

Reviewer Comments and Proponent Responses

Project: CZN Prairie Creek Mine

Board: Mackenzie Valley Land and Water Board

Organization: CanZinc Corporation (CZN)

No.	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response
GNWT-ENR - EAM (Environmental Assessment and Monitoring) - Erin Goose				
1	Draft Type A Land Use Permit MV2012D0005	Conditions annexed to and forming part of Land Use Permit #MV2021D0005	<p>1/ Part A: Scope of Permit Section1 (d) construction and operation of a road to waste rock storage area. The road should have operating conditions of proper drainage, dust suppression during the summer and traffic control.</p> <p>2/Conditions applying to all activities Part C: Condition 41 Permittee shall only conduct off-road vehicle travel on snow covered surfaces. Exploratory Drilling under MV2020C0008 for ore body delineation occurs in the summer months and is considered off-road activities. Suggest that conditions 42. Prevention of Rutting and 43. Suspend Overland Travel is sufficient as both are found in MV2020C0008 for conformity purposes.</p> <p>3/ Sections 85, 86 and 87 are covered under section 84. Archaeological sites would have been identified by the First Nations during consultation process. Therefore remove these sections.</p>	<p>We agree with Lands' comment (Comment 4) that the road to the waste rock area should be no different to other internal site roads, and the scope should refer to roads in general.</p> <p>2/ Agree</p> <p>3/ Agree</p>

2	Scope	<p>The proposed scope of the licence is limited to: “This Licence entitles the Licensee to divert and use Water and dispose of Waste for the purposes of surface and underground mineral exploration, mining and milling, and Closure and Reclamation at the Prairie Creek Mine.”</p> <p>ENR notes it is unclear why such a broad scope was included in the draft licence when the MVLWB standard water licence conditions identify a more detailed outline of elements to be included in a scope, which is also similar to the previous licence (MV2020L2-0003).</p>	<p>ENR recommends the scope of the licence include a more detailed description of the project activities that have been considered within the licence, as laid out in the previous Licence (MV2020L2-0003) and standard licence conditions.</p>	
3	Cover Letter	Comment Letter	N/A	
4	Part F, Condition 24 and 29	<p>In Part F, Condition 24, Board staff included a comment on these proposed EQC seeking input for this as a replacement for “no visible sheen of oil and grease of floating solids”.</p> <p>ENR notes the requirement that there is no visible sheen of oil and grease or floating solids should be maintained to better ensure sampling techniques are not implemented in such a way that may miss a surface aggregation of hydrocarbons that are not present lower in the water column but are still biologically significant.</p>	<p>ENR recommends the requirement of no visible sheen of oil and grease or floating solids be maintained in Part F Conditions 24 and 29, in addition to EQC for TPH.</p>	<p>We are not opposed to retaining the no visible sheen or oil and grease, however we are opposed to the inclusion of TPH in addition to EPH as EQC. TPH is a very broad and expensive analysis requiring the testing light and heavy hydrocarbons. EPH appropriately targets the potential presence of diesel and oil compounds that may occur underground associated with machinery. Gasoline-powered machines would typically not be used underground. In a previous proceeding relating to an exploration water licence for an underground decline, the Board agreed to change an EQC for TPH to EPH. Including TPH now would represent a reversal of a past Board decision.</p>
5	Part F, Condition 40	<p>The draft licence notes that Board staff are seeking input on Part F, Condition 40 regarding the recommendations to update the site water quality and quantity predictions. The options to address these concerns are proposed to either require an EQC Re-evaluation report or include requirements in the Water and Wastewater Management Plan and report revised predictions in the Annual Water Licence Report. ENR’s preferred option is number 1, being the EQC Re-evaluation Report, as this ensures a focused review occurs and all parties are aware of such a review, as opposed to the Annual Water Licence Report, which would contain a</p>	<p>ENR recommends an EQC Re-Evaluation Report be a requirement of the water licence in accordance with the Part F Condition 40.</p>	<p>See our response to Racher 11.</p>

		significant amount of other information related to the project other than the EQC Re-evaluation.		
6	SNP 3-12b	Recommendation 39 from GNWT's Intervention identified the need for an additional SNP groundwater station in the alluvium downgradient of the fuel tank farm to provide early warning of leaks for construction and operations phases. ENR notes this recommendation has been included as SNP 3-12b in the draft water licence.	ENR supports the addition of SNP 3-12b in the draft water licence.	
7	Schedule 4, Item 3	Schedule 4, item 3 states: "The Design and Construction Plans referred to in Part E, Condition DESIGN AND CONSTRUCTION PLAN, Condition DESIGN AND CONSTRUCTION PLAN – WATER STORAGE POND, and Condition DESIGN AND CONSTRUCTION PLAN – WATER STORAGE POND..." ENR notes the Design and Construction Plan for the Water Storage Pond is repeated twice.	ENR recommends address the repeated wording of Schedule 4, item 3.	
8	Variable Load Discharge	In the draft licence, conditions related to variable load discharge remain in the licence and are noted by Board staff that the evidence pertaining to variable load discharge will be presented for the Board's deliberation. ENR maintains its position stated throughout this preceding that since CZN is not pursuing variable load discharge at this time and has not submitted any evidence as part of these proceedings for its inclusion in the licence; conditions related to variable load discharge should be removed from the water licence.	ENR recommends conditions related to variable load discharge be removed from the water licence since CZN is not pursuing variable load discharge at this time.	We disagree, and it is not true that CZN has not submitted evidence as part of these proceedings re VLD. We included all of the supporting evidence referring to VLD in the proceeding for MV2008L2-0002 by reference to the Reasons for Decision for that proceeding, and specifically Appendix 1 which lays out the derivation of conditions relating to VLD. INAC Water Resources (now part of ENR) did not want VLD in the previous proceeding, but the Board ruled otherwise. CZN has 'accepted' fixed EQC with a flow ratio in this proceeding as a compromise owing to ENR's concerns, even though we believe VLD would be a more flexible and efficient regulation approach. Retaining VLD conditions poses no 'harm' because CZN would still need to fulfill those conditions before VLD could be used.

9	Prohibition of Dilution	<p>Part F, Condition 32 states: “The Licensee shall not dilute Effluent with freshwater or any other Effluent to meet Effluent Quality Criteria specified in Part F, Condition EFFLUENT QUALITY CRITERIA – EXFILTRATION TRENCH prior to discharging Effluent from the Inlet Works to the Exfiltration Trench at SNP station 13”.</p> <p>ENR notes this condition is highlighted in yellow indicating Board staff are seeking input on this condition.</p>	<p>In accordance with the GNWT’s intervention, ENR supports the inclusion of this condition.</p>	<p>We disagree because it could be read as inclusion of mill ditch water in the effluent is deliberate dilution, which it is not. This condition relates to a Fisheries Act requirement. As ECCC were not able to provide clarity as to whether mill ditch water in the effluent would contravenethe Act, we suggest the condition be removed and the Board leave this issue for ECCC to resolve if they believe it needs to be.</p>
10	SNP Changes	<p>Several SNP stations have been flagged by Board staff as potentially being removed as they are redundant with other stations or that the monitoring requirements can be amalgamated with another station located at the same site. This includes SNP 15 into SNP 3-6, SNP 3 into SNP 3-7, and SNP 16 into SNP 3-10. ENR supports removing redundant or duplicative stations and amalgamating monitoring requirements. ENR also notes that the change in SNP stations further supports the recommendation made in the GNWT Intervention (recommendation 37) that an SNP map be included in the water licence. Having a map in the licence will ensure it is clear to all parties where each SNP station is located.</p>	<p>ENR supports the removal of redundant stations and/or amalgamation of monitoring requirements with another station located at the same site as this maintains the same level of monitoring oversight at the project.</p> <p>ENR recommends a map of SNP stations be included in the Water Licence.</p>	<p>Agreed.</p>
11	Definition Inlet Works	<p>In the definition of Exfiltration Trench, Board staff have a comment seeking input on whether a definition is required for Inlet Works. ENR believes a definition of Inlet Works would be helpful in the licence to ensure the final point control for effluent is clear.</p>	<p>ENR recommends a definition of Inlet Works be included in the licence.</p>	

12	Definition Sentinel Parameters	<p>The draft definition of “Sentinel Parameters” is: “those Water Quality Parameters in the Effluent that will be analyzed at the mine site for the purposes of ensuring all Effluent Discharge Loads are less than the Allowable Discharge Loads.”</p> <p>ENR believes the definition of sentinel parameters should be broadened to apply to a concentration-based regulation of effluent quality and the reference to Allowable Discharge Loads should be removed. The definition could be modified as follows:</p> <p>“Those Water Quality Parameters in the Effluent that will be analyzed at the mine site for the purposes of ensuring all Effluent Discharge Loads are less than all effluent quality criteria at the final point of control, and all water quality objectives are met at the edge of the mixing zone.”</p>	<p>ENR recommends the water licence include the above noted amended definition of “Sentinel Parameters”.</p>	<p>With fixed EQC, loads are not regulated by sentinels as that this taken care of by the flow ratio. Also, sentinels are to ensure EQC are met. This should automatically ensure WQO are met. Therefore, we suggest the following wording - “Those Water Quality Parameters in the Effluent that will be analyzed at the mine site for the purposes of ensuring all Effluent Discharge parameters are less than all effluent quality criteria at the final point of control.”</p>
13	Live Storage	<p>ENR notes that a condition should be included in Part F of the licence to require a minimum volume of live storage in both Cell A and Cell B be maintained. This is a result of CZN not providing clear evidence that outlines the residency time of water in Cell B nor the time to fill the cell in the eventuality discharges are not possible due to effluent compliance concerns, etc. This situation may also be exacerbated if sedimentation or deposition of solid waste into either Cell A or B occurs and therefore encroaches on the available storage which may impact the site water balance. A condition specifying a minimum volume of live storage provides additional certainty that the assumptions of water storage availability in the water balance are maintained.</p> <p>ENR further notes that reporting on the monthly estimate of available live storage in Cells A and B, and in the Catchment Pond should be a requirement of the Annual Report. This will assist in the understanding of whether sedimentation or deposition of waste (tailings) into water management ponds has compromised or may compromise the site water balance.</p>	<p>ENR recommends a condition of the licence identify the maintenance of a minimum volume of live storage for both Cells A and B.</p> <p>ENR recommends the Annual Report require reporting on the monthly estimate of available live storage in Cells A and B, and in the Catchment Pond.</p>	<p>We do agree with ENR's reasoning. The minimum live storage volumes in the previous licence were to ensure adequate water storage capacities, not residence time. It is CZN's intention to provide such live storage in the revised WSP, even though we have demonstrated that such live storage is conservative in this proceeding. As such, minimum live storage volumes need not be specified separately. We note that the CPD for the WSP will include this information and will require approval. Also, sedimentation/tailings deposition will have no effect on live storage because this would report to dead storage below the minimum water levels.</p> <p>Based on the above, we also disagree with the inclusion of live storage reporting in the annual report as this would create</p>

				unnecessary measurements and reporting.
14	Part F, Condition 10	<p>Board staff are seeking input on the specific water management structures to be included in Part F, Condition 10 which states: “The Licensee shall maintain a minimum 1-metre Freeboard in the Polishing Pond, Water Storage Pond, Catchment Pond, or as recommended by a Professional Engineer and as approved by the Board.”</p> <p>ENR notes that if an inlet works is constructed, the Board may consider including that specific structure within the condition. However, it is noted that it is still unclear how CZN will establish a final point of control at site and whether available freeboard would need to apply to the inlet works separately from the Catchment Pond.</p> <p>It is also preferred that Cells A and B be explicitly listed in this condition instead of the more broad term “Water Storage Pond”. ENR believes this will ensure the condition is clear since Cells A and B are separate areas and therefore water levels in these cells will be individually controlled.</p> <p>Finally, it is noted that this condition should include the waste rock pile seepage collection pond.</p>	<p>ENR recommends CZN clarify whether a minimum 1-metre freeboard is achievable and appropriate at the inlet works.</p> <p>ENR recommends Part F, Condition 10 explicitly identify Cells A and B instead of the more broad term “Water Storage Pond”.</p> <p>ENR recommends Part F, Condition 10 include the waste rock pile seepage collection pond.</p>	<p>In order to maintain a 1 m freeboard on the Catchment Pond, the inlet works would need to be set at that elevation as pond water would flow into the works. As such, the inlet works do not need to be specified separately.</p>
15	Part F, Condition 11 (C)	<p>Part F, Condition 11 (c) is that “The Licensee shall construct, operate, and maintain the Catchment Pond to the design specifications and engineering standards, such that: (c) Seepage from the Catchment Pond to the Receiving Environment is minimized, collected, and returned to Cell A of the Water Storage Pond.</p> <p>ENR’s understanding is that water from the Catchment Pond will be recirculated to Cell B, not Cell A, under the current water management plan.</p>	<p>ENR recommends CZN clarify the cell that water will be recirculated to that originates from the catchment pond, and that the licence be revised accordingly.</p>	<p>Cell B.</p>
16	Part F, Condition 11	<p>Part F, Condition 11 is that “The Licensee shall construct, operate, and maintain the Catchment Pond to the design specifications and engineering standards, such that...”</p>	<p>ENR recommends the Board include a clause requiring operation of the Catchment Pond such that it can function as a final point of effluent control.</p>	

17	Part F, Condition 12 (e) and (f)	<p>Part F, Condition 12 (e) and (f) are as follows:</p> <p>“The Licensee shall construct, operate, and maintain the Water Storage Pond to the design specifications and engineering standards, such that:</p> <p>(e) Tailings are only stored in Cell A of the Water Storage Pond as a contingency option as described in the approved Tailings and Backfill Management Plan referred to in Part F, Condition TAILINGS AND BACKFILL MANAGEMENT PLAN.</p> <p>(f) The tailings stored in Cell A of the Water Storage Pond does not exceed the quantity described in the approved Tailings and Backfill Management Plan referred to in Part F, Condition TAILINGS AND BACKFILL MANAGEMENT PLAN.”</p>	<p>ENR supports the inclusion of this requirement in the licence.</p> <p>ENR recommends the Board consider specifying the available minimum volume of live storage in Cell A within this condition if it is not specified elsewhere in the licence.</p>	<p>A minimum live storage volume does not need to be specified for Cell A because the water level will not vary significant and will be maintained at a high level in order to maximize residence time.</p>
18	Part F, Condition 33	<p>It is still unclear how the Qeff of 0.56 m3/s was derived based on review of the excel spreadsheet provided as part of CZN IR2 dated March 11, 2022. Additional clarifications were requested from the proponent to substantiate whether a Qup to Qeff ratio of less than 19 and the associated maximum Qeff of 0.56 m3/s is sufficiently conservative to ensure water quality objectives are met 100 m from exfiltration trench in Prairie Creek. It is noted that the CZN responded to the request on March 29, 2022 indicating “We used the same approach, dividing 10,650 L/s by 19”. However, it is not clear to ENR why CZN has identified the maximum creek flow as 10,650 L/s; as higher creek flows are included in the “Creek Flows” tab of the March 11, 2022 model. This information is important for parties to understand that sufficient conservatism has been considered to ensure water quality objectives are met 100 m from exfiltration trench in Prairie Creek.</p>	<p>ENR recommends CZN provide supporting evidence as part of this proceeding to support the use of 10,650 L/s in Prairie Creek to derive the Qeff.</p>	<p>We refer ENR to the Board's REA, Appendix 1 for MV2008L2-0002 re the assumed creek flow. In any event, the predicted effluent quantities are far below the max Qeff , rendering this point moot in practical terms.</p>

