

Review Comment Table

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| Board: | MVLWB |
| Review Item: | Canadian Zinc Corporation - Mining and Milling, Prairie Creek Mine - Renewal Applications (MV2020D0007 and MV2020L2-0003) |
| File(s): | MV2020D0007 MV2020L2-0003 |
| Proponent: | CanZinc Corporation |
| Document(s): | MV2020L2-0003 - CZN - Water Licence Application - May 13 20.pdf (312.55 KB) (312 KB) MV2020D0007 - CZN - Land Use Permit Application - May 13 20.pdf