characterization of aquifer hydraulic conductivity across the study area is also required as suggested in the analytical modelling completed by Tetrattech (2020).</p>
	4.1.5. Surface and groundwater quality and quantity	23	<p>“Describe methods used to assess the potential for ML/ARD for tailings, waste rock, and low-grade ore or other stockpiles and estimate the potential for mined materials (including waste rock, tailings and low-grade ore or other stockpiles) to be sources of ML/ARD”</p>	<p>Further field testing should be required to characterize waste rock chemistry for a more accurate prediction of future groundwater and surface water quality. Such investigations could include deeper sampling (sonic drilling or other) of waste rock piles. Previous tests were completed at shallow depths (<1.5m; Tetrattech, 2018) and; therefore; are less representative of total waste rock chemistry.</p>
	4.1.5. Surface and groundwater quality and quantity	24	<p>“Any plans to update the model during the life of the project to address future changes to the mine development and or water management plans”</p>	<p>The water quality prediction model should be compatible or should communicate with the 3-dimentional numerical groundwater flow model for accurate representation of groundwater conditions. Inputs should be shared between disciplines.</p>

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9	4.1.5. Surface and groundwater quality and quantity	24	<ul style="list-style-type: none"> • determine the spatial extent of the effluent mixing zone in Great Slave Lake, if loadings of contaminants of potential concern are predicted to enter the lake by surface or groundwater pathways 	We recommend the Developer prepare a plume model if any tailings or waste water is discharged to Great Slave Lake.
10	4.1.5. Surface and groundwater quality and quantity	24	<ul style="list-style-type: none"> • describe proposed programs for characterizing future surface water and groundwater quality. Include: <ul style="list-style-type: none"> o sampling site selection and locations o monitoring duration and frequency o sampling methodology, and analytical protocol, including quality assurance and quality control measures (...) 	We recommend adding the list of parameters that will be measured with all available water quality guidelines to which those parameters will be compared to.
11	4.1.5. Surface and groundwater quality and quantity	24	<ul style="list-style-type: none"> • describe the plans to mitigate both anticipated and unanticipated adverse impacts on ground and surface waters including: <ul style="list-style-type: none"> (...) o strategies to manage cumulative effects due to past impacts on water quality and quantity in the Project area in addition to project-related effects 	We recommend that current impacts (from other industries and activities in the mine regional study area) be added to the cumulative effects assessment and management strategy.

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12	4.2.1. Use of water by people	27	<ul style="list-style-type: none"> • describe past, current, and planned water resource baseline characterization programs. Provide information about: <ul style="list-style-type: none"> o sampling site selection and locations o monitoring duration and frequency o sampling methodology, and analytical protocol, including quality assurance and quality control measures 	We recommend adding the list of parameters that will be measured with all available water quality guidelines to which those parameters will be compared to.
5	4.2.1. Use of water by people	27	“Provide baseline data for physiochemical parameters and relevant chemical constituents ¹¹ for water resources in the local and regional study areas”	Mixing of groundwater types (Golder, 2020) suggest hydraulic communication between the shallow and deep aquifers and the potential for groundwater – surface water interaction exist. Chemical constituents should be presented visually as piper plots or other, to distinguish possible water sources. PPML should consider the use of isotope analysis (18O, 2H, 3H and 14C) to further distinguish the water sources (recharge) and the age of the water. Microbiological analysis (coliforms, <i>E. coli</i>) should also be included for potability analysis. Groundwater testing of deeper zone should be completed as suggested by Golder (2020).
13	4.2.1. Use of water by people	28	<ul style="list-style-type: none"> • carry forward the assessment of potential adverse effects due to change in water quality and quantity to other valued parts of the environment as appropriate 	We recommend adding water flows in addition to water quality and water quantity, as water flows are important for fish passage and migration.
	4.2.2. Fish and aquatic life	29	ground disturbance, altered drainage or instream construction activities.	Impacts to groundwater recharge of waterbodies in the assessment area need to be considered.