19	Part F, Condition 34	<p>ENR supports a narrower pH range than that outlined in MDMER but notes a maximum pH of 8.13 may not be necessary to protect aquatic life from acute toxicity and deleterious effects beyond the mixing zone. Although outstanding concern remains regarding the modelling submitted as part of CZN IR2 dated March 11, 2022, a pH range that is within (i.e., more conservative) the MDMER range that avoids acute toxicity and allows a similar pH at 100 m to that upstream of the project would be acceptable. ENR notes that 8.7 would be a suitable pH to meet these criteria.</p> <p>Further, it is noted that CZN has tried to address the concerns regarding the exclusion of bypass seepage (which may influence effluent loading and pH) in the derivation of EQCs in their March 29, 2022 response. ENR disagrees that bypass seepage need not be included in the derivation of EQCs based on the rationale provided by CZN: "Bypass seepage is not included in flow ratio calculations because it's not an effluent that will discharge via the exfiltration trench and be subject to direct control." ENR notes bypass seepage is a component of the project and should be considered within the mixing zone and not just at the edge.</p>	<p>ENR recommends bypass seepage be considered as part of the effluent discharged from the site and therefore be factored into the derivation of EQC.</p> <p>ENR recommends that a maximum pH of 8.7 would be suitable to protect aquatic life from acute toxicity and deleterious effects beyond the mixing zone.</p>	<p>Bypass seepage WAS included in the derivation of EQC, including flow ratio, only it is separate from the flow ratio number. Therefore, it IS included in effluent discharge in that it is assumed to occur at a certain volume and concentration, which will be subject to review based on monitoring data. Bypass seepage is NOT however part of effluent at the point of final control (which is why it isn't part of the regulated flow ratio).</p> <p>We see no reason to depart from the CCME's pH range, so we disagree with ENR.</p>
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20 34	Part F Condition 34	<p>As outlined by the GNWT during this proceeding, Option 1 in Part F Condition 34 remains the preferred set of EQC for the exfiltration trench size: 2 m summer / 1.5 m winter. This is the only option that predominantly conforms to the GNWT/MVLWB (2017) guidance for mixing zone size which constrains the mixing zone to approximately 25% Creek Width under all flow conditions.</p> <p>ENR reiterates the position outlined in GNWT's Intervention as well as in the review of CZN IR2 dated March 11, 2022, that there is still some uncertainty in the EQC and whether they are sufficiently conservative to ensure water quality objectives are met at the edge of the mixing zone. The Board should therefore consider CZN's response to intervener input on modelling provided with the March 11, 2022 IR2 such that EQCs are set to ensure WQOs are met at the edge of the mixing zone. ENR highlights that the EQC for several parameters under Option 1 (ENR's preferred exfiltration trench size) may result in exceedances of water quality objectives at the edge of the mixing zone. Based on the modelling submitted by CZN on March 11, 2022, parameters with insufficiently conservative EQC include lead and zinc at minimum. Nickel may also be a concern but has not been modelled by CZN as it was not screened as a parameter of concern. Consideration should therefore be given to more conservative EQC for the 2.0 m summer / 1.5 m winter exfiltration trench size as outlined in the yet to be refined version of the modelling presented in "CZN Response to IR - Eff M_84-85_90p_2m Mar11_22.xlsx". The primary refinement required is further clarification on how outliers in upstream water quality were identified. While CZN has provided a response to concerns regarding outliers on March 29, 2022, ENR believes that the provided rationale, "we removed those samples for which the total metal concentration was clearly an outlier from the majority", is insufficient. Further detail on the statistical approach employed is still required for parties to fully understand CNZ has accurately investigated potential EQC.</p>	<p>ENR recommends Option 1 be included in Part F, Condition 34, being the EQC for 2.0 m summer / 1.5 m winter exfiltration trench size.</p> <p>ENR recommends the Board consider CZN's response to intervener input on modelling provided with the March 11, 2022 IR2 such that EQCs are set to ensure WQOs are met at the edge of the mixing zone.</p> <p>To ensure water quality objectives are met at the edge of the mixing zone, ENR also recommends CZN update the model for the 2.0 m summer / 1.5 m winter exfiltration trench scenario to provide the Board with the EQC that would correspond to meeting WQOs at the edge of the mixing zone. The update by CZN should include clarification on how outliers in upstream water quality were identified as outlined within this comment. ENR will rely on this information for our closing arguments on recommended EQC.</p>	<p>First, the length of the exfiltration trench has nothing to do with the ability to meet EQC and WQO. EQC would be set to achieve this.</p> <p>ENR ignores the fact that the guideline states that the 25% creek width is a "starting point". ENR also ignores the point of the guidelines - to provide for fish passage, envisaging a point discharge. The guideline wasn't written for an exfiltration trench. We have demonstrated that effective effluent mixing with a 8 m pipe means low concentrations in the mixing zone and low potential for chronic effects. DFO's concern re fish passage was change in flow velocity. A 8 m pipe provides the smallest increase in velocity, and for that reason, is preferable to DFO. A pipe shorter than 8 m means more water treatment, concerns re consistently meeting EQC, more use of power and more waste with no environmental benefit, and therefore makes no sense.</p> <p>In 2021, the highest Ni concentration in 870 portal water was approx 0.016 mg/L, compared to an exploration EQC MAC of 0.2 mg/L. The Ni values are also worst case because the current 870 water is contact water, whereas minw water during operations will be primarily non-contact water. Ni was not regulated in MV2008L2-0002.</p>
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21	Schedule 1, Item 1 (k)	Annual reporting should specify a requirement to present QA/QC results as well as a correlation between colourimetric zinc measurements and corresponding laboratory results. CZN should also be required to discuss how the correlation between analytically measured zinc and colourimetric zinc measurements will be used over the following year to manage and identify appropriate treatment requirements for contact water at site.	ENR recommends Schedule 1 specify a requirement to present QA/QC results as well as a correlation between colourimetric zinc measurements and corresponding laboratory results. ENR recommends Schedule 1 require a discussion of how the correlation between analytically measured zinc and colourimetric zinc measurements will be used over the following year to manage and identify appropriate treatment requirements for contact water at site.	We're not opposed to QA/QC reporting. Re colourimetry, this is only being used during exploration. It is not proposed for operations. Therefore, colourimetry correlations don't need to be part of annual reporting.
22	Schedule 5, Item 2	Schedule 5, Item 2 currently does not require CZN to specify the final point of control and how water will be controlled at that point.	ENR recommends the Board require that information regarding specify the final point of control and how water will be controlled at that point be explicitly included in Schedule 5 as a requirement of the Water and Wastewater Management Plan.	
23	Schedule 5, Item 9	A discussion of data quality collected over the previous reporting period (i.e., a QA/QC section) should be included as part of the EQC Re-Evaluation Report. This report should also include a comparison of colourimetric zinc measurements to laboratory zinc measurements and how the correlation between the two measurements have been and will continue to be used to ensure existing and potentially updated (as a result of the Re-Evaluation Report findings) EQC will be met.	ENR recommends Schedule 5, Item 9 require a discussion of data quality collected over the previous reporting period (i.e., a QA/QC section), and a comparison of colourimetric zinc measurements to laboratory zinc measurements and how the correlation between the two measurements have been and will continue to be used to ensure existing and potentially updated (as a result of the Re-Evaluation Report findings) EQC will be met.	See our responses to ENR 3 and 19.
24	Schedule 6, Items 2, 3 and 4	The AEMP Baseline Monitoring Plan, Design Plan and reporting should include defined data quality objectives and a QA/QC strategy to ensure all resulting data is of high quality and usable.	ENR recommends Schedule 6 which includes the AEMP Baseline Monitoring Plan, Design Plan and reporting include defined data quality objectives and a QA/QC strategy to ensure all resulting data is of high quality and usable.	

25	SNP 3-9	ENR supports the removal of SNP 3-9 and incorporating the requirements into SNP 14 based on the Board's stated rationale that: "the reagent storage area and the waste rock storage facilities and would be a more suitable reference background sample location" in Harrison Creek.	ENR supports the removal of SNP 3-9 and incorporating the requirements into SNP 14 based on the Board's stated rationale.	
26	SNP 18	SNP 18 should only be removed with the requirements incorporated into SNP 3-13 if that station is also at the edge of the mixing zone 100 m downstream of the exfiltration trench.	ENR recommends SNP 18 should only be removed with the requirements incorporated into SNP 3-13 if that station is also at the edge of the mixing zone 100 m downstream of the exfiltration trench.	
27	Cyanide	Board staff have noted that during the Public Hearing, CZN indicated cyanide is not used as a process reagent within the operations area. However, the 2003 Reasons for Decision indicates that cyanide is stored in the reagent storage facility. The draft licence identifies that Board staff are seeking input whether monitoring for cyanide at this location is required or if cyanide has been removed from site.	ENR recommends CZN confirm that cyanide is not currently present at site and will not be used or stored on site in the future.	The cyanide that was stored on the Reagent Pad was over-packed and removed from site in 2008. There is no other cyanide on-site and cyanide is not a proposed reagent for operations.
28	Definition Engineer of Record	The proposed definition of "Engineer of Record" is limited to the individual responsible for the Water Storage Pond and Waste Rock Storage Facilities Seepage Collection Pond.	ENR recommends the definition of "Engineer of Record" be expanded to also include any engineered structure. ENR notes this definition therefore also applies to Part E, Condition 22.	Our understanding is that 'engineer of record' only has relevance to structures considered to be dams per the CDA, therefore reference to the WSP and WRP only is appropriate.
29	Definition Engineered Structure	The definition of "Engineered Structure" does not include the South Yard Excess Material Stock Pile nor the Active Tailings Stockpile.	ENR recommends the definition of "Engineered Structure" include the South Yard Excess Material Stock Pile nor the Active Tailings Stockpile.	We agree re the excess material stickpile, but not the active tailings stockpile because it will be a simple pile at repose on a slab within a building.
30	Part F, Condition 17	To address recommendation 7 and 8 in GNWT's Intervention, annual geotechnical inspections should be completed for all Engineered Structures as well as the Active Tailings Stockpile (if not considered to be an engineered structure) and 930/970 level legacy waste rock piles.	ENR recommends Part F, Condition 17 require annual geotechnical inspections for all Engineered Structures as well as the Active Tailings Stockpile (if not considered to be an engineered structure) and 930/970 level legacy waste rock piles.	A simple pile on a slab within a building does not require a geotechnical inspection. The 930/970 piles have been stable for over 40 years. There is no reason to believe they will become unstable, especially as they have self-sealed and do not produce visible seepage.

31	Schedule 4, Item 3 (i) (a)	<p>Schedule 4, Item 3 (i) (a) requires the hydraulic design and precipitation design event used for any associated water management structures, including, but not limited to (a) diversion ditches.</p> <p>ENR notes this should also include but not be limited to the Camp Ditch, as identified in recommendation 3.3 of GNWT's Intervention.</p>	<p>ENR recommends Schedule 4, Item 3 (i) (a) include, but not be limited to the Camp Ditch,</p>	<p>As we have noted previously, the Camp Ditch does not intercept surface water, rather it intercepts shallow groundwater. Hence, the item does not need to include the Camp Ditch. Further, the Camp Ditch is an existing functional structure.</p>
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32	Schedule 5, Item 2, (b) (x)	<p>Schedule 5, Item 2, (b) (x) requires the submission of Predicted overall Water balance and quality for the Project.</p> <p>ENR notes to address recommendation 20 in GNWT's Intervention, a condition should be included for the Water and Wastewater Management Plan to include response triggers for each of the following water quality and quantity source terms to inform the need to update the site water balance and water quality predictions when source terms deviate from the initially assumed values:</p> <ol style="list-style-type: none"> 1) Effluent and wastewater flow rates between the Mill and WSP 2) Outflow rate of treated and untreated water to Prairie Creek 3) Flow rates in Prairie Creek 4) Water quality of non-contact mine water 5) Water quality of treated discharge 6) Water quality of WRP unoff/seepage 7) Water quality of Camp Ditch water 8) Water quality of Mill Ditch water 9) Water quality of Prairie Creek 10) Inflow rate of contact mine water to WSP 11) Inflow rate of non-contact mine water to WSP 12) Inflow rate of WRP runoff/seepage 13) Inflow rate of runoff/seepage from other stockpiles 14) Inflow rate of Camp Ditch water to WSP 15) Inflow rate of Mill Ditch water to Catchment Pond 	<p>ENR recommends Schedule 5, Item 2, (b) (x) include the requirement to include response triggers for the water quality and quantity source terms noted in this comment to inform the need to update the site water balance and water quality predictions when source terms deviate from the initially assumed values.</p>	
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33	Schedule 5, Item 2, (d)	<p>Schedule 5, Item 2, (d) (ii) requires the submission of "Details of the monitoring, including rationale, that will be undertaken for each component of the Water and Wastewater management systems, including but not limited to the following...(ii) A description of monitoring to recalculate and update the predicted Water balance and quality including but not limited to..."</p> <p>To address recommendation 18 in GNWT's Intervention, the condition should include a requirement to monitor the following source terms during operations:</p> <ol style="list-style-type: none"> 1) Flow/volume of contact mine water to WSP. 2) Flow/volume of non-contact mine water to WSP. 3) Flow/volume of WRP runoff/seepage 4) Flow/volume of runoff/seepage from other stockpiles. 5) Flow/volume of Camp Ditch water to WSP. 	ENR recommends Schedule 5, Item 2, (d) (ii) include the requirement to monitoring the source terms identified within this comment.	While all of these source terms will be monitored, it should be recognized that only a limited number demonstrably affect the water balance.
34	Schedule 5, Item 4 (b) (iv)	Schedule 5, Item 4 (b) (iv) includes a note from Board staff that the requirements are carried over from MV2020L2-0003 referred to in Part E, Condition 6 and Schedule 4, Condition 3. As well it is noted that CZN has not submitted these results and that Board staff are seeking input on the reducing specificity of these requirements.	ENR recommends this requirement remain in the licence.	Board staff are incorrect. The results of this assessment were submitted previously, and indicated no significant ARD/ML potential.
35	Schedule 5, Item 5 (b) (i)	<p>Schedule 5, Item 5 (b) (i) requires the submission of "Details and rationale for monitoring of geotechnical stability, thermal characterization, for all components of the Waste Rock Storage Facilities, Secondary ROM Storage Stockpile, Temporary Waste Rock Stockpile, DMS Stockpile, South Yard excess material pile including..."</p> <p>ENR notes this item should also include the ROM Ore Stockpile and legacy 930/970 level waste rock piles.</p>	ENR recommends Schedule 5, Item 5 (b) also include the ROM Ore Stockpile and legacy 930/970 level waste rock piles.	The ROM ore stockpile we accept. The 930/970 piles we don't as these have been stable for over 40 years.
36	Schedule 5, Item 8 (b) (iv)	Schedule 5, Item 8 (b) (iv) requires details of the geotechnical monitoring of the Secondary Tailings Stockpile.	ENR recommends Schedule 5, Item 8 (b) (iv) also include the Active Tailings Stockpile.	We disagree. See our response to ENR 28.
37	Schedule 8, Item 2	Schedule 8, Item 2 outlines the requirements of the Closure and Reclamation Plan. To address recommendation 32 in GNWT's	ENR recommends Schedule 8, Item 2 include the requirement of a detailed	

		Intervention, this item should also include the requirement of a detailed post-closure water management methodology and discharge strategy.	post-closure water management methodology and discharge strategy.	
38	SNP 24, 25 and 26	Board staff have included a comment that monitoring related to Construction is required in the Design and Construction Plan. SNP Stations 24, 25, 26 are temporary and could be addressed through the monitoring requirements in the Waste Rock Storage Facilities Design and Construction Plan.	ENR recommends SNP stations 24, 25 and 26 be maintained in the Water Licence.	SNP 24 and 25 are the same location.
39	SNP 04	In relation to SNP 04, Board staff are seeking input on the status of the Waste Rock Storage Facilities. Board staff note the Waste Rock Storage Facilities may be in operation prior to Groundwater Dewatering.	ENR recommends SNP 04 become active once construction on the pile begins.	The SNP location is the seepage collection pond. This won't exist until construction is complete.. Start before operations (before waste rock is placed) is appropriate.
40	SNP 10	Board staff have noted that monitoring related to Construction is required in the Design and Construction Plan and that SNP 10 is temporary and could be addressed through the monitoring requirements in the Water Storage Pond's Design and Construction Plan.	ENR recommends SNP 10 remain in the licence.	
41	Cover Letter	Comment Letter	N/A	
CanZinc Corporation (CZN) - david harpley				
1	WL Part A 1	There was an EA for surface exploration drilling >2,000 m from the mine site. The scope should cover this for clarity.	After 'surface' add 'mineral exploration anywhere on CZN's claims in the area'.	
2	WL Part A Dewatering	This should refer to groundwater removal.	Reword to "the removal of Water from an aquifer, or portion thereof, by pumping or draining"	
3	WL Part A Engagement Plan	CZN already has an approved engagement plan for exploration. A new plan should not be required for exploration. This also applies to spill plan, waste plan, explosives plan.	Change the wording to reflect that the plan is needed for one or more phases of the Project, or specify for construction, operations and closure phases	

4	WL Part A Engineered Structures	<p>Structures defined require a Design and Construction Plan (DCP) . Schedule 4 part 3 provides a long list of requirements for DCP's. Many of those requirements are not relevant to the structure. Polishing Pond, Fuel Tank Farm - already built and approved by the Board. Potable Water Supply Facilities - already built (supply well) and in any event is not waste or water water, or complicated in construction. What is the need to specify waste rock storage facilities (plural) and the seepage collection pond separately? The secondary ROM stockpile and secondary tailings stockpile is one structure. Wastewater treatment facilities is a water treatment plant which will be a pre-packaged unit. Sewage treatment facilities is a sewage treatment plant (STP) and is already built. Sewage sludge disposal facilities is part of the STP (the press), with the pressed sludge going to disposal in the tailings backfill.</p>	<p>Schedule 4 part 3 requirements need qualifying language, such as "as deemed necessary by the author". The author will be a professional, likely an engineer, and their discretion should determine what is applicable for inclusion. Parties have the option of requesting additional information upon review. As written, the part currently requires the information whether it's relevant or not. Delete polishing pond, fuel tank farm, potable water supply facilities, sewage sludge disposal facilities. Combine waste rock storage facilities and the seepage collection pond into 'Waste Rock Storage Facility' (singular). Combine the secondary ROM stockpile and secondary tailings stockpile into one structure. Create a new facility design requirement for the WTP and STP which better reflects the information needs and excludes the DCP list which is largely irrelevant.</p>	
5	WL part A Exfiltration Trench	<p>The inlet works would be located within the Catchment Pond, and certainly not under the bed of the creek.</p>	<p>Delete inlet works from the definition. Define them separately or as part of the Catchment Pond.</p>	
6	WL part A Flood Protection Berm	<p>Typo - even. From Tetra Tech: The Flood Protection Berm is defined as: 'The Engineered Structure adjacent to Prairie Creek designed to be armored with riprap to an elevation above the level of the probable maximum flood even for Prairie Creek'. This is incorrect. Flood Protection Berms are not designed to a Probable Maximum Flood event; they are normally designed to a regulatory standard of a 1:100 year flood in most jurisdictions in Canada and the United States. Probable Maximum Flood analyses are typically reserved for dam structures with a high (or greater) consequence classification.</p>	<p>Revise last part of Flood Protection Berm definition to end 'to be armored with riprap to an elevation above the design flood level for Prairie Creek'.</p>	

		Part E, Schedule 4 1 c) correctly identifies the term “design flood event” for riprap sizing.		
7	WL part A Sentinel Parameters	Theses parameters are applicable for effluent discharge via fized EQC or VLD	Reword to "ensuring all parameters meet EQC"	
8	WL part A Secondary Tailings Stockpiles	There is only one.	Remove the s from stockpiles	
9	WL part A WSP	Will also contain seepage and mill water	Add to the definition	
10	WL B9	This seems a redundant exercise. Plans not changed and resubmitted should be assumed to not require revision.	Delete	
11	WL B20	There is already an approved engagement plan for exploration. A revised plan should only be required prior to construction	Change the schedule to 90 days before construction	
12	WL D 4 and 5	What is the puprose of having max dewatering volumes? We will need to pump whatever the aquifer produces in order to lower water levels and avoid contact mine water. There should not be maximums	Delete	
13	WL D8	Prairie Creek is the only fish-bearing location in the D1 table. D9 also provides oversight.	Add "for water withdrawal from Prairie Creek and any other fish-bearing stream"	

14	WL E4	Construction material will consist of 2 types: sand derived from deposits in the Prairie creek floodplain; and aggregate sourced from the existing quarry on the north end of the airstrip. CZN is presently acquiring a quarry permit for the existing quarry to source armour rock for road repairs. Lands advise that geochemical testing results are not required because it is an existing quarry. The same quarry was used by Cadillac to source rock for construction and the existing armour along Prairie Creek. The point here is that geochemical screening is not required for construction materials. Sand from the floodplain poses no geochemical risk. Further, requiring geochemical characterization of construction material in geochemical management plan, the scope of which includes operations waste sources and sources of material for closure, poses real issues of timely approvals for construction. Construction materials should be addressed separately, and as we advise, do not need to be addressed at all.	Delete	
15	WL E6	This assumes there will be geochemical records. Per our response re E4, there shouldn't be.	Delete	
16	WL E7	Six months is an excessive amount of time between the 2 reports. It will be up to CZN to incorporate review comments on the evaluation report into the WSP DCP before it can be submitted. The 6 month requirement could delay WSP approval and construction.	Change to 90 days.	
17	WL E11	It should not take 6 months. The trench will not be a complicated structure	Change to 90 days.	
18	WL E15	Further comment re engineered structures in part A. For most of those listed that already exist, we don't have design drawings. Another reason for those structures to be removed from the list.		
19	WL E16	This can be combined with E11.	Combine with E11	
20	WL E30	We do not expect to encounter bedrock during Construction of the Water diversions, the Water Storage Pond(s), the road to the Waste Rock Pile and/or the Waste Rock Pile and Seepage collection system. However, the condition provides a practical approach in the event bedrock is encountered. We're concerned that deleting the condition and moving the consideration to a Geochemical Characterization MP will lead to protracted review and approval of the MP and expectations of sampling. The condition is logical, thoughtful and sufficiently protective.	Retain the condition.	

21	WL E31	Staff's note is incorrect. The condition refers to concentrates, not waste rock or ore storage.	Retain the condition, but delete the word 'area', and change 'constructed' to 'provided', as the containment will be containers.	
22	WL F3	Site water management will not change until underground dewatering commences. A new WTP will not be available until after initial early earthworks (WSP and WRSF), which won't affect site effluent discharge. Therefore, the present WTP and polishing pond will continue after the start of construction and until dewatering starts and the new WTP is available.	Change the two entries of 'Construction' to 'Dewatering'.	
23	WL F7	CZN already has an approved explosives plan for decline development. Preparatory mine development for access before dewatering will be similar to decline development. Explosives management won't change significantly until ore extraction commences.	Change the condition by adding after 'use and/or storage of explosives' the words 'for ore extraction'. This will also avoid a new plan being required if for some reason construction does not proceed but another exploration decline is proposed (as is currently permitted).	
24	WL F8	One year is extremely excessive. A CLMP already exists which has been updated once already.	Change to the standard 90 days	
25	WL F9	Similar to F8, 1 year is very excessive. Most of the TBMP material has been presented already. We recognize that this plan is a little more detailed than the CLMP.	Change to 120 days	
26	WL F10	The purpose of freeboard is to prevent overtopping due to waves on large ponds, and to provide a suitable buffer storage in the event of malfunction to allow corrective actions to occur. A 1 m freeboard is appropriate for the WSP and the waste rock seepage collection pond, the latter because of the nature of the water (untreated seepage). The polishing pond is relatively small (no waves due to baffles) and has a weir so cannot overtop. Also it is to polish treated water. In addition, the structure is built and approved to support exploration and does not and should not require alteration. The Catchment Pond is similarly small, and during operations will have the inlet works and pump-back contingency. It will also contain water that should be EQC compliant.	The condition should apply to the WSP and waste rock seepage pond only	
27	WL F11 c)	The Catchment Pond currently does not have evidence of seepage. It is further unlikely that it will after it is lined. However, if seepage were to occur, it would be very small relative to effluent discharge, and the water quality would be similar. Also, groundwater migration in this area is part of the by-pass seepage quantified and included in the assessment of EQC and WQO. Seepage, if it occurred, would be problematic to collect and would be unnecessary.	Delete the words 'collected, and returned to Cell A of the Water Storage Pond'	

28	WL F12 b)	The WSP has a clay liner. The new Cells A and B will include a new geosynthetic liner. Seepage is therefore unlikely. If seepage collection were needed, the destination of the seepage would depend on the origin i.e. seepage from Cell A would be returned to Cell A	Change the wording after 'returned to' to 'the cell it originated from'	
29	WL F13 b)	The Camp Ditch is intended to be a seepage collector in this area, not for the ROM ore stockpiles but for the portal staging area in general. We do not expect seepage from the ROM ore stockpiles. Camp Ditch water is planned to be sent to Cell B.	Delete the words 'to Cell A of the Water Storage Pond' to provide flexibility as to the appropriate destination	
30	WL F14	Depending on the Cell A water balance, some stream may need to be diverted to Cell B	Delete the words 'to Cell A of the Water Storage Pond' to provide flexibility as to the appropriate destination	
31	WL F15	This seems like a standard condition applying to effluent outfalls. An exfiltration trench is not an outfall and could not cause erosion. Daily monitoring for non-existent erosion isn't efficient.	Delete	
32	WL F16	The polishing pond is internal to the site and not prone to erosion as it is a raised structure. There is no pilot plant. The tank farm has a limited catchment and the containment only requires water release after spring thaw. The standard approach for the flood berm and the WSP is to inspect armour and for erosion after high water events.	Recommend "The Licensee shall conduct inspections of the Flood Protection Berm and Water Storage Pond erosion protection works following high water events in Prairie Creek".	
33	WL F23	This condition needs to be specific to exploration and the period before a new WTP is brought to site. The new WTP will consist of a lime treatment process and include a clarifier which will take the place of the existing sulphide system and polishing pond. The current discharge to the polishing pond is appropriately described in the existing ETP and MTCP. It is not appropriate or efficient to now require this information in a new water and wastewater management plan.	Reword to "The Licensee shall discharge all Effluent from the 870-metre level portal to the Polishing Pond, as described in the approved effluent treatment plan and mine water treatment contingency plan, during the pre-construction period and until a new water treatment plant is available to provide polishing".	
34	WL F24	TPH was an EQC before, and we applied to the Board to change it to EPH, which the Board granted. Adding TPH back in would be a reversal of a Board decision.	Continue to exclude TPH.	
35	WL F25	CZN is regulated at 3-4, polishing pond discharge	Change to discharge 'from' the polishing pond.	
36	WL F26	This condition does not make sense and there is no need for it. Mine water flows out of the 870 by gravity. It was built that way. We treat it then polish it via the polishing pond. There is no ability to store the water - it is a flow through process. We don't 'commence or resume discharge',	Delete	

		it flows by itself. This is described in the currently approved ETP and MTCP.		
37	WL F27 a)	The discharge cannot cease. This subject should not be part of the new water management plan as its already covered by the approved ETP and MTCP which should be retained. It's been this way since 2006. There is no need to change this at this late stage, particularly as 2021 results were consistently good.	Delete	
38	WL F29	See F24. The tank farm stores diesel. EPH is the appropriate analysis.	Leave as EPH as in the current exploration authorization.	
39	WL F32	This could be read as excluding Mill Ditch water, which is also an effluent and must be discharged via the inlet works. It was ECCC who couldn't be clear if the Mill Ditch represented dilution, although they seemed to imply it didn't.	Delete	
40	WL F33	Effluent dilution requires a minimum ratio of 19	Change the wording to "ratio of 19 or more"	
41	WL F34	It appears the staff are trying to ensure site discharge pH is less than the upper pH bound for dissolved zinc guideline calculation. That guideline applies in the receiving environment, not effluent. Prairie Creek pH is routinely 8.2-8.3. As such, it is not practical to constrain effluent pH this way, and if this requirement remains, we would have to reduce pH by acid addition.	Make the pH EQC the CCME range	

42	WL F38	This condition does not reflect the effluent discharge mechanism that will occur, and is impractical in terms of constraining discharge, as well as unnecessarily causing water storage issues. The final effluent will be a blend of treated and untreated Cell B water, and in open water months, Mill Ditch water. That blend will occur in the Catchment Pond or inlet works, depending on the season. The condition as written would require Cell B release, treatment, blending, sampling, not discharging for 5 days, then resuming. This isn't practical. For one thing, Mill Ditch water cannot be stopped or stored, so discharge must continue. Another thing is if the exceedance is in an SNP sample, it could be 2 weeks after sampling, so the effluent is long gone. In reality, what will happen is the blend quality will be computed based on flows and the quality of the individual streams, with contingencies, to meet EQC MAC. Quality will be based on the on-site testing of sentinels e.g. dissolved zinc, arsenic. The blend will also be tested on-site. If blend concentrations approach EQC, Cell B flow rates will be adjusted accordingly since those rates are controllable, as well as the proportion going to treatment. Storing and not discharging water from Cell B for 5 days or more in the discharge 'season' is not reasonable or necessary, when adjustment of the final effluent can be made immediately.	The condition either needs to be deleted or changed to reflect reality. What might be appropriate is to notify the Board/Inspector if on-site testing has detected a potential EQC MAC exceedance (recognizing that an off-site lab sample may be more definitive) and explain what was done to rectify the situation, within 12 hours of occurrence. A sample for off-site testing would be required. This approach should ensure EQC MGC are not exceeded due to the significant buffer between MAC and MGC.	
43	WL F39 a)	Similar to F38, this poses unnecessary constraints, and again is 'after-the-fact'.	Change the wording to "Adjust the discharge so it does not exceed EQC or not be acutely toxic, whichever has been determined".	
44	WL F40	We believe the approach proposed by Racher is practical. In any event, 1 year after the start of dewatering would be too soon because discharge will not occur until several months after the start of dewatering, and in order to evaluate all seasons and write a report, more time (~6 months) would be needed.	Amend per Racher's recommendation	
45	WL F44	We do not believe an artesian aquifer will be encountered, but if it is, where it is and the nature of it will determine what action is appropriate. This will differ if it is underground, in which case dewatering is already proposed, or on surface in a borehole (which is likely what the condition is written for), in which case the water could be contained and the hole could be sealed after use. The condition should provide flexibility. We can't imagine why an Inspector would want 5L of the water.	Delete a). For b), add "and the location and nature of the aquifer. For c), change to "Provide a description of how the flow is to be contained and/or prevented". For d) require the SNP 29 analyses only. For e), if it is a borehole, seal "after use".	
46	WL F45	This condition was originally written to optimize and enhance treatment of process water, which was to be accomplished using a more complex approach of acidification to pH 5, addition of sodium sulphide followed by	Delete	

		lime addition to pH 9. It was not written to 'optimize' lime treatment which is industry-standard and not complex.		
47	WL F46-52	These conditions are still applicable since creek flows need to be known to determine how much effluent can be discharged at any given time. The flow gauge has already been installed by WSC and operated by them since 2013.	Retain conditions F46-52. Change F46 by deleting the last sentence.	
48	WL G2	CZN has been consistent in requesting that requirements be tied to the schedule of an activity. This is so work does not proceed until we are ready and the work can be funded. We currently plan to start construction in mid-2023, subject to financing. We may not have WL issuance until September this year.	Require the working group to be established 6 months before construction.	
49	WL G4	Construction is placed to occur approximately 15 months before dewatering. Effluent discharge from the site will only change from the current situation several months after dewatering commences, and once the WSP has filled. As such, there is ample time for review of the design plan in the period between construction and dewatering. As currently written, the design plan would already be due if construction is to start mid-2023.	Change the submission to "prior to commencement of construction" (remove one year prior).	
50	WL G6	Revision of the design plan should be driven by the re-evaluation report (G5). It may not be necessary to revise the design plan.	Remove "Every three years following implementation of the AEMP Design Plan, or".	
51	WL G7	See comment to G4.	Annual report submission should begin after the year after the commencement of dewatering, with submission by March 31	
52	WL H1	Ensure' is the wrong word. Not possible to ensure.	Reword to "The Licensee shall endeavour to avoid Unauthorized Discharges associated with the Project entering any Waters".	
53	WL H10, H11	These requirements were also directly linked to water storage concerns related to potentially very high mine flows during the original proceeding, and how to respond if the very high mine flows are encountered. Subsequent studies have confirmed an absence of potential for such flows, therefore logically neither an FMEA or mine site contingency plan are needed. During the proceeding, parties discussed the need for a decision tree in the water plan, which CZN agreed to. This should suffice.	Delete	

54	WL I1	Referring to our comments in G2 re requirements tied to an activity, the significant construction period is planned to occur in 2024, with dewatering commencing later that year.	Change the submission requirement to 12 months before dewatering, which is about the same timing as 12 months after licence issue if the project schedule remains as at present.	
55	WL I1	The content of the work plan does not appear to be defined. We assume it is to be that specified in S8, condition 3.	To avoid confusion, rename 'Closure and Reclamation Work Plan' to 'Reclamation Research work plan', and change this condition to reflect that the work plan is to define how data is to be acquired to satisfy S8, 3.	
56	WL I4	The first prediction report may confirm that current predictions are conservative, as we expect. Therefore, there may not need to be further prediction reports until closure, or at least not as frequently as every 3 years.	Delete "Every three years following the previous approval, or".	
57	WL I6, I7	We fully expect the mine to continue well beyond the initial 15 years. As such, it is likely to continue beyond the term of the licence, if the term isn't extended. The important thing is closure plans are in place before closure.	Delete "Three years prior to the expiry date of this Licence" and "or whichever occurs first".	
58	WL I11	Such conditions create an expectation of notification even if none is needed.	Add "The absence of notification will be taken to mean no progressive reclamation is planned to be conducted in the upcoming year".	
59	WL S1, j) v.	Monthly elevations in metres of the Sewage Treatment Facilities?	Clarify	
60	WL S1, k) ii.	The existing ETP and MTCP should continue to be in force until deatering starts.	Delete	
61	WL S1, k) vi.	References to "runoff, Water, Wastewater" are not specific to locations. All other locations are mentioned.	Delete "Runoff, Water, Wastewater"	
62	WL S1, k) x.	SNP 3-5 (Catchment Pond discharge) currently does not require flow monitoring. This should not change. Once dewatering commences, pond discharge will be via the inlet works (SNP 13).	Delete 3-5	
63	WL S1, m) iii. a.	We submitted geochemistry results for the 930/970 piles which confirmed no significant ARD/ML potential. We also noted that there was no evidence of seepage. Receiving water sample results also confirm no significant difference in quality between upstream and downstream.	Delete	

64	WL S1, m) iv	Test cells? What is this? None are planned. This seems to stem from a template.	Delete	
65	WL S1 f.	Re the WROSMP, details are requested for types of waste rock, solid waste, 'materials', and waste 'containing metals'. What are the last 2 items? Aren't they also solid waste?	Clarify or delete last 2 items	
66	WL S1 h. iv	Re the CLMP, do you mean number of containers requiring attention? Tailings dust?	Clarify	
67	WL S1 o.	Re tabular summaries of all data, it is redundant to tabulate metals results that aren't EQC	Add "(water quality parameters with EQC)" after 'data'	
68	WL S1 o.	3-12 is a single number annually and not conducive to graphical summary	Delete 3-12	
69	WL S1 r.	There have been EA's related to surface exploration drilling (Phase 3), decline development/pilot plant and mine operations. Commitments for the first 2 should be applicable prior to construction. After construction, the 1st and last should be applicable as the 2nd will be completely subsumed by the 3rd.	Reword accordingly	
70	WL S3	Similar to D4 and D5, we will pump water from underground based on what the aquifer produces and direct it to Cells A and B as described in the submitted documents. Hard numbers can't be placed on this exercise. We realize staff are trying to define water volumes used, but what the actual volumes are is another matter.	Instead of saying 'may direct' and 'may divert' and 'may transfer', perhaps say 'is expected to', and note that the numbers are for quantification of water use and fees required whereas the actual numbers will depend on site conditions encountered.	
71	WL S4, 1 a) and c)	From Tetra Tech: The origin of this report requirement is concern associated with the armour on the two structures, specifically the particles size, thickness and height of the armour in relation to flood levels. The requested report scope is broader than this, and discusses details of the berm structures themselves. Geotechnical assessments and recommendations for both the WSP and FPB are provided in Annual Geotechnical Assessments, most recently completed in December 2021. Geotechnical information relating to the WSP southern dyke will be in the WSP DCP. This evaluation report subject matter should remain specific to the hydrotechnical assessments and bank protection armour as was the original intent. It also appears that 'standard conditions' have contributed to the unneeded requirements. Stability analyses and 'other relevant information' (such as geotechnical investigations, hydrogeological investigations, ground ice etc.) are covered in other reporting and are beyond the scope of the intended hydrotechnical assessment.	a) iii. and iv. Add "relating to the bank protection armour" a) v. Delete c) iv. and v. Delete	

72	WL S4, 1 b), d) and e)	<p>From Tetra Tech: These sub-conditions collectively require identifying a probable maximum flood (PMF) for Prairie Creek, recommending design measures to withstand the PMF, and describing how these measures would be implemented. Bank protection works are normally designed to the same regulatory standard that applies for roads and bridges. The requirement varies by jurisdiction but is typically in a return period range of 1:25 to 1:100 years and flood. It is possible that dam safety reviews required for the Water Supply Pond will identify a design flood requirement that is more severe than a 1:100 year flood.</p> <p>The draft water license contains multiple references to dam safety requirements including annual geotechnical inspections and reviews of the dam classification of the Water Storage Pond. The Dam Classification is based on incremental downstream impacts resulting from a dam failure, and the Classification result is then used to select an Inflow Design Flood consistent with Canadian Dam Association (CDA) guidelines. It is premature to design for a PMF event prior to completion of the consequence classification. Note that Schedule 4 Item 6 c) on draft Water Licence Page 56 specifically addresses determining the Dam Class including, but not limited to, specific potential impacts of failure. This determination is the basis for identifying an Inflow Design Flood in accordance with CDA.</p> <p>The Flood Protection Berm is not subject to Dam Safety Requirements and should not require a design flood higher than the normal regulatory range for roads and bridges. The Water Storage Pond is subject to Dam Safety Requirements and may have separate classifications for its west berm (along Prairie Creek) and south berm (above mine site accommodations).</p> <p>Our recommendation is to assess bank protection works in two stages. The initial stage will consider a normal design flood consistent with regulatory requirements for roads and bridges and will provide the information requested. This report for this stage will note that a higher design flood may be required for the Water Storage Pond following completion of a dam classification assessment. Bank protection recommendations to meet a dam safety standard would be developed in a second stage after the classification is determined.</p> <p>In summary, it is premature to design for a PMF event. We also note that</p>	b), d), e) Delete	
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Parks, in their intervention, requested re-calculation of the design flood, not specifically calculation of the PMF.