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	Existing environment and baseline conditions	31	identify all federal species at risk, critical habitat and any potentially affected residences in the study areas; sites that are likely to be sensitive locations and habitat for birds; and environmentally significant areas. These include National Parks, Areas of Natural or Scientific Interest, Migratory Bird Sanctuaries, Important Bird Areas ¹⁴ or other priority areas or sanctuaries for birds, National Wildlife Areas, World Biosphere Reserves and provincially or territorially designated areas, such as Wildlife Areas.	Critical habitat can extend beyond the environmentally significant areas identified in the ToR (e.g., National Park, Migratory Bird Sanctuaries), therefore, we recommend changing the wording to: “These areas include, but are not limited to, National Parks....
	4.2.8. Indigenous Land Use	40	-	A requirement should be included to assess impacts to income from trapping activities as a component of traditional land use.
	4.2.8. Indigenous Land Use	40	-	The developer should not be required to assess “overall impacts on Indigenous Peoples’ ability to practice Treaty rights”. The interpretation of Treaty rights is a complex legal and factual matter that the proponent is not qualified to address; it is a matter to be addressed as a component of Crown consultation supported by the relevant VC baseline and assessment information.
	Effects to Other Land Uses	43	any predicted changes to recreation, hunting, and fishing activity in the project area, including new access (if any), changes to travel routes through the area or changes to the abundance and distribution of harvested species (consider the results of the wildlife and fish assessments)	The developer should also assess potential changes to the efficacy of reclamation efforts put forth on the Tailings Impoundment Area and the rail bed.
	4.2.11 Culture	45	Section 4.2.11 the ToR states that “the developer will work with Indigenous groups and communities to describe existing environment and baseline conditions for the aspects of	It is appropriate that the developer is required to work with Indigenous groups to develop this information; however, as noted above, a consultation plan would

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			Indigenous culture listed in that section of the ToR.	provide for a more transparent and enforceable mechanism to fulfill this aspect of the ToR, and this concept should be applied to other areas of the ToR.
14	4.3.1. Managing water so that it remains clean for the future	56	<p>Keeping water clean requires a holistic consideration of:</p> <ul style="list-style-type: none"> • surface and groundwater quality and quantity, 	<p>We recommend adding water flows in addition to water quality and water quantity, as water flows are important for fish passage and migration.</p> <p>Please remove the comma after “quantity”, for consistency.</p>
15	4.3.1. Managing water so that it remains clean for the future	57	<ul style="list-style-type: none"> • Will water around the mine (that is, the local and regional study areas) be safe and clean for people, fish, aquatic life, and wildlife during all project stages? • Will water in the project footprint area be safe and clean for people, fish, aquatic life, and wildlife after the project has closed? 	The first bullet point uses the expression “around the mine (that is, the local and regional study areas)” while the second sentence bullet uses “the project footprint”. We recommend using the same expression in both bullet points and/or to define what is the “project footprint”.
16	4.3.1. Managing water so that it remains clean for the future	57	<ul style="list-style-type: none"> • Will people still know that the water is clean, as a sign that the land is healthy? 	This sentence is somewhat confusing. We recommend rephrasing it. For instance: “Will people still trust that the water is clean, and the land is healthy?”
6	4.3.1	58	“How might the contingency options for managing unexpectedly high volumes of mine water impact other parts of the environment both during operations and after closure?”	Water treatment of mine affected water has not been proposed in the Environmental Initiation Package (<i>Volume 2 – Waste Management Plan</i> ; PPML, 2020). There is potential for cumulative mine water impacts on the receiving environment, given the discussion of dewatering and re-injection of groundwater as part of water management and storage of waste rock (thicken tailings) in open mine pits (WRSF and TDA), presumed to be connected to groundwater. To keep “water clean”, water capture and treatment should be discussed in some detail (cost and feasibility) in the contingency planning in the event indicator parameter guidelines (CCME) are exceeded.

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	5.5 Project purpose, needs, and alternatives	64	Section 5.5 requires the developer to describe alternative means of carrying out the Project that are technically and economically feasible.	We recommend that additional wording be added to the requirement that the developer describe criteria to determine the technical and economic feasibility of possible alternative means to include “assumptions made regarding economic feasibility in appropriate detail” to avoid the developer unduly screening out alternative means that protect the well being of Indigenous communities in order to protect profit margins

References

Golder and Associates Ltd., (Golder). 2020. Pine Point Environmental Assessment Initiation Package, Volume 3 - Existing Environment for Pine Point Project. Submitted to Pine Point Mining Limited, December 15, 2020.

Pine Point Mining Limited, (PPML). 2020. Pine Point Environmental Assessment Initiation Package, Volume 1 - Project Description for the Pine Point Project. December 2020.

Tetra Tech, 2020. Technical Memorandum – Pine Point Mine Dewatering Estimates. Prepared for Jeff Hussey, Osisko Metals Inc., July 20, 2020.

Tetra Tech, 2018. Summary of Geochemical Characterization Data for the Pine Point Project, NWT. Presented to Pine Point Mining Limited (PPML). December 21, 2018.