73	WL S4, 2-7	Condition 3 is assumed to apply to the WSP and the waste rock storage facility (WSP appears twice). Re 3, there is a contradiction in that the 3rd line says 'shall include', but a) iii. more correctly says 'relevant background information' and 'as deemed adequate by the professional engineer'. In our opinion, the template list of requirements should be a guide for DCP content, not a hard necessity. Some information may be appropriate for some DCP's and SDCP's, and some for others. A qualifier is needed so that reviewers do not expect all of the information to be provided, even if it isn't relevant.	In conditions 2-7, change 'shall' to 'is expected to', with in brackets also 'with explanations as to why certain information is not relevant if it is not included'.	
74	WL S4, 3	The DCP is for design and construction. It is not for operation, other than performance and monitoring requirements for stability. As such, water balance and water chemistry have no bearing on the engineering requirements and don't belong here. They belong in the water plan. Operating and minimum water levels have relevance to stability, as does seepage. Water balance is certainly not relevant to the waste rock facility.	Change a) iv. to 'Water management considerations, including operating water levels'. Delete a) v.	
75	WL S4, 4	This is a case where the standard template had led to unnecessary requirements for this item. The flood berm is already built. At issue is only the particle size, thickness and height of the armour. The structure itself is stable, having been there with no evidence of instability for over 40 years, hence stability analyses aren't needed, or optimization for closure as this assumes the structure isn't built yet.	b) Change 'design of the facilities' to 'redesign of the facility'. b) i. Change to 'A description of how the armour is to be revised'. b) iv. and v. - delete	
76	WL S4, 5 e)	Construction will be a fairly straight-forward exercise of excavating a trench, installing pipe followed by backfilling. A suitable technician will likely suffice for supervision. It's not a major structure with potential for instability.	Reword to 'a component of which includes a plan for the supervision and field checking of Construction activities'.	
77	WL S4, 6 c) iv.	The contingency option of storing tailings in the Water Storage Pond is described in the tailings and backfill management plan, not the Water and Wastewater Management Plan. There would be no need to discuss it in the latter plan.	Change	
78	WI S5, and in fact all schedules	As for S4, conditions 2-7	Change 'shall' to 'is expected to', with in brackets also 'with explanations as to why certain information is not relevant if it is not included'.	
79	WL S5 1.	Again, template issues. There will be 2 types of sludge; from the WTP following lime treatment; and, from the STP following filter pressing. Both types will be mixed in the tailings paste and go underground as paste backfill. Neither sludge needs to be sampled. Neither sludge will cause TSS issues, or require drying as it will go into moist paste. Desludging of the WTP will be a standard operating procedure.	a) i. delete a) iii. c., d. and e. delete a) iv. a. and b. delete a) iv. c. delete 'and contingencies should dewatered sludge not meet criteria for reuse' a) iv. d. delete	

80	WL S5, 2 a)	We already have an approved ETP and MTCP for exploration. Those plans should be retained until dewatering starts. We don't need to create unnecessary submission and review requirements. Seasonal water treatment will start soon. How would approval of the new plan jive with that. We should not need any new approvals for exploration. In addition, polishing pond freeboard is maintained by the weir - the water level cannot exceed that elevation. Why do we need to collect and manage runoff? The site already has those facilities.	Delete, or replace with continue to follow the approved ETP and MTCP until dewatering commences.	
81	WL S5, 2 b)	Per F3 comment	Change 'Construction' to 'Dewatering'.	
82	WL S5, 2 b) ix. a.	There is no evidence of drainage from the 930/970 piles. amd no indication of receiving water quality effects.	Delete 'including the Waste Rock Pile below the 930 and 970-metre level portals'.	
83	WL S5, 2 b) x. a.	Groundwater relates to detwatering underground.	Add 'from the underground workings.'	
84	WL S5, 2 c)	Predictions are on a monthly basis. Daily flow rates won't vary. The dewatering will not affect surface watercourses - the current mine water discharge from the portal will cease. The groundwater will be delivered to the WSP by pipeline. There will no sedimentation or erosion associated with dewatering.	ii. Delete 'including daily flow rates vii. and viii. Delete	
85	WL S5, 2 d) ii. a.	The purpose of this survey is closure planning. Ity belongs in closure research plans.	Delete	
86	WL S5, 2 d) ii. g.	Accept staff comment	Change to 'groundwater dewatered from upgradient'.	
87	WL S5, 2 f) i. c.	We already provided evidence that the tailings, if placed, will have no effect on wastewater management because it will occupy a limited amount of dead storage in Cell A	Delete	

88	WL S5, 4	CZN is very concerned about the scope and content of this plan, particularly the potential for delaying approval of construction. This is a new plan that was not discussed during the proceedings. There seems to be significant overlap with the waste rock and tailings plans. In addition, each DCP requires geochemical data on construction materials. Therefore, we're not sure why the Board is requiring this plan. There is a lack of clarity between requirements for this plan versus the other plans. In our opinion, the other plans are sufficient and this plan is not needed, especially as the majority of site infrastructure is already built. We provide additional comments on this plan below, however our preference is for this plan not to be required at all.	Reconsider the need for this plan but at a minimum, rationalize the scope, content and overlap with other plans and DCP's, particularly considering the potential for a protracted review and approval process and potential delay of construction.	
89	WL S5, 4 a) i.	This information has been presented to the Board twice previously, and defines no significant ARD/ML potential.	Delete	
90	WL S5, 4 a) ii.	What does this requirement relate to? It is general and not specific to a material.	Define what source this relates to, or delete it	
91	WL S5, 4 a) iii.	Some common-sense needs to come into play regarding overburden (and for rock also). In most cases, overburden will have undergone millions of years of weathering and leaching, and therefore does to represent a significant risk. Colluvial deposits immediately down-gradient of surface mineralization would be an exception. Geological context needs to come into play rather than just requiring a suite of samples. We've already tested the WSP backslope and 930/970 piles using the blanket sampling approach and confirmed no significant potential. 'Characterization' should not necessarily mean sampling. For approval efficiency, closure-related matters should not be in this plan but in the closure research plan.	Qualify the meaning of characterization. Remove references to closure.	
92	WL S5, 4 a) iv. b.	We don't believe it is important to determine waste rock 'risk'. It's all going to the same pile.	Delete	
93	WL S5, 4 a) v.	This really is duplication of other plans (WROSMP, TBMP).	Delete	
94	WL S5, 4 b) iv.	As noted elsewhere, this information has been submitted twice already. The Board staff note is incorrect.	Delete	
95	WL S5, 4 b) v.	What field test cells? None have been discussed or are planned. Is this a template issue?	Delete	

96	WL S5, 5 a) v.	This is potentially a problem. Samples of DMS reject were developed during metallurgical testing. These samples are no longer available, and more won't be available until mill processing commences. If the requested data isn't already available, as written the condition could prevent approval of this plan, which is unnecessary. These data will be generated during routine sampling during operations. In addition, we have shake flask results for this material, which are more valuable in terms of characterization, and these data include Cd and Hg.	Delete 'whole-rock' and 'that contains interpretable values for both Mercury and cadmium'.	
97	WL S5, 5 a) vi. b.	Water management performance does not correlate with water quality parameters.	Delete 'and water quality parameters'.	
98	WL S5, 5 a) vi. f.	Metal leaching potential from solid waste was answered during the proceedings. It's very little, and irrelevant compared to waste rock leaching.	Delete 'and the estimated amount (s) of metals that may potentially leach out'.	
99	WL S5, 5 a) vi. i. and j.	Duplication with S4, 7 d).	Delete	
100	WL S5, 5 c) ii.	If this item is to be defined in the DCP, why is it here?	Delete	
101	WL S5, 5 c) iii.	Seepage quality will be what it will be, and it doesn't matter during operations as it will be recycled.. It won't be related to 'performance'.	Delete 'quality and'.	
102	WL S5, 5 c) iv.	Waste rock leachate is to be recycled and used in the mill (as such, treatment of leachate (a) isn't relevant). Post-closure considerations (b) should be covered in closure-related plans, and again, the 930/970 piles don't appear to be an issue.	Delete	
103	WL S5, 6 a)	Explosives can be pre-packaged or produced on site. WL conditions shouldn't preclude either.	Delete 'pre-packaged'.	
104	WL S5, 6 f)	Baseline monitoring is irrelevant with respect to the underground use of explosives. Exploration should not be part of this plan as there is already an approved explosives plan for exploration, and this plan should only be required before ore extraction.	Replace 'including both baseline monitoring and monitoring during Construction, mining operation, and mineral exploration' with 'commencing with ore extraction'.	
105	WL S5, 6 g) i.	Geochemical stability is not relevant to explosives. Neither is runoff quantity.	Delete 'geochemical stability as well as' and 'and quantity'.	
106	WL S5, 7 d) i.	The plan relates to particulates, not geochemistry or water.	Delete 'with respect to geochemical stability as well as Seepage and Runoff quality and quantity'.	
107	WL S5, 8 b)	iii. and v. are the same	Delete v.	

108	WL S5, 8	a) v. and b) vii. are the same	Delete b) vii.	
109	WL S5, 8 b) iii.	This was answered during the proceedings. There will be no significant implications to any of these.	Delete	
110	WL S5, 8 b) iv.	As the tailings will have no effect on water in Cell A, there is no need to link to the water plan.	Delete	
111	WL S6, 2 b)	Water quantity and flow are the same.	Delete 'and flow'.	
112	WL S6, 2 d)	Harrison Creek is not a significant host of aquatic resources due to the short, channelized nature of the alluvial section near the mouth (which will be dry much of the time in the absence of the present mine effluent discharge), and the steep, step-pool nature upstream.	Delete 'and Harrison Creek'.	
113	WL S6, 3 a)	This item has not been revised from the previous WL to reflect the recent discussions between CZN and DFO and in particular, DFO's intervention. DFO's intervention (Section 3.1) identifies the following to confirm an absence of effects on bull trout: "Additional velocity impact modelling will be undertaken by the Proponent following these discussions, which will help determine if the exfiltration trench is a potential barrier to fish passage. In any case, DFO has reminded CanZinc that field monitoring will be required to demonstrate that either: The exfiltration trench does not prevent fish passage". Therefore, DFO confirmed that the revised approach to monitoring is related to velocity measurements, not to the previous occupancy and density of bull trout.	Modify the item to reflect the revised position of DFO as described in Section 3.1 of their intervention.	
114	WL S8, 1 a) ii.	Calibration may be superior using results from other years. It should not necessarily be tied to 2009 and 2010 results. The important thing is to achieve a calibration.	Delete 'from 2009 and 2010'.	
115	WL S8, 4 a) v. and d) iii.	The WSP and waste rock seepage pond will not be water retaining structures after closure i.e. they will not be dams. These sub-sections are unnecessary.	Delete	
116	SNP	I think mixing the exploration and operations locations and requirements is messy and confusing. I think it would be clearer to retain them separately so that exploration can be largely ignored once we're in operations. This will mean that many locations have duplicate numbers, but I think that's OK.	Consider largely separating exploration SNP from operations.	
117	SNP 3-3	There hasn't been a pilot plant and we have no plans for one	Delete	
118	SNP 3-5	There's no need for this station after dewatering. Discharge will be via the inlet works (SNP 13). There's no point in sampling the Catchment Pond then - in open water season it will be the same water as that going into the inlet works, and in winter the pond will be frozen, with any effluent going directly to the inlet works.	Delete dewatering portion	

119	SNP 3-7	This is currently at the portal. SNP 3 would be a sump underground		
120	SNP 3-8	This should become inactive once chemicals have been removed from the pad	Add qualifier	
121	SNP 04	Good as is - starts once waste rock is placed	Leave	
122	SNP 3-12 b	This is a new station. It should relate to mine development for operations and the main construction period when diesel storage will significantly increase.	Change to active when the tank farm storage capacity exceeds 25%	
123	SNP 2-2	This station isn't necessary. Sludge will be pressed and the resulting water will be sewage effluent monitored at 2-1	Delete	
124	SNP 07	This is the same location as SNP 20. It could be retained for flow purposes, but there is no point in sampling the same water twice.	Monitor flow only	
125	SNP 28	This location should only be active once discharge via the inlet works commences	Insert 'once discharge at SNP 13 commences and' after 'Active'.	
126	SNP 29	For clarity, specify this relates to a borehole	Add 'in a borehole' after 'encountered'	
127	SNP 3-6	Refer to previous Board ruling changing TPH to EPH. This was made because CZN advised the very limited use of substances with hydrocarbon volatiles, such as gasoline, which is only used in a limited number of surface vehicles. For screening for gasoline, BTEX is the appropriate analysis. TPH requires BTEX, C1-10 and EPH analysis, is expensive and in most cases is unnecessary. EPH should be the default.	Leave as EPH as in the current exploration authorization.	
128	SNP 3-7	During operations, this water will come from sumps and likely will have suspended matter. Total metal results will be meaningless. This water is going into Cell A, not to receiving water. EPH is the appropriate analysis for diesel and oil.	Delete total metals. Change TPH to EPH.	
129	SNP 3-8	All cyanide was removed in 2008. Cyanide was removed from the exploration WL.	Delete cyanide	
130	SNP 04 and all streams going to the WSP	For all streams going into the WSP, we need to know the dissolved metal load, not the total metal load. The latter will be biased by suspended matter and will be irrelevant. We only need to know the total metal load of water leaving the WSP.	Delete total metals.	
131	SNP 23a	The paste plant will draw tailings from the active tailings stockpile. It will use process water from the mill to make the paste. There will be no seepage.	Delete	
132	SNP note 2	There's no relevance to measuring temperature in the lab	Delete temperature	

133	SNP note 3	There's no practical use for fluoride concentrations and it requires a separate analysis from ICP	Delete fluoride	
134	SNP Part B	Coninuous flow monitoring and electronic data storage is feasible when water is pumped. This doesn't apply to most locations during exploration, and some during operations. It doesn't apply to 3-4, 3-5, 3-7 currently. Mill Ditch would likely be monitored via a weir during operations.	Adjust accordingly	
135	SNP Part D 1 f)	SNP 3-12 is a single number annually. A graph isn't needed.	Exclude 3-12	
136	LUP Part B	Currently, seasonal shut down dates vary	Reword to 'The period of time when no one is on site'.	
137	LUP Part C 41	The mine site area is rocky terrain and overland travel is possible without rutting in all seasons.	Delete 'on snow-covered surfaces' with 'if the ground can support the weight of the vehicle without rutting, or if the ground is prepared by snow or other medium in order achieve this'.	
138	LUP Part C 47	The Inspector usually allows once over and back	Add 'unless otherwise authorized in writing by an Inspector'.	
139	LUP Part C 60	CZN already has an approved waste rock/ore pile (WROP) moinitoring plan associated with exploration decline development. The WROSMP needs to be distinguished from that. In addition, in order to facilitate early earthworks, the WROSMP should only be required before waste rock associated with development leading to commercial ore extraction is placed in the WRSF, on the understanding that an approved WRSF DCP will be required before the early earchworks..	Reword to 'A minimum of 90 days prior to commencement of waste rock placement in the Waste Rock Storage Facility, the Permittee shall submit to the Board, for approval, a revised Waste Rock and Ore Storage Management Plan. The Permittee shall not commence waste rock placement in the Waste Rock Storage Facility prior to Board approval of the Plan'.	
140	LUP Part C 63	Since asbestos containing material could be considered hazardous waste, this condition should be qualified.	Add 'unless otherwise authorized in this permit or in writing by an Inspector'.	
141	LUP Part C 66 and 67	We're not aware of the presence of a mineral lick near the mine site. We have not observed animals frequenting such an area.	Delete	
142	LUP Part C 89	The existing Surface Lease limits CZN's liabilities currently. The condition as written could imply that CZN is responsible for all site issues. It needs rewording.	Reword to 'All costs for remediation of site developments by CZN under this Permit are the responsibility of the Permittee'.	
143	LUP Part C 112, 113, 114	As directed by the Board' is highlighted. We assume this means it is up to the Board to ask us. An approved CRP is on file for exploration. A revised CRP should only be required as specified in the WL and for mine operations.		
144	LUP Part C 125	This needs to be qualified in case the animals don't move off within a reasonable amount of time.	Add 'unless the animals have not moved off after 15 minutes'.	

145	LUP Part C 129	To be consistent with the WL, this needs to be tied to construction	Replace 'Within 90 days following the effective date of this Permit' with 'A minimum of 90 days prior to commencement of Construction'.	
146	LUP Part C 131	See comment re WL F7	Change the condition by adding after 'use and/or storage of explosives' the words 'for ore extraction'. This will also avoid a new plan being required if for some reason construction does not proceed but another exploration decline is proposed (as is currently permitted).	
147	LUP Part C 133	Per WL F8, one year is extremely excessive. A CLMP already exists which has been updated once already.	Change to the standard 90 days	
148	LUP Part C 135	Per WL F9 comment	Change to 120 days	
GNWT-Lands - Dehcho Region - Dani Rogers				
1	Part A: Scope of Permit - explosives	The current scope does not include "use of explosives" but this land-use operation was included in permits MV2020D0007 and MV2020C0008. As these permits are meant to be replaced by this new permit, the land-use operations captured under the 2020 permits should appear in MV2021D0005. Conditions 130 and 131 of this draft permit also mention the use and/or storage of explosives; therefore, the use (and storage, if expected) should be added to the scope of permit.	Add "use of explosives" to the scope of permit as CZN intends to use explosives. Add "storage of explosives" to the scope of permit if CZN also intends to store explosives.	CZN intends to store explosives.
2	Part A: Scope of Permit - quarrying	The current scope does not include "quarrying of materials from specified areas" but this land-use operation was included in permit MV2020D0007. As MV2021D0005 is intended to replace MV2020D0007, quarrying should be added to the scope of permit. There are various conditions (including condition 7) that mention quarry operations; therefore, quarrying should be added to the scope of permit.	Add "quarrying of materials from specified areas" to the scope of permit as CZN intends to conduct quarrying operations.	
3	Part A: Scope of Permit - site facilities	"The demolition, refurbishment, development, and operation of site facilities (including the airstrip)" was captured in MV2020D0007 but is missing from this draft permit. As MV2021D0005 is intended to replace MV2020D0007, site facilities should be added to the scope of permit.	Add "demolition, refurbishment, development and operation of site facilities (including the airstrip)" to the scope of permit as these activities are part of the Prairie Creek mine site.	

4	Part A: Scope of Permit - roads	Board staff have asked if "construction and operation of a road" is needed in the scope for the road to the Waste Rock Storage Facilities. As MV2020D0007 had "the construction and maintenance of site roads and lay down areas" as part of the scope and MV2021D0005 will replace MV2020D0007, this more generalized land-use operation is preferred. There are already roads on site that will need to be maintained and will be used during operations so the line item should be broader rather than specifying one road to the WRSF. To ensure 'operations' are not an excluded activity, it can be added to the scope.	Add "construction, maintenance and operation of site roads and laydown areas" to the scope of permit as these activities are part of the Prairie Creek mine.	
5	Part A: Scope of Permit - vehicles and machines	It is unclear why item a) of the scope is very broad regarding the type of vehicles and machines but then items c), e), and g) list very specific machines. If item a) allows for the use of machines listed in c, e, and g, suggest removal of c, e and g from scope.	Remove "use of self-propelled motorized machine for moving earth or clearing land"; "use of motorized earth-drilling machinery"; and, "use of stationary motorized machines" from the scope as they are captured within item a) "use of vehicles and machines".	
6	Part A: Scope of Permit	The current scope does not mention mineral exploration, mining, waste rock piles, airstrip, laydown areas, site facilities, explosives, quarrying, mention of the Prairie Creek Mine itself, or 'associated activities'. As "mineral exploration, care and maintenance, Construction, mining and milling" are specific land-use operations listed in multiple conditions (such as #13), suggest these operations at minimum be added to Part A.	Recommend adding the following land-use operations to Part A: mineral exploration, care and maintenance, Construction, mining and milling. Suggested wording: "The Permit entitles the Permittee to conduct the following land-use operation: a, b, c, etc..... in order to conduct mineral exploration, care and maintenance, Construction, and mining and milling activities associated with the Prairie Creek Mine Project."	
7	Definitions: Board - formatting	The Mackenzie Valley Resource Management Act, mentioned in the definition of "Board", should either be italicized or referred as "the Act".	Italicize "Mackenzie Valley Resource Management Act" within the definition of "Board" or replace it with "the Act".	
8	Add new definition - drilling fluid	"Drilling Fluid" is not defined in MV2021D0005. As the definition was included in MV2020C0008, suggest definition be added to MV2021D0005.	Add "Drilling Fluid" to definition list. "any liquid mixture of water, sediment, drilling muds, chemical additives or other wastes that are pumped down hole while	

			drilling and are specifically related to drilling activity."	
9	Add new definitions - all listed engineered structures	All of the listed structures captured under the definition for "Engineered Structure" should be added to the list of definitions so there is clarity as to what each structure is. All of the listed structures are defined in the draft water licence and can be copied to the permit.	Add all of the listed structures mentioned within the definition for "Engineered Structure" to the definition list. Ensure the definition for each structure matches the definition in the draft water licence. If this recommendation is not adopted, ensure acronyms are removed from the definition for "Engineered Structure" (i.e. ROM and DMS).	
10	Definitions: Environmental Assessment	The definition for Environmental Assessment is "Environmental Assessment EA0809-002, conducted by the Mackenzie Valley Environmental Impact Review Board for the Project". As this definition mentions the defined term "Project" and "Project" includes activities that were not originally considered in the EA, it may be necessary to clarify within the definition for EA that it was the Prairie Creek Mine Project @ a certain date? So there is no confusion that some of the activities within the scope were not part of EA0809-002?	Ensure the definition of Environmental Assessment does not imply additional activities listed within Part A were assessed under EA0809-002. This is currently implied by using the defined term, "Project".	
11	Definitions: Hazardous Waste	"Hazardous Waste" has been added to the list of definitions as it is captured within the draft water licence; however, it is unclear how this term differs from "Toxic Waste".	Board staff, please clarify why "Hazardous Waste" has been added to the list of defined terms in the permit and how it differs from the definition for "Toxic Waste".	
12	Definitions: Project	The definition for Project is "the Prairie Creek Mine Project as summarized in Part A, Condition 1 (the Scope of the Permit). Part A, Condition 1 is extremely vague so it is not clear how the reader can truly understand the scope of the project by reading Part A. Part A should be updated so it is clear what land-use operations are expected of the project. If there is reluctance to update the scope, the definition of the project should be updated to clarify that it includes the following land-use operations: mineral exploration, care and maintenance, Construction, and mining and milling.	Update scope of project in Part A so it is clear which land-use operations are expected or update the definition of the Project so it identifies the following land-use operations: mineral exploration, care and maintenance, Construction, and mining and milling.	
13	Definitions: Shut Down Period	It might be necessary to amend this definition so it is clear that the shut down period pertains to a specific land-use operation and not the mine site as a whole. If different land-use operations could have different shut down periods, that would also need to be clarified.	Suggest revising Shut Down Period definition so it is clear the shut down only applies to specific land-use operations and not the mine site as a whole.	We believe this relates to exploration when there is usually a winter season shut-down when there is no one on-site. The definition should be amended accordingly.

14	Definitions: Spill Contingency Plan - formatting	INAC is not defined. Unsure if the acronym can be avoided within the definition for Spill Contingency Plan.	If possible, clarify what INAC means within the definition for Spill Contingency Plan.	
15	Condition 11 vs 8 - spur roads	Condition 11.b) appears to conflict with Condition 8. Condition 11.b) says any spur roads constructed shall "be located at least 30 metres from any Watercourse except at stream crossings, unless otherwise approved by the Board." But Condition 8. says "the Permittee shall locate all lines, trails, and right-of-ways to be constructed parallel to any Watercourse a minimum of 100 metres from the Ordinary High-Water Mark, except at crossings."	Ensure condition 11.b) does not conflict with condition 8.	Because of the mountainous nature of the location, and narrow valleys, the condition is frequently not practical. All such conditions should end with "unless authorized by an Inspector".
16	Condition 13 - defined land-use activities vs Part A scope	Condition 13 mentions specific land-use operations: "mineral exploration, care and maintenance, Construction, mining and milling, and/or land-use operation" but this level of detail is lacking from the scope in Part A. As land-use operations are well-defined in condition 13, this supports the need to better define the scope in Part A.	Improve the defined scope in Part A as conditions, such as #13, mention land-use operations that are not clearly identified in Part A.	
17	Condition 14 - seasonal Shut Down Period	MV2020C0008 references "new drilling season" rather than "seasonal Shut Down Period". The original intent of the condition seems to be tied to exploration activities, which are seasonal. A seasonal Shut Down Period for the mine itself, seems to contradict the mine plan? Unsure if 'seasonal Shut Down Period' is the greatest term. Unsure if the term is being used as a catchall for possible care & maintenance period too? If it is being used as a catchall, it's unclear if the exploration activities and care & maintenance activities line up within the same dates?	Consider if 'seasonal Shut Down Period' is the best term for condition 14 or if the definition needs updating to clarify what land-use operations apply to a shut down period.	
18	Condition 16 - consistent terms	Condition 16 says "each drilling season" but condition 14 mentions 'seasonal Shut Down Period'. If additional land-use operations require reports to the Inspector before seasonal removal, condition 16 should be updated to say "each seasonal Shut Down Period".	Consider if "drilling season" should be replaced with "season Shut Down Period" in condition 16.	
19	Condition 18 - progress report for active operations	Condition 18 states that "the Permittee shall submit to the Inspector and the Board every 30 days during active operations a progress report..." It is unclear if this condition is only associated with mineral exploration drilling or all types of operation. This condition was in MV2020C0008, which was for mineral exploration.	Please confirm if condition 18 was for all types of operation (e.g. mining, exploration, construction, care and maintenance) or if it was only intended for mineral exploration. If it was only intended for mineral exploration, please	Monthly reporting during anything but exploration would seem to be unnecessary and excessive.

			specify this in condition 18 so there is no confusion about reporting requirements.	
20	Condition 19 - contact inspector	How is condition 19 applied in practice and how is it different from condition 13? Are both needed?	Please clarify how conditions 19 and 13 are different and if both are needed.	
21	Add new definition: Geochemical Characterization and Management Plan	Condition 22 references a Geochemical Characterization and Management Plan, which is not defined. Plan is defined within draft WL so same definition should be added to LUP for clarity.	Add Geochemical Characterization and Management Plan to list of definitions. Ensure definition matches with the draft WL.	
22	Add new condition - Winter Roads	If any of the mineral exploration drilling activities will occur in winter and winter roads/trails will be created, the Winter Roads condition in the LWB's LUP template should be added to MV2021D0005. "The Permittee shall construct and maintain the overland portion of winter roads with a minimum of 10 cm of packed snow and/or ice at all times during this land-use operation."	If winter roads will be created for the mineral exploration activities, the condition should be added to LUP. If it is necessary to qualify that the winter roads pertain to mineral exploration, the standard condition should be revised to specify mineral exploration.	Mineral exploration in the mine area occurs via existing roads and trails. New trails could be developed in any season because of the thin/absent soil cover. Winter road conditions are therefore not appropriate as 10 cm of snow would not be needed to avoid rutting. Therefore, winter road conditions for the mine site are not needed and would be unnecessarily restrictive.
23	Add new definition: Waste Rock and Ore Storage Management Plan	Condition 31 references a Waste Rock and Ore Storage Management Plan, which is not defined. Plan is defined within draft WL so same definition should be added to LUP for clarity. Unsure if capturing the specific plan requirements from schedule 5 of the WL would be beneficial to add to LUP.	Add Waste Rock and Ore Storage Management Plan to list of definitions. Ensure definition matches with the draft WL. Consider if LUP should capture any of the plan requirements outlined in schedule 5 of WL.	
24	Add new definition: Erosion and	Condition 36 references an Erosion and Sedimentation Management Plan, which is not defined. While the plan is not defined within the draft WL, it would be advantageous to have all management plans captured	Add Erosion and Sedimentation Management Plan to list of definitions. Consider if LUP should capture any of the	

	Sedimentation Management Plan	within the definition section. Schedule 5 of the WL mentions specific plan requirements, which could be beneficial to add to LUP.	plan requirements outlined in schedule 5 of WL.	
25	Duplicate conditions #57 and 65 - waste petroleum disposal	Condition 57 "the Permittee shall dispose of all Waste petroleum products as described in the approved Waste Management Plan" differs from the LUP template, MV2020C0008 and MV2020D0007. Suggest removal of 57 and retain 65 as condition 65 is more descriptive. Condition 65 says "the Permittee shall dispose of all Waste petroleum products by removal to an approved disposal facility or by incineration in a device designed for this purpose, as described in the approved Waste Management Plan."	Remove either condition 57 or 65 as they are duplicative.	
26	Condition 63 - hazardous waste	If 'Hazardous Waste' remains in the definition section, then the term can be capitalized in condition 63.	Capitalize "Hazardous Waste" in condition 63 if the term remains in definition section.	
27	Condition 63 - Waste Transfer Area	The term "Waste Transfer Area" is not captured in the definition section but is capitalized in condition 63. As it is unclear what the 'Waste Transfer Area' is, it should be added to the definition list.	Add "Waste Transfer Area" to the definition list so it is understood what is referenced in condition 63.	
28	Conditions 67-75 - wildlife and fish habitat	Conditions 67 to 75 are new and were not in the LUP template, MV2020C0008 or MV2020D0007. It is unclear where these new conditions came from.	Please clarify where conditions 67 to 75 came from.	
29	Condition 78 - formatting	Formatting error - Waste Management Plan is not bolded in condition 78.	Bold "Waste Management Plan" in condition 78 to ensure consistent formatting in LUP.	
30	Duplicate conditions #80 and 56 - waste chemical disposal	Either condition 80 or 56 should be removed as they are nearly identical. Suggest the condition fits best under 26(1)(g). 56. "The Permittee shall dispose of all Toxic Material as described in the approved Waste Management Plan." 80. "The Permittee shall dispose of all Toxic or persistent substances as described in the approved Waste Management Plan."	Remove either condition 80 or 56 as they are duplicative.	
31	Add new condition: Liability for damages	MV2020D0007 has an additional condition: Liability for damages. "The Permittee shall be liable for any cost of damages over and above the amount of security deposit."	The Inspectors recommend adding in this condition.	
32	Condition 90 - formatting	Suggest "Tank" be plural in condition 90 as there are multiple tanks at the mine site.	Make "Tank" plural in condition 90.	
33	Condition 98 - max fuel on site	The Boad has stated 15,820,000 litres for Maximum Fuel.	The Inspectors are ok with this max calculation.	

34	Add new condition: Drip Trays - Valves	MV2020C0008 has an additional condition: Drip Trays - Valves. This condition should be added as there could be leaky valves that need containment (typically experienced with heating oil lines, etc.).	Add Drip Trays - Valves condition that was in MV2020C0008. "Drips or leaks from valves conveying fuel or heating oil from a container or tank via supply line to stationary devices shall be controlled by placement of a haz-mat/drip tray under the valves, whether or not the connections are diapered."	
35	Condition 106 - formatting	Formatting error - Spill Contingency Plan is not bolded in condition 106.	Bold "Spill Contingency Plan" in condition 106 to ensure consistent formatting in LUP.	
36	Condition 109 - hand crews only	Condition 109 "The Permittee shall not use any self-propelled machinery for clearing the brush" may contradict part c) of the scope that says "use of self-propelled motorized machine for moving earth or clearing land". Condition 110 does not restrict use of self-propelled motorized machines for clearing land but ensures sensitive areas are protected by only using hand crews near stream banks and slopes.	Delete condition 109 as it contradicts with current scope and retain condition 110 as it ensure sensitive areas are protected.	
37	Condition 110 - clearing sensitive area	The Board is seeking input for preferred distance of clearing by hand near stream banks and slopes	The Inspectors recommend 10 m for clearing sensitive areas.	
38	Add new definition: Closure and Reclamation Plan	Condition 112 references a Closure and Reclamation Plan, which is not defined. Plan is defined within draft WL so same definition should be added to LUP for clarity.	Add Closure and Reclamation Plan to list of definitions. Ensure definition matches with the draft WL.	
39	Condition 115 - formatting	"Plan" is missing from end of condition 115.	Add missing word "Plan" to end of condition 115 so it says "the approved Closure and Reclamation Plan".	
40	Add new definition: Explosives Management Plan	Condition 130 references an Explosives Management Plan, which is not defined. Plan is defined within draft WL so same definition should be added to LUP for clarity.	Add Explosives Management Plan to list of definitions. Ensure definition matches with the draft WL.	
41	Condition 131 - formatting	"storage" should be "store" in condition 131.	Replace "storage" with "store" in condition 131.	
42	Add new definition: Contaminant Loading Management Plan	Condition 132 references a Contaminant Loading Management Plan, which is not defined. Plan is defined within draft WL so same definition should be added to LUP for clarity.	Add Contaminant Loading Management Plan to list of definitions. Ensure definition matches with the draft WL.	

43	Add new definition: Tailings and Backfill Management Plan	Condition 134 references a Tailings and Backfill Management Plan, which is not defined. Plan is defined within draft WL so same definition should be added to LUP for clarity.	Add Tailings and Backfill Management Plan to list of definitions. Ensure definition matches with the draft WL.	
44	Definition: Watercourse	as defined in Section 1 of the Waters Regulations: a natural watercourse, body of water or water supply, whether usually containing water or not, and includes groundwater, springs, swamps, and gulches. As this is the draft LUP not the draft Waters Licence, the definition should be from Section 1 of the Mackenzie Valley Land Use Regulations. Both MV2020C0008 and MV2020D0007 have the Mackenzie Valley Land Use Regulations definition. The previous LUP's had the Land Use Regulations definition as do the Diamond Mine LUP's.	Change the definition of watercourse to: means a natural body of flowing or standing water or an area occupied by water during part of the year, and includes streams, springs, swamps and gulches but does not include groundwater.	
Fisheries and Oceans Canada (DFO) - Dana Harris				
1	Cover Letter	Please refer to the attached cover letter	n/a	

2	<p>General : Impacts to Fish and Fish Habitat (Draft Type A Water Licence MV2021L2-0004; Draft Type A Land Use Permit MV2021D0005)</p>	<p>Impacts to fish and fish habitat can occur during mining activities through loss of riparian habitat during site clearing, erosion and sedimentation, release of drilling fluids and cuttings into aquatic environments, disturbance to fish and fish habitat during sensitive life stages, and water withdrawals, particularly during low water periods, associated with drilling, surface stripping and camp operations. Direct fish mortality can occur as a result of the use of explosives in or near water and during pumping activities either through dewatering or entrainment/impingement.</p>	<p>In order to comply with the Fisheries Act, it is recommended that the Proponent follow DFO's protective measures for fish and fish habitat and standard codes of practice which can be found on DFO's website (https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html and https://www.dfo-mpo.gc.ca/pnw-ppe/practice-pratique-eng.html). In addition, the Proponent should follow the DFO Protocol for Winter Water Withdrawal in the NWT (attached) and respect the NWT in-water works restricted activity timing windows (https://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/nwt-eng.html). It remains the proponent's responsibility to meet the other requirements of federal, territorial and municipal agencies. Should the plans change or if the Proponent omitted some information in the proposal such that the proposal meets the criteria for a site specific review, as described on DFO's website (https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/request-review-demande-d-examen-003-eng.html), they should complete and submit the request for review form available on the website (https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/request-review-demande-d-examen-004-eng.html).</p>	<p>We are not opposed to this but believe DFO is bringing this to CZN's attention rather than suggesting it should be a WL/LUP condition.</p>
3	<p>General: Water Withdrawal, Fish entrainment/Impingement (Draft Type A Water Licence MV2021L2-0004)</p>	<p>Direct fish mortality can occur during pumping activities through entrainment/impingement. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when a fish is held in contact with the intake screen and is unable to free itself. DFO developed a code of practice to provide national guidance on the design, installation and maintenance of small end-of-pipe water intake fish screens to prevent entrainment and impingement of fish. This code</p>	<p>The Proponent should refer to DFO's Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater available at https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html when using fish screens, if water intake flow rate</p>	<p>As for DFO 2.</p>

		of practice is for small-scale water intakes (e.g. irrigation, construction, municipal and private water supplies, mining exploration) where the water intake flow rate is up to 0.150 m ³ /s, or 150 litres per second (L/s).	is up to 0.150 m ³ /s, or 150 litres per second (L/s).	
4	General: Use of Explosives (Draft Type A Water Licence MV2021L2-0004; Draft Type A Land Use Permit MV2021D0005)	The use of explosives in aquatic environments can cause harm to fish by rupturing the swim bladder and/or damaging other internal organs, and damaging incubating eggs. It could also result in physical and/or chemical alterations to fish habitat.	DFO recommends that the Proponent use a blasting threshold limit of 50 kPa for instantaneous pressure change in order to appropriately mitigate effects of blasting on fish as recommended in Cott and Hanna (2005)* *Cott P and Hanna B. 2005. Monitoring Explosive-based Winter Seismic Exploration in Waterbodies, NWT 2000-2002. Pages 473-490. In: Proceedings of the Offshore Oil and Gas Environmental Effects Monitoring Workshop: Approaches and Technologies. Battelle Press. Columbus. 601 p + index.	As for DFO 2.
5	Defined Terms, Page 4 (Draft Type A Water Licence MV2021L2-0004)	The board requested input on if "Inlet Works" should be defined.	DFO recommends that "Inlet works" be defined.	

6	Part D: Water Use, conditions 1 and 2, Page 16 & 17 (Draft Type A Water Licence MV2021L2-0004)	DFO recommends that the Proponent follow the DFO Protocol for Winter Water Withdrawal in the NWT. However, the proponent should note that this protocol does not apply to watercourses. In the event withdrawal is conducted from a watercourse, recommendations from the Framework for Assessing the Ecological Flow Requirements to Support Fisheries In Canada (https://waves-vagues.dfo-mpo.gc.ca/Library/348881.pdf) should be applied (i.e., cumulative flow alterations <10% in amplitude of the instantaneous flow in the river relative to a natural flow regime). Water withdrawal should be avoided within the Restricted Activity Period for Zone 2 waterbodies (i.e., Aug 15 to July 15; https://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/nwt-eng.html)	For water withdrawal from watercourses, DFO recommends the proponent follow the Framework for Assessing the Ecological Flow Requirements to Support Fisheries In Canada. Because all water sources provided in Condition 1 are watercourses, DFO recommends that Part D, condition 2 be changed from "In any single ice-covered season, the Licensee shall not withdraw greater than 10% of the available Water volume of Water sources referred to in Part D, Condition WATER SOURCE AND MAXIMUM VOLUME – SURFACE DRILLING, as calculated using the appropriate maximum expected ice thickness" to " At any time, The Licensee shall not withdraw EITHER greater than 10% of the available Instantaneous Flow of Water sources referred to in Part D, Condition WATER SOURCE AND MAXIMUM VOLUME – SURFACE DRILLING OR 10% of the available water volume of any lake or pond." In addition, DFO recommends water withdrawal be avoided within the Restricted Activity Period for Zone 2 waterbodies (Aug 15 to July 15).	We're not opposed to this approach if it is qualified as being specific to fish-bearing streams. Most of the streams CZN uses to draw water from are steep, head water mountain streams that are not fish-bearing. The described restrictions are not appropriate for these streams. Further, even for fish-bearing streams such as Prairie Creek, we understand the timing window for in-stream activity, but do not believe this includes water withdrawal, at least it shouldn't. Only being able to withdraw water during 1 month of the year is not practical and unnecessarily restrictive considering other protections (rate of abstraction and screen requirements). As such, this should not be included in any regulation.
7	Part E: Construction - Line item 27, Page 21 (Draft Type A Water Licence MV2021L2-0004)	The board asked if the following condition was required as it falls under DFO jurisdiction: "The Licensee shall not carry out Construction activities related to the Exfiltration Trench between before June 1 and after August 15, unless otherwise approved by the Board". DFO agrees that the condition can be removed from the licence as it will be outlined in DFO response to the proponent's Request for Review (RFR) to be submitted prior to the construction of the Exfiltration trench. Please note	DFO recommends this line item be removed from the license. However, if the board decides to keep the item, DFO recommends wording be changed to "The Licensee shall not carry out Construction activities related to the Exfiltration Trench between after August 15 and before July	

		that the Restricted Activity Period (RAP) for Zone 2 waterbodies is August 15 to July 15. If the proponent proposes to conduct the woth within the RAP, they shall proved a detailed rationale in their RFR.	15, unless otherwise approved by the Board and DFO".	
8	Schedule 4: Construction- Line item 5a), Page 55 (Draft Type A Water Licence MV2021L2-0004)	A Request for Review has not be submitted to DFO and it is unknown if a Fisheries Act Authorization will be required. DFO recommends to clarify wording of this condition.	DFO Recommends the following wording be used: a) information regarding the Exfiltration Trench that may be submitted to DFO as part of a Request for Review. i. Any implications of DFO's assessment, following their review, on the design of the Exfiltration Trench; ii. A summary of the velocity modelling and impact analysis from the Exfiltration Trench operations to flow and fish passage; iii. Any implications to the design of the Exfiltration Trench including the pipe length based on the results from Condition 5(a)(i); and iv. Any implications on the mixing zone based on the selected pipe length.	
9	Annex D: Failure Modes and Effects Analysis - various pages (Draft Type A Water Licence MV2021L2-0004)	The board staff requested input on whether Annex D: Failure Modes and Effects Analysis should be kept in this water licence. DFO reviewed the Annex in accordance with our mandate and have no recommendations at this time.	DFO has no comments at this time.	
10	General: Vegetation Clearing and Part C, condition 110 (Type A Land Use Permit MV2021D0005)	DFO would like to note that there exists a proposed recovery strategy for Bull Trout, Saskatchewan-Nelson Rivers that considers riparian habitat to extend to 30 metres from a stream high water mark, due to a strong reliance for providing food, instream structure, shade, moderating water temperature and regulating the amount of sediment entering the water (https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/recovery-strategies/bull-trout-proposed-2020.html). Although the Prairie Creek Bull Trout population is not considered in this recovery strategy, DFO is of the opinion that vegetation clearing within 30 m from each water course should be avoided, or minimized.	DFO recommends that vegetation clearing within 30 m from each water course should be avoided, or minimized. Condition 110 buffer zone should be 30 m to avoid impacts within the Bull Trout riparian zone, as proposed in the Bull Trout, Saskatchewan-Nelson Rivers recovery strategy.	We are OK with 'minimized' but not 'avoided' because the mine is in a narrow valley and it is very difficult to stay out of the 30 m buffer. In addition, much of the mine site development is already within the 30 m buffer.
Racher Consulting - Kathy Racher				
1	Joint submission of ŁÍDLJ KÚĚ FIRST NATION	Note the KRacher Consulting is submitting these comments on behalf of the LKFN and the NDDDB.		

	(LKFN) and NAHA DEHÉ DENE BAND (NDDB)			
2	Failure Modes and Effects Analysis	Board staff have requested input on whether the Failure Modes and Effects Analysis (FMEA) is necessary under the new mine plan. Our understanding is that was originally required because of the uncertainty about whether a second water storage pond was necessary. Plans have since changed and certainty has increased around the mine plan so there is no longer a need for a second pond. Given that the original FMEA requirement stemmed from a situation that no longer exists and no additional evidence has been provided to show an FMEA would be helpful, it seems reasonable to drop the FMEA requirement. We note that the Mine Site Contingency Plan was meant to be based on the results of the FMEA so may no longer be required either.	We have no issue with dropping the FMEA requirements from the new water licence.	
3	Design and Construction Plan - Flood Protection Berm	Part E, condition 10 requires a Design and Construction Plan for the Flood Protection Berm in the case that an evaluation of the berm (as required by Part E, condition 7) recommends changing anything about the berm. While we agree that the berm evaluation is appropriate based on evidence presented during this proceeding, we don't yet know what or if redesign or additional construction will be needed. Condition E.10 starts with "For any changes to the Flood Protection Berm recommended under [the evaluation]...", but what kind of changes or recommendations would lead to the requirement for a Design and Construction Plan? For example, what if the evaluation only identifies minor fixes to the berm? It should be possible for the Board to decide if changes should be made to the Berm based on the evaluation and what additional submissions would be necessary based on the evidence available at that time.	We recommend that the Board clarify the purpose or intent of condition E.10 so that it can accommodate a range of outcomes from the evaluation required under E.7. For example, a more general condition allowing the Board to direct CZN to carry out the recommendations of the evaluation report may be more useful.	
4	Exfiltration Trench - Construction Period	Board Staff have asked for input on whether condition E.27, which specifies a June - August construction window for the Exfiltration Trench, should be retained or not. Our understanding was that this timing window was set to protect fish and fish habitat during construction. Given that DFO will be reviewing and ultimately authorizing the construction plans for the trench after licence issuance, it is highly likely that DFO will regulate the construction window appropriately.	We recommend dropping condition E.27 from the new water licence.	

5	Water Storage Pond - Live Storage	Board Staff have asked for input on whether the condition (E.28 in the draft licence) specifying the live storage volumes for cell A and cell B of the Water Storage Pond is still necessary. Given the changes to the mine plan and the increased certainty with respect to water quality predictions and water management, it is reasonable to drop this condition.	We have no issue with dropping condition E.28 in the new water licence.	
6	Water and Wastewater Management Plan	Condition F.3 requires the submission of a Water and Wastewater Management Plan a minimum of 90 days prior to construction. As per Schedule 5, condition 2, this plan is now meant to cover water management during exploration and mining. However, since CZN may be conducting exploration activities during construction of the mine, condition F.3 will mean that CZN will have to submit a new plan then go through a review and approval process to do the exploration activities they are already doing. This does not seem reasonable or fair since there have no specific discussions about exploration activities during this proceeding.	We recommend removing the mineral exploration related water management requirements from the Water and Wastewater Management Plan that is required under the new licence. This would mean adding in the requirements for the Minewater Treatment Contingency Plan and the Effluent Treatment Plan from the exploration licence.	
7	Effluent Quality Criteria - Mineral Exploration	Board Staff are seeking input on replacing the requirement for "no visible sheen of oil and grease" with an additional EQC for Total Petroleum Hydrocarbons (TPH). We are unaware of any evidence on the need for a specific TPH criteria or for the value of 5 mg/L chosen by the Board Staff. Additionally, it seems redundant to have requirements for TPH as well as light and heavy extractable hydrocarbons; only one type of hydrocarbon criteria is necessary as these testing requirements overlap.	We recommend having only one hydrocarbon criteria for the mineral exploration effluent.	
8	Testing before Discharge - Polishing Pond	Board Staff are seeking input on alternatives to part of the requirements listed in conditions F.26 and E27a). We understand that Board Staff is concerned because the Polishing Pond discharge is not controlled. We note that the Water and Wastewater Management Plan already requires a description of what will happen in the event of an EQC exceedance or if the discharge acutely toxic. It may be confusing if there are requirements both in the main body of the licence and in an approved management plan.	We recommend deleting condition F.26b). We also recommend changing condition F.2 to read "implement the contingencies described in the Water and Wastewater Management Plan.	F26 should be deleted entirely as it is impractical - the compliance point is pond outflow - water has to go in and come out over a weir to be sampled. The water going in is treated mine water that we cannot 'turn off' or otherwise store/control.

9	Effluent Dilution Prohibition - Exfiltration Trench	Condition F.32 prohibits the licensee from diluting effluent with freshwater or any other effluent to meet EQC. We assume that the Board Staff has included this condition to try to address the ambiguity in ECCC's submissions on whether CZN's water management plan violates the Fisheries Act requirement to not dilute effluent. However, we believe that this addition to the water licence only adds further ambiguity to the issue. We believe it is clear that CZN is not diluting effluent for the purpose of meeting EQC even though ECCC seems unable to give an definitive opinion on this prior to licence issuance.	We recommend that the Board leaves the interpretation of the Fisheries Act to ECCC as they already have the power to regulate CZN directly.	
10	Effluent Quality Criteria - Exfiltration Trench	Condition F.34 requires that effluent from the Inlet Works to the Exfiltration Trench have a pH value between 6.5 and 8.13. We believe the upper limit of 8.13 is an error, possibly made because 8.13 is the upper pH limit for the calculation of a dissolved zinc long-term water quality objective (as per CCME guidance). It is also not useful since the pH of Prairie Creek water upstream of the mine is consistently between 8.1-8.4. Since the water quality objective for dissolved zinc is generally calculated using ambient water conditions of pH, restricting the pH of the effluent is unnecessarily. Lastly, the CCME guideline for the protection of aquatic guideline (long term) is a pH of 6.5-9.0, and this should be the range for the effluent.	We recommend that condition F.34 require the pH of the effluent discharge to be between 6.5 and 9.0 to correspond with the CCME long term guideline for the protection of aquatic life.	

11	EQC Re-Evaluation Report	<p>Condition F.40 currently requires the submission of an EQC Re-Evaluation Report one year following the commencement of Groundwater Dewatering. We understand that Board Staff are seeking input on this condition and have put forward options for either having this standalone requirement or to leave the evaluation to monitoring done under the Water and Wastewater Management Plan (WWMP) with revised predictions reported in the Annual Water Licence Report. We believe the overall goal here is to re-evaluate the EQC if measured water quality is trending higher than predictions. With this goal in mind, it may be best to utilize the Response Framework already required in the WWMP where the Action Levels are set to alert us to unacceptable trends. This could then trigger the need for an EQC Re-Evaluation Report.</p>	<p>We recommend changing condition F.40 to something that allows the Board to request an EQC Re-Evaluation Report based on the trends being monitored and reported on in the Annual WL Report. This would give the Board and the parties the ability to react to measured changes rather than relying on the assumption that one year of data (i.e., in the case the report is due one year after dewatering) will actually be helpful in assessing new EQC.</p>	<p>We agree. A re-evaluation may not be needed at all, but monitoring data should dictate the need. In any event, requiring a re-evaluation 1 year after commencing dewatering is far too soon. Milling operations won't have started.</p>
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12	Response Framework for Operational and Post-closure Water Quality	<p>In our intervention we recommended that CZN include a response framework in the Water Management Plan (now called the Water and Wastewater Management Plan). We are pleased to see that the draft licence requires a response framework for the Water and Wastewater Management Plan. However, the draft licence does not require that the response framework be tied to both operations and closure. Typically, management plans and their response frameworks address operational activities. A response framework that serves as an early warning for significant deviations from post-closure water quality predictions is critical for this mine. If, in a worst case scenario, post-closure water quality predictions become unacceptable, the risks to water quality will become very difficult or impossible to reverse if too much progress has been made developing the Waste Rock Storage Facilities and/or underground mine (the potential sources of poor water quality). This is why a response framework for early warnings is needed.</p>	<p>We recommend that the response framework for the Water and Wastewater Management Plan explicitly tie the framework to operations AND to early warnings for significant deviations from post-closure water quality predictions.</p>	<p>We believe the appropriate place for closure water quality considerations is the Closure and Reclamation Plan. The Water and Wastewater Management Plan should be reserved for operations for simplicity, and to facilitate drafting and approval. The comments provided re "in a worst case scenario, post-closure water quality predictions become unacceptable, the risks to water quality will become very difficult or impossible to reverse if too much progress has been made developing the Waste Rock Storage Facilities and/or underground mine" are not supported by the fact that there is already an extensively developed mine and legacy waste rock piles that collectively have not impacted Prairie Creek significantly, and the conservative post-closure water quality predictions which indicate this situation will continue after closure.</p>
13	Closure and Reclamation Plan Timing	<p>The draft Water Licence requires CZN to submit an updated Closure and Reclamation Plan (CRP) within three years after the commencement of dewatering. Considering that the CRP review and approval process can take a year or more, this means that CZN may not have an improved CRP for four or more years into operations. The CRP submitted with the application does not have approvable closure objectives, has no research plans, and is not at a level of detail expected for early operations. With several mines in the Mackenzie Valley making good progress on closure criteria, it would also be reasonable for CZN to develop draft closure criteria in the next version of the CRP. For these reasons and for the reasons expressed in our intervention, we believe the licence should require an improved CRP much sooner than the draft currently does. (Note that we are aware that the draft licence requires a Closure and Reclamation Work Plan, however this work plan is not a substitute for</p>	<p>We recommend that the licence require CZN to submit a CRP or, at a minimum, the objectives, criteria, research plans, and any other time-sensitive issues, prior to dewatering.</p>	<p>Our response to Racher 12 applies here also. If anything, an updated CRP 3 years after the start of dewatering is too soon because the WRP will be quite small and seepage data will be limited. A Closure and Reclamation Work Plan will include the necessary monitoring and research required to support an updated CRP at an appropriate time.</p>

		good early closure planning, including early work on closure objectives, criteria, research plans.)		
14	Flood Protection Berm and Water Storage Pond Southern Dyke Evaluation Report	Schedule 4, item 1 describes what information is required in the evaluation report. There are a number of requirements related to the potential for floods but there is no requirement to discuss the potential consequences of different flood events. This seems like it would be useful information since this report will be used to decide whether changes to the berm are required.	We recommend adding a requirement to discuss the potential consequences of different flood events to the mine site and the environment. Alternatively, the Board could consider requiring CZN to identify the dam class for the FPB to ensure the consequences of an underdesigned FPB are well understood and are carried forward in the Board's oversight of the FPB	We're not opposed to discussing the potential consequences of flood events, however a dam class is not appropriate for the FPB because it isn't a dam based on CDA guidelines.
15	Water and Wastewater Management Plan	Schedule 5, item 2 a) sets out requirements for information related to water management during exploration. Condition a)i. requires " a description of options to meet the Effluent Quality Criteria". This seems redundant since there is already a process in place.	We recommend changing the wording of the first part of condition a)i. to "a description of how EQC will be met..."	
16	Waste Rock Storage Facility Research Plan	The draft licence includes a requirement for a Waste Rock Storage Facilities-Specific Closure and Reclamation Plan, which would include a research plan. We appreciate that the draft research plan requirements include our recommended study requirements. However, as noted in our previous comment, we believe this research plan must be approved as close to the start of mining as possible so that the Board can be confident that all necessary data collection and study activities will begin immediately. Much of this data collection can begin as soon as operations begin.	We recommend that the licence require a waste rock storage facilities-specific research plan before operations begin.	See our response to Racher 13. The condition as currently written appears to be a reasonable compromise re timing of the waste rock CRP.
17	Waste Rock Cover Design	In our intervention (Recommendation #8) we recommended seven requirements for the waste rock cover design (e.g., cover performance in climate change scenarios, a failure modes and effects analysis, etc.). Several of these recommendations stemmed from recommendations made by CZN's consultant O'Kane (see O'Kane 2021) and they are all important for ensuring good cover performance. We do not see these requirements in the draft licence.	We recommend that the Board include the seven requirements for the waste rock cover design in the Waste Rock Storage Facilities-Specific Closure and Reclamation Plan requirements in Schedule 8.	We recommend against being too prescriptive in plan requirements. The objectives of such plans should be defined and the appropriate ways these are met should be left to the relevant professionals. Specifically, we caution against including requirements not already specified by O'Kane since they may not be appropriate.
Environment and Climate Change Canada (ECCC) - Melissa Pinto				
1	Definitions, Draft Licence: Inlet Works	A definition of Inlet Works would provide clarity for the role of this structure once it is designated as the final effluent sampling point. It is	ECCC recommends including a definition of the Inlet Works.	

		currently noted in the definition of Exfiltration Trench, but could be defined further, including how it could act as a control point.		
2	Draft Licence Condition F.24 Effluent Quality Criteria	'Total Petroleum Hydrocarbons' is an objective, measurable criteria, whereas "no visible sheen of oil and grease" is subject to an observer's interpretation.	ECCC recommends replacing "no visible sheen of oil and grease" with the criteria Total Petroleum Hydrocarbons.	
3	SNP Station 3-4 Polishing Pond Discharge and SNP Station 13 Inlet Works to the Exfiltration Trench Draft Licence Schedule 5, Condition 2 b) iii	The draft Water Licence conditions identify the Polishing Pond as the compliance point during the mineral exploration phase, and the Catchment Pond and Station 13 becomes the compliance points as the mine enters the construction phase (at the Catchment Pond Inlet Works Discharge). The Licence conditions reference the Water and Wastewater Management Plan for bridging the transition from the Polishing Pond discharge to the Inlet Works discharge (i.e. specify when compliance moves to Station 13). It is not clear whether there both effluent discharges may occur at the same time, as some of the flows contributing to the effluent are uncontrolled. The EQC listed in F.24 may apply to discharges during the construction phase (i.e. beyond mineral exploration as specified). Schedule 5, Condition 2 b) iii links inactivation of the Polishing Pond with activation of the Inlet Works Discharge as sequential events, but these may be concurrent during the transition. If there is overlap in the discharges, this would affect loadings to Prairie Creek.	ECCC suggests clarification of whether the licence allows for concurrent discharges, and that this be specified in the conditions, including how this could affect loading calculations.	Discharges would not be concurrent. The start of dewatering would be the switch-over from exploration regulation to construction/operations regulation.
4	Effluent Quality Criteria Draft Licence Conditions F.24 and 25	Condition F.24 specifies that Effluent Quality Criteria (EQC) are to be met in effluent leaving the Polishing Pond, while Condition F.25 specifies that the bioassay test is to be met for discharge going to the Polishing Pond. Both conditions refer to SNP 3-4, which is the discharge from the Polishing Pond.	ECCC recommends clarification of the bioassay test collection site.	

5	Draft Licence Conditions F.38 b) and 39 a)	<p>The Board is seeking input on Condition F.38 b), which states that discharge must be stopped until EQC are met, given that the proposed water management strategy is to passively discharge from Cells A and B, and manage quality by pumping back water from the Catchment Pond, halting discharge from the treatment plant and/or holding water in Pond B. Condition 39 a) also requires that CZN be able to stop the discharge to Prairie Creek in the event of exceedance of EQC or acutely toxic effluent.</p> <p>The use of a control structure to allow retention of potentially poor-quality effluent has not been proposed by CZN. ECCC notes that CZN will be lining the Catchment Pond to prevent seepage or discharge from the pond other than through the Inlet Works. During the pond lining and construction of the Inlet Works there may be the opportunity to install additional mitigation measures such as a control structure such that would enable flow to the exfiltration trench to be halted if necessary.</p>	ECCC recommends that the Board consider requiring construction of a control structure at the Inlet Works as a licence condition.	The inlet works design already includes valves to stop discharge and direct effluent back to Cell B if necessary. The inlet works and control structure are one and the same.
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6	Draft Licence Condition F.40 EQC Re-evaluation Report	<p>A re-evaluation of the EQC is to be done within one year of the start of groundwater dewatering, in order to validate predictions and review updated modeling results, and assess whether the list of parameters of concern identified is appropriate. Reporting is to be via standalone report, or to include the results in the annual reporting. Either should provide the necessary information to validate the predicted effects, but a stand-alone report may be easier to review.</p> <p>ECCC notes that Schedule 5, Condition 9 h) refers to the assessment done in the course of the re-evaluation informing whether the EQC need "re-evaluation". Given that the exercise itself is a re-evaluation, this clause may be more clearly worded to state whether the re-evaluation exercise should result in <u>revisions</u> to the EQC, which is the purpose of the re-evaluation:</p> <p>h) As assessment based on the results above whether EQC as outlined in Part F, Condition EFFLUENT QUALITY CRITERIA – EXFILTRATION TRENCH require <u>revision</u>.</p>	<p>ECCC supports the condition requiring a stand-alone EQC re-evaluation report, and notes that this will inform the need for revision of the licence's regulated parameters and criteria.</p> <p>Given the requirement of Schedule 5, Condition 9 to include full under-ice and open-water seasons, it may be appropriate to extend the period for submission to within 18 months of commencing groundwater dewatering.</p> <p>ECCC recommends the wording for Schedule 5, Condition 9 h) be updated to clearly reflect the purpose of the assessment.</p>	
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7	Draft Licence Condition F.45 Effluent Quality Optimization	CZN will be commissioning a full-scale treatment plant to treat wastewater of variable quality. This may involve ongoing adjustments of reagent addition and review of flow rates, influent and effluent quality. The Board has asked for input on whether the draft licence condition requiring a report detailing efforts to optimize effluent treatment should be retained. ECCC suggests that a formal review of the treatment facility with a comparison to treatment targets/predictions could be informative for ongoing best management, and that the condition requiring a report be retained in the licence.	ECCC recommends that Condition 45 requiring a report on effluent treatment optimization be retained for the new treatment facilities.	The wastewater will not be of variable quality - the dewatered groundwater is expected to be of consistent quality, or better than currently able to be defined. The treatment approach will be standard lime treatment. The condition originates from the original licence whereby mill water was expected to be treated using a more complex approach. This will now not occur. As such, the condition does not need to be retained.
8	Draft Licence Condition F.54 a) d)	This condition refers to Part F.23 d) and should be corrected to Part F.54	ECCC recommends updating Condition 54 with the correct reference.	

9	Draft Land Use Permit Condition 61	<p>Condition 61 states that: The Permittee shall ensure that asbestos-containing material, lead paint, and any such material will be landfilled within the Waste Rock Storage Facilities, or as described in the approved Waste Rock and Ore Storage Management Plan.</p> <p>Disposal of asbestos-containing material should be done in accordance with the Government of the Northwest Territories (GNWT) guidelines, which can be found at https://www.enr.gov.nt.ca/sites/enr/files/guidelines/asbestos.pdf</p> <p>Specifically, CZN should consider Section 3.2 Storage: "Store waste asbestos according to the following: - Store in sealed, airtight containers and labeled "Asbestos" as directed by the Asbestos Safety Regulations. - Use containers that are sound, sealable and not damaged or leaking. - Label containers according to the requirements of the Work Site Hazardous Materials Information System (WHMIS) of the Safety Act or the relevant Transport Authority if transport to a disposal location is planned. (see Section 3.3 Transportation). - Protect containers from the weather and physical damage. - Storage should be in a secure area with controlled access. - Train personnel in the safe use, storage and shipping procedures for waste asbestos. Only trained persons should have access to the storage area.</p> <p>The short term storage of waste asbestos is only acceptable as an interim measure to permit time for the collection of sufficient volumes for cost effective transport to a disposal facility. Storage of waste asbestos in quantities greater than 1000 kilograms for a period greater than 180 days requires the site to be a registered hazardous waste storage facility. Consult the General Guideline or contact EPS for application procedures."</p> <p>Incorporation of asbestos-containing materials into the waste rock storage facility should be carefully considered, given the slope and potential for exposure to precipitation infiltrating.</p>	ECCC recommends disposal of asbestos-containing materials in accordance with the GNWT guidelines.	As ECCC notes, this item is GNWT jurisdiction.
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Acho Dene Koe First Nation (ADKFN) - Scott Mackay

1	Defined Terms – page 5 of 105	The first two instances referring to the <i>Dam Safety Guidelines</i> do not reference that the guidelines are from the Canadian Dam Association	Ensure that reference is made to the Canadian Dam Association, and that it is clear in each subsequent instance that the	
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			<i>Dam Safety Guidelines</i> are a product of the CDA or Canadian Dam Association.	
2	Defined Terms – page 9 of 105	In referring to the <i>Guidelines for Spill Contingency Planning</i> , the definition cites “INAC”. Although this department no longer exists as Indian and Northern Affairs Canada, this document has not been updated under the new department name.	Please define the INAC acronym in its first instance and/or revise the name of the federal department to the correct instance.	
3	Part F: Waste and Water Management – page 23 of 105 (condition 10)	The requirement for maintaining freeboard, although logical and easily observed by mine staff is not directly tied to capacity or the design of the various catchment structures, as a standard 1 m of freeboard is not based on maximum design heights and does not reflect contingency volume capacity.	Minimum freeboard should be determined by the structure design capacity, ensuring that a minimum reserve volume capacity is maintained at all times. If there are other reasons beyond maintaining reserve capacity which requires a minimum of 1 m freeboard, ensure that both capacity and minimum freeboard are considered in setting the condition.	It's not clear to us what ADK are saying. They seem to be implying the freeboard could be <1 m. It is our understanding that 1 m is standard for large ponds to account for wave action and to provide emergency storage capacity. On the WSP, a 1 m freeboard represents a substantial quantity of reserve capacity. It could be argued that a lesser freeboard could be adopted for the waste rock seepage collection pond, since it is a much smaller pond and significant reserve isn't needed as the water is transferred to the WSP anyway. Perhaps that decision could be left to the engineers writing the DCP.
4	Part F: Waste and Water Management – page 22 of 105 (condition 16)	Board staff sought input on whether other structures such as the polishing pond, Flood Protection Berm, Pilot Plan or Fuel Tank require more frequent inspection in addition to Part F conditions.	All structures which are responsible for, support the diversion or retention of, water including the polishing pond, Flood Protection Berm, DMS pile berm and other water control structures should require visual inspection following any significant precipitation event – such as 20 mm within a 24-hour period, to ensure integrity has not been compromised.	Only the flood berm and the WSP are prone to erosion.
5	Part F: Waste and Water Management – page 26 of 105 (condition 24)	Board staff sought input on replacing “no visible sheen of oil and grease or floating solids” with EQC for Total Petroleum Hydrocarbon to remove subjectivity.	We agree that an EQC for Total Petroleum Hydrocarbons is a less subjective and easily quantifiable measure of hydrocarbon abundance. However, as hydrocarbons can evade grab sampling methods as they generally float on the surface of the water, the	We have no issue retaining the language, however EPH is the appropriate analysis for diesel, oils and grease. TPH requires BTEX and C1-10 analysis also, which are volatiles and unlikely to be present,

			appearance of a visible sheen on the surface of the water can serve as a valuable form of secondary assessment. As a result, for the licence conditions we recommend that an EQC be set, however, we request that the language requiring “no visible sheen of oil and grease or floating solids” also be retained in the licence condition.	and also do not correlate with 'oil and grease or floating solids'.
6	Part F: Waste and Water Management – page 27 of 105 (condition 26)	Board staff sought input on alternatives to requirements on the allowable discharge from the polishing pond discharge is not controlled. The system has limited control over effluent once the effluent enters the Catchment Pond, with only the ability to control flow at the control gate culvert. As a result, the quality of effluent entering the catchment pond must be known before allowing for discharge is essential.	We recommend that until effluent from the polishing pond can be demonstrated to meet effluent EQC requirements, and for which an Inspector can provide written authorization, effluent from the polishing pond discharge from the Catchment Pond should be held back.	This is not practical. There is not the storage to hold back this water. We cannot turn the mine flow off like a tap as it flows out by gravity. In any event, the current set-up has been in place since 2006 and is described in the approved ETP and MTCP.
7	Part F: Waste and Water Management – page 27 of 105 (condition 29)	Board staff sought input on removing the requirement for having no visible sheen of oil and grease or floating solids from decant water from the Fuel Tank Farm.	As the Fuel Tank Farm is one of the most likely sources of petroleum hydrocarbons on site, and further that the appearance of a visible sheen to be a simple qualitative assessment of the potential presence of petroleum hydrocarbons, we recommend that the lack of visible sheen remain a requirement in addition to the EQC for Total Petroleum Hydrocarbons.	Again, the appropriate analysis for diesel is EPH, not TPH.
8	Part F: Waste and Water Management – page 28 of 105 (condition 32)	Our position remains that the Licensee must be able to demonstrate that all effluent discharged from the mine site meets EQC criteria for the facility to comply with Draft Licence Part B: General Conditions – Condition 2 stating the “Licensee shall take every reasonable precaution to protect the environment” as well Draft Licence Part F: Waste and Water Management – Condition 24. Additionally, although Draft Licence Part F: Waste and Water Management – Condition 32, is a requirement of the <i>Metal and Diamond Mining Effluent Regulations</i> , the presence of a prohibition against dilution of effluent in the Type A Water Licence conditions supports the intention and spirit of many of the other Part F licence conditions aiming to curb total effluent loading.	We recommend that Draft Licence Part F: Waste and Water Management – Condition 32 remain as stated with the explicit intention of prohibiting the dilution of non-EQC compliant effluent streams, with either freshwater or other EQC compliant effluent streams to allow for the final effluent stream to meet EQC requirements.	In this case re the Mill Ditch, this is not practical or logical. Mill Ditch water is effluent. It also has to be discharged via the inlet works. That is not deliberate dilution, and not in conflict with the 'spirit' of the MDMER. Retaining the condition would perpetuate the uncertainty.

9	Part F: Waste and Water Management – page 29 of 105 (condition 38)	Ensuring effluent discharged to the exfiltration trench meets the EQC is essential to the protection of the downstream environment.	Although the Applicant proposes a passive discharge approach for effluent, we believe that it is appropriate that effluent be withheld requiring either pump back to Cell B, to the water treatment plan or another alternative mode of hold back until EQCs are met and an Inspector has provided written authorization.	Not practical or necessary. See our comments on this condition.
10	Part F: Waste and Water Management – page 30 of 105 (condition 40)	Our view is that the pertinent information to be reported on is the revised water quality and quantity prediction, regardless of whether it appears in an EQC Re-evaluation report or as part of the annual water licence report.	Given the importance of this information, we recommend that it be provided as a standalone report for consideration rather than as part of the annual report.	
11	Part F: Waste and Water Management – page 31 of 105 (condition 45)	The water management approach proposed under the new licence allows for discontinuous treatment on an as-needed basis. There are outstanding questions about the absolute performance of the water treatment that will only be demonstrated by the observed performance of the system. It is therefore important that a report be issued outlining the performance of the treatment process as well as steps which were taken to improve or modify performance for in situ lessons learned.	We recommend that Part F: Waste and Water Management - Condition 45, be retained for this licence.	The condition was written originally for the treatment of process water. For the simple lime treatment of mine water, treatment does not need to be 'optimized'.
12	Annex D: Failure Modes and Effects Analysis – various pages	Board staff sought input as to whether reviewers feel a Failures Modes and Effects Analysis is necessary under the new mine plan.	It is our position that a Failure Modes and Effects Analysis is critical for the authorization of this mine given the context in which it is situated. First, the Prairie Creek mine is surrounded by Nahanni National Park which is designated a It is our position that a Failure Modes and Effects Analysis is critical for the authorization of this mine given the context in which it is situated. First, the Prairie Creek mine is surrounded by Nahanni National Park which is designated a UNESCO World Heritage Site. The importance of protecting the ecological and cultural sanctity of this area is of critical importance not only to the surrounding communities but also globally. Where there is uncertainty in project design or	The author is not understanding what the FMEA was originally intended for. It was to address the potentially wide range of mine flows and related storage capacity concerns. Subsequent work has substantially narrowed the potential range and essentially addressed the storage concerns. In addition, previously the mine water would have been 'contact' water. The revised approach intercepting the water to produce 'non-contact' water is expected to result in an effluent that may not require treatment to meet EQC. As such, there is no longer a need for a FMEA. Other parties have requested a decision tree for

consequences of failure, we urge precautionary approaches to understand these risks fully.

Second, the consequences of catastrophic failure at the mine site on the downstream and regional environment although unknown are likely to be long-lasting and devastating to not only the biophysical environment, but also the economy, society, and the ability of our members to exercise their Aboriginal and Treaty rights.

Finally, as has been discussed at length throughout these proceedings, the understanding of risks associated with this mine and its proposed activities is incomplete. This includes impacts due to flooding and sustained erosion on flood protection berms in the face of climate change, as these flood protection berms were designed using data from more than 40 years ago. A wastewater management approach relies on as-needed treatment, effluent dilution, and limited ability to limit to control discharge. And insufficient information about DSM and waste rock indicates potential for long-term risks to the environment.

Ultimately, although progress has been made in clarifying our understanding of the various risks that are posed to the surrounding environment in the event of catastrophic failure, we remained concerned that failure modes and the subsequent consequences of those failures have yet to be fully exhausted and planned for.

We believe that a Failure Mode and Effects Analysis is an essential component of any approval moving forward.

adaptive management in the water plan in its place. We also note that elements of the previously required mine contingency plan (related to the results of the FMEA) are contained in the scope of the new water plan to be provided, which may well satisfy ADK's concerns.

13	Word document version of comments	ADKFN_CZN Mine and Mill Expansion - DRAFT LICENCE CONDITIONS_MVLWB Comment Template_2022.04.19	ADKFN_CZN Mine and Mill Expansion - DRAFT LICENCE CONDITIONS_MVLWB Comment Template_2022.04.19	
Parks Canada - Alexandra Taylor				
1	Parks Canada Intervention Recommendation 1	<p>Parks Canada finds that this recommendation has not been addressed in either the Draft Water Licence or Draft Land Use Permit. As outlined in section 5.1 of Parks Canada's Intervention, understanding effects from dust related to mine activities is important to understand how the mine site is impacting Nahᓂᓂ Dehé. The 2012 Air Quality and Emissions Monitoring and Management Plan (AQEMMP) identifies action levels and response plans for air quality based in part on dispersion modelling predictions completed at the time of the Developer's Assessment Report. These predictions are dated and do not reflect the proposed activities in this application. Compared to the assumptions used at the time of EA, the higher milling rate proposed by Canadian Zinc in this application will increase the activities at site that generate dust. For this reason, Parks Canada maintains that the air dispersion modelling predictions need to be updated to reflect the current mine plan and as necessary, update action levels accordingly.</p> <p>The 2012 AQEMMP provides no triggers or action levels associated with dustfall. Adaptive management triggers for dustfall are important to mitigate potential impacts to vegetation, soil and quality of surrounding terrestrial habitat. Updated dispersion modelling predictions may inform both where dustfall monitoring should occur, and appropriate levels for adaptive management triggers. For example, if dustfall is 75% of predictions, there may be a need to adjust operations and considerations for appropriate planning of closure and reclamation. Thus, Parks Canada continues to recommend that action levels and responses for dustfall be informed by the updated air dispersion modelling predictions.</p>	Parks Canada recommends that the Water Licence or Land Use Permit require a submission of an updated AQEMMP.	Our response to the recommendation was "The AQEMMP includes PM2.5 monitoring. Dustfall monitoring on-site was planned, but program details were not defined. The expanded project will not see any great difference in development in terms of the potential for dustfall. The ore stockpile will have a particle size and moisture content that will limit dust. The stockpile is proximal to the conveyor for feed into the Mill. There will be no significant change in associated road traffic. There are few times in the year when conditions are dry. Mitigation to control dust would be applied as necessary, at a minimum for worker health. We do not see a need to revise air dispersion model predictions. They are unlikely to result in any changes to the mitigations already planned. We do not envisage dust dispersal as far away as the NNPR (~7 km). We do not envisage a need to monitor dustfall within the NNPR. We note that dust from erodible natural surfaces is a common phenomenon during wind storms". The GNWT has not requested the submission of an updated AQEMMP.
2	Parks Canada Intervention Recommendation	Parks Canada finds that this recommendation has only been partially addressed in Schedule 1, item h (i) and (ii), and Schedule 5, item 7 of the Draft Water Licence. Schedule 1, item h requires the Annual Water	Parks Canada recommends that Water Licence Schedule 5, item 7 to be revised to require the CLMP to specify the	The CLMP was primarily intended for dust from mineral concentrates, during bagging and transport. This

2		<p>Licence Report to summarize the monitoring results completed as part of the Contaminant Loading Management Plan (CLMP). This summary should include the locations of airborne particulate monitoring, and a summary of airborne particulate monitoring associated with ore and other sources of dust generation at the mine. However, monitoring specific to ore and other sources of dust generation is not reflected in the Water Licence requirements for the CLMP outlined in Schedule 5 item 7, only requires the CLMP identify the potential sources of contaminant loading including airborne particulate and describe the monitoring program, including locations. This means that the Water Licence conditions may be permissive of a CLMP that is not comprehensive in consideration of all sources of dust generation other than ore.</p>	<p>monitoring program is to include monitoring for airborne particulates associated with ore and all other sources of dust generation at the mine, inclusive of fugitive emission sources.</p>	<p>requirement is now less due to concentrates being containerized. 'Ore' comes out of the mine wet, and is mainly large particles. Ore will not be a significant source of dust. Neither will the mine site due to primarily gravel surfaces and moist conditions. During dry and windy periods in summer, silt particles are airbourne from exposed alluvial deposits along the Prairie Creek floodplain. Therefore, an expanded dust monitoring program isn't justified. The GNWT did not request one.</p>
3	<p>Parks Canada Intervention Recommendation 3</p>	<p>Parks Canada finds that Recommendation 3 has only been partially addressed in Part F, item 8 of the Water Licence. Part F of the Water Licence requires that the CLMP be submitted for review and approval a minimum of 1 year prior to commencement of mining, however a similar requirement is not provided for the AQEMMP. See comment pertaining to Parks Canada Recommendation 1 for details on why an updated AQEMMP is required</p>	<p>Parks Canada recommends that the Water Licence or Land Use Permit require a submission of an updated AQEMMP.</p>	<p>See our responses to Parks 1 and 2.</p>

4	<p>Parks Canada Intervention Recommendation 4 and Parks Canada Recommendation 5</p>	<p>Parks Canada finds that neither of recommendations 4 or 5 have been addressed in the Draft Land Use Permit. Throughout the proceedings, Canadian Zinc has confirmed that the mine has no vegetation monitoring program (e.g., response to Parks Canada questions during the August 31st to September 3rd technical sessions).</p> <p>As Parks Canada detailed in section 5.1 of the Intervention, a vegetation monitoring program is essential to properly assess and mitigate against potential impacts to vegetation resulting from mine activities. Given that dustfall can impact vegetation and soil quality both within and outside the mine footprint, and potentially degrade terrestrial habitat quality that lasts into post-closure, Parks Canada continues to recommend that a Vegetation Monitoring Program be required. This will support evidence-based decision making when developing closure planning and closure criteria. The vegetation monitoring program needs to include a clear adaptive management response framework that links monitoring, action levels and responses so that if unacceptable impacts to vegetation are observed to be occurring from the Project, responses can be implemented to mitigate any undesirable effects to Nah?à Dehé.</p> <p>Condition 144 in Part C: Conditions Applying to All Activities in the Land Use Permit MV2014F0013 for the All Season Road states:</p> <p>144. The Permittee shall comply with the Contaminant Loading Management Plan, once approved. The plan shall fulfill Report of EA Measure 15-1 include, but not be limited to the following information for the activities associated with Phase 2 and Phase 3:</p> <p>a) A plan to monitor potential impacts on vegetation and soil from contamination from spills, Concentrate loading, and road dust, including but not limited to:</p> <ol style="list-style-type: none"> i. Identification of monitoring methods, including parameters to be monitored; ii. Rational for site selection, and final monitoring locations (provide a map); iii. Vegetation and soil contaminant monitoring data from along the right-of-way to establish baseline conditions, collected prior to Phase 2; iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring; v. Analytical requirements; vi. Quality assurance and quality control; vii. A mechanism for reporting results and interpretation of the data, including baseline data; and viii. Proposed control and mitigation measures. 	<p>Parks Canada recommends that condition 144 of Land Use Permit MV2014F0013 be adapted for implementation at the mine site and that the Land Use Permit require submission of a Vegetation Monitoring Program.</p>	<p>Our response to Recommendation 4 was "Vegetation monitoring was not deemed to be necessary in the 2013 proceeding. We do not believe it is necessary now. The main concern during the 2013 proceeding re dust was related to concentrate handling. We have since moved to all containerized concentrate storage and transport. Vegetation monitoring is not justified. A soil quality monitoring program is included in the CLMP". The majority of the mine is already built. Also see our response to Parks 2. Activities on the mine will not affect vegetation in the park. The GNWT has not requested a vegetation monitoring program.</p>
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b) A plan to monitor dust fall and airborne particulate along the right-of-way, including but not limited to:

- i. Identification of monitoring methods, including parameters to be monitored;
- ii. Rational for site selection, and final monitoring locations (provide a map);
- iii. Dust fall and airborne particulate monitoring data from along the right-of-way to establish baseline conditions, collected prior to Phase 2 and compared to appropriate standards;
- iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
- v. Analytical requirements;
- vi. Quality assurance and quality control;
- vii. A mechanism for reporting results and interpretation of the data, including baseline data; and
- viii. Proposed control and mitigation measures.

c) A plan to monitor road watering and use of calcium chloride along the right of-way, including but not limited to:

- i. Specification of where calcium chloride will be used for dust suppressant, and what the setback distance from Watercourses will be to prevent the runoff of calcium chloride into Watercourses;
- ii. Identification of monitoring methods;
- iii. Description of how monitoring locations will be chosen;
- iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
- v. Analytical requirements;
- vi. Quality assurance and quality control;
- vii. A mechanism for reporting results and interpretation of the data; and
- viii. Proposed control and mitigation measures.

d) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:

- i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long- term monitoring program.

Given that the mine site and surrounding area is subject to similar contamination from dust, including those from ore and fugitive sources (road traffic, wind erosion, activities at the waste rock pile and stockpiles), rock crushing, and movement of vehicles/equipment on site, Parks Canada maintains it is appropriate that a similar condition be implemented as part of the Water Licence

5	Parks Canada Intervention Recommendations 6 and 7	<p>Parks Canada finds Recommendation 7 has been addressed in Part I, items 1 and 5, and Schedule 1, Item I of the draft Water Licence. Through these conditions, the Water Licence requires a Closure and Reclamation Work Plan to be submitted for review and approval within 12 months of Licence issuance. This condition also requires engagement from other parties in the review of the Closure and Reclamation Work Plan.</p> <p>Parks Canada finds that the draft Water Licence does not include the noted details requested by Parks Canada to fulfill Recommendation 6. Given the conditions regarding the Closure and Reclamation Work Plan identified in the draft Water Licence, Parks Canada is agreeable to collaboratively working with the proponent and other parties to ensure the items in Recommendation 6 are considered throughout the closure and reclamation review and approval process. Therefore, Parks Canada is agreeable to not including the details of Recommendation 6 in the Water Licence.</p>	<p>Parks Canada recommends keeping Part I, items 1 and 5, and Schedule 1, item I of the draft water Licence as written.</p>	
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6	Parks Canada Intervention Recommendation 8	<p>Parks Canada finds that Recommendation 8 has not been addressed in the draft Water Licence. The draft Water Licence Part I, items 2 and 4 requires a Water Quality Prediction Report to be submitted for review and approval within 3 years following commencement of groundwater dewatering, and every 3 years thereafter. However, the specific Water Licence requirements for the Prediction Report in Schedule 8, item 1 do not include updated predictions at the Nahʔą Dehé boundary for the exploration, mine operation, and mine post-closure periods. Updated water quality predictions at the park boundary that reflect the updated mine discharge strategy are needed for each mine phase to understand if the requirement for water quality to be within the natural variability at the park boundary has been achieved. At a minimum, an update to predictions for each phase are required before they commence using the most current available monitoring data.</p> <p>As outlined in section 5.3 of Parks Canada’s Intervention, the Project is less than seven kilometers from Nahʔą Dehé, and effluent is deposited directly into Tł’o Dehé. The impacts of mining activity on water quality in Tł’o Dehé is the largest risk to Nahʔą Dehé. Without a prediction in water quality at the park boundary, it is difficult for Parks Canada to properly assess the potential impacts from the Project on Nahʔą Dehé. Since the management of site water at the mine has changed, there are implications on the water quality in Tł’o Dehé. Predicting water quality and the potential impacts to Tł’o Dehé is critical in assessing potential impacts to the ecological integrity of the Nahʔą Dehé ecosystem.</p>	<p>Given that Canadian Zinc had not been willing to provide a water quality prediction at the park boundary earlier in the process, Parks Canada recommends that Water Licence Part I require submission of updated water quality predictions at the Nahʔą Dehé boundary for the exploration, mine operation, and mine post-closure periods per the following schedule:</p> <ul style="list-style-type: none"> i. Within 6 months after licence issuance; ii. 1 year prior to commencement of groundwater dewatering; iii. 3 years following commencement of groundwater dewatering; iv. Every 3 years thereafter; and, v. 3 years prior to expiry of the licence or 2 years before end of operations, whichever may occur first. <p>Having water quality predictions on this schedule will give Parks Canada confidence that the ecological integrity of the Tł’o Dehé aquatic ecosystem within Nahʔą Dehé would be maintained if influential physical processes remain within the natural range of variation.</p>	<p>The site water management plan has been greatly improved over the previous version. Predictions at the park boundary were provided for that version. There is no need to update the predictions. It will not inform changes to EQC or WQO. The prediction report is to confirm that assumptions are correct and WQO are consistently met. Those WQO were set to ensure ecological integrity is preserved in the park.</p> <p>Regarding report schedule, mine site discharge will not change until several months after the commencement of dewatering (once the WSP is full). Mill operations will commence approximately 18 months after the start of dewatering. Therefore, the 1st report occurring 3 years after the start of dewatering is appropriate since we will be able to understand and confirm all source terms by then.</p>
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7	Parks Canada Intervention Recommendation 9	<p>Parks Canada finds that Recommendation 9 has been only partially addressed in the draft Water Licence.</p> <p>Under Schedule 6, item 3(b) and Annex A, Part A of the draft Water Licence, a water quality monitoring program in Tl'ò Dehé at the Nahʔá Dehé boundary downstream of the mine site must be completed. This monitoring program includes assessing a full suite of parameters during freshet (spring), regular flow (fall), and low flow(winter). However, Annex A, Part A indicates that SNP Station 28 in Tl'ò Dehé at the Nahʔá Dehé is only active until the Aquatic Effects Monitoring Program design plan is approved. As outlined in Parks Canada Intervention section 5.4, Tl'ò Dehé is crossing a legal boundary when it enters Nahʔá Dehé. For this reason, Parks Canada maintains it most appropriate for water quality at the park boundary to be maintained in the Water Licence as a legally enforceable condition rather than in a management plan.</p>	<p>Parks Canada recommends that Water Licence Annex A, Part A specify that SNP Station 28 should be active at all times to continue to provide an indication of water quality prior to entering the park for the life of the Project.</p>	<p>Our response to Recommendation 9 was "There are already two downstream water quality stations in the proposed SNP. No significant effects are expected to be found at the near-field site (IDZ boundary), where SSWQO are to be met, let alone the far-field site. In all of the monitoring undertaken to date downstream, including inside the NNPR and before 2006 when mine water treatment commenced on-site, there has been no indication of significant effects on water quality or aquatic life. All monitoring inside the NNPR requires a helicopter for access. Monitoring inside the NNPR is provided for in the AEMP. This monitoring is expected to verify the lack of any significant effects, and confirm that the AEMP monitoring frequency inside the NNPR can be relaxed. It is for this reason that monitoring inside the NNPR belongs in the AEMP, which can be easily updated, not in the SNP". The AEMP will provide an indication of water quality prior to entering the park for the life of the Project.</p>
8	Parks Canada Intervention Recommendation 10	<p>Parks Canada finds that Recommendation 10 has been partially addressed. Draft Water Licence Part H, item 3c requires for the Proponent to notify Parks Canada within 24 hours if a spill or unauthorized discharge occurs. However, Part C, item 106 of the draft Land Use Permit does not include a similar requirement to notify Parks Canada in case of a spill. Given the proximity of the site to Tl'ò Dehé and the Nahʔá Dehé boundary, it is appropriate for Parks Canada to be notified of all spills on site.</p>	<p>Parks Canada recommends Part C, item 106c to be amended to require that Parks Canada be notified in the event of a spill.</p>	
9	Parks Canada Intervention	<p>Parks Canada finds that through Part E, items 2 and 23; Part F, items 18 and 19; Schedule 4, item 7d; Schedule 5, items 5 i and j; and Schedule 8,</p>	<p>Parks Canada recommends that Part E, items 2 and 23; Part F, items 18 and 19;</p>	

	Recommendation 11	item 4v of the draft Water Licence, Recommendation 11 has been appropriately addressed.	Schedule 4, item 7d; Schedule 5, items 5 i and j; and Schedule 8, item 4v of the draft Water Licence, remain as written.	
10	Parks Canada Intervention Recommendation 12	Parks Canada finds Recommendation 12 has been appropriately addressed through Schedule 4, item 6c of the draft Water Licence. Parks Canada is particularly supportive that the impacts of dam failure on the ecological integrity of Nahʔą Dehé will be a consideration in determining Dam Class.	Parks Canada recommends that Schedule 4, item 6c remain as written.	
11	Parks Canada Intervention Recommendation 13	Parks Canada finds that Recommendation 13 has not been adequately addressed in the draft Water Licence. Part E, items 12 and 15 of the draft Water Licence only requires for the Water Storage Pond Design and Construction Plan to be submitted for Board approval prior to construction. It does not specify that it needs to be signed and stamped by a Professional Engineer. The draft Water Licence specifies that any design drawings for engineered structures must be signed and stamped for submission prior to construction. However, it does not indicate if they are for review by all parties and approval by the Board. Engineering drawings should not be submitted separately from the engineering report. Rather, the proponent should submit one comprehensive package that includes the drawings and the report, and together they should all be stamped by the Professional Engineer and submitted for review for all parties to comment on prior to approval by the Board. Parks Canada considers this recommendation applicable to all Design and Construction Plans.	Parks Canada recommends that Part E of the Water Licence require all Design and Construction Plans, including those for the Flood Protection Berm, Exfiltration Trench, Water Storage Pond, Waste Rock Storage Facilities and any other engineered structures, to be signed and stamped by a Professional Engineer and be subject to the MVLWB Online Review System review and approval process.	
12	Parks Canada Intervention Recommendation 14	Parks Canada finds that through draft Water Licence Part E, item 23, Recommendation 14 has been partially addressed. The draft Water Licence only requires that the Engineer of Record establish the dam class for the Water Storage Pond. Parks Canada maintains that it is important that specialists and the regulatory authorities also have the opportunity to inform the dam class. As outlined in Parks Canada Intervention section 5.7, there are many considerations in selecting the appropriate dam class that may be outside the scope of expertise of the Engineer of Record. For example, as described in the CDA Guidelines, Technical Bulletin for Mining Dams, the dam classification criteria use terminologies such as “significant loss” and “critical habitat”. In the context of potential impacts to Bull Trout and to the ecological integrity of Nahʔą Dehé, the appropriate specialists should have the opportunity to provide input. Parks Canada believe that this would also provide consistency with the terms outlined in Schedule 4, item 6c of the draft Water Licence.	Parks Canada recommends that Part E, item 23 of the Water Licence specify that the Engineer of Record is to establish the dam class with input from specialist and the regulatory authority.	Our response to Recommendation 14 was "the dam classification will be made by the design engineers in the design report. Reviewers will be invited to provide comments, but should not be involved in deriving the classification". The design engineers are the appropriate specialists.

13	Parks Canada Intervention Recommendation 15	<p>Parks Canada does not consider Recommendation 15 adequately addressed in the draft Water Licence. In Part E, item 7 and Schedule 4, item 1 of the draft Water Licence, a signed and stamped Flood Protection Berm and Water Storage Pond Southern Dyke Evaluation Report must be submitted for approval 6 months prior to the submission of the Water Storage Pond Design and Construction Plan. The results of this report are to be incorporated into the Water Storage Pond Design and Construction Plan. However, the requirements outlined for the Flood Protection Berm and Water Storage Pond Southern Dyke Evaluation Report do not include identification of the dam class in the report. As outlined in section 5.7 of Parks Canada's Intervention, providing this information early is crucial so that the dam class can properly inform the Water Storage Pond dyke design.</p>	<p>Parks Canada recommends that Schedule 4, item 1 of the Water Licence require that the Flood Protection Berm and Water Storage Pond Southern Dyke Evaluation Report include:</p> <ol style="list-style-type: none"> 1. The Dam Class in accordance with the Dam Safety Guidelines, with supporting rationale. Determining the Dam Class shall incorporate, but not be limited to, the following: <ol style="list-style-type: none"> i. The potential impact of its failure on water quality in the Receiving Environment; ii. The potential impact of changes to water quality affecting Bull Trout; iii. The potential impact of its failure on the ecological integrity of the Nahanni National Park Reserve; and iv. The contingency option of storing tailings in the Water Storage Pond as described in the approved Water and Wastewater Management Plan 	<p>Recommendation 15 would represent a significant and unnecessary delay in the WSP design report approval process. The Flood Protection Berm and Water Storage Pond Southern Dyke Evaluation Report is related to flood levels and armour protection. It is not the appropriate report to consider dam class. The flood berm is not a dam. Dam class will be considered in the WSP and WRP DCP's.</p>
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14	Parks Canada Intervention Recommendations 16 and 17	<p>Parks Canada considers Part E, items 7 and 12, and Schedule 4, item 1 of the draft Water Licence sufficient to address recommendations 16 and 17.</p> <p>The draft Water Licence requires submission of a Flood Protection Berm and Water Storage Pond Southern Dyke Evaluation Report. The draft Water Licence requirements for this report as outlined in Schedule 4, item 1 are considered to adequately address each component of the Recommendation 16. Parks Canada is particularly supportive that through Schedule 4, item 1, climate change considerations will be incorporated into the calculation of the Probable Maximum Flood Event for Tł'o Dehé and corresponding recommendations.</p> <p>Through Part E, item 7, the draft Water Licence requires a signed and stamped Flood Protection Berm and Water Storage Pond Southern Dyke Evaluation Report to be submitted 6 months prior to submission of the Water Storage Pond Design and Construction Plan.</p>	Parks Canada recommends that Part E, items 7 and 12, and Schedule 4, item 1 of the draft Water Licence remain as written.	Refer to our comments on S4, 1. PMF calculation is not consistent with engineering practice for these structures. Park requested assessment of the 'design flood' in their intervention, not the PMF.
15	Aquatic Effects Monitoring Plan	Parks Canada looks forward to collaborating with all parties in the development and implementation of the Aquatic Effects Monitoring Plan, as outlined in Part G and Schedule 6 of the draft Water Licence.	Parks Canada recommends that they are included in the AEMP working group identified in Part G and Schedule 6 of the Water Licence.	
16	Failure Modes and Effects Analysis	The board staff requested input on whether Annex D: Failure Modes and Effects Analysis should be kept in the Water Licence. Parks Canada is of the opinion that there have not been substantial changes to the Project to warrant removal of the Failure Modes and Effects Analysis condition.	Parks Canada recommends keeping the Failure Modes and Effects Analysis as a condition in the Water Licence.	CZN has undertaken considerable work quantifying potential magnitude of mine inflows, and narrowed the expected range considerably. As a result, water storage concerns have been substantially abated. These were previously the reason for the FMEA. The author may not be familiar with the previous proceeding, so may not be aware of the substantial changes. We also note that water storage concerns were not raised in Parks' intervention.
GNWT-ECE - PWNHC (Prince of Wales Northern Heritage Centre) - Naomi Smethurst				

1	Protection of Historical, Archaeological, and Burial Sites	ECE reviewed the application for MV2021D0005 in July 2021 and had no concerns. Proposed activities are located in areas of low archaeological potential due to previous disturbance and sloping terrain.	AOA, AOA-High Potential, and AIA Conditions are not warranted and should be omitted from the land use permit.	
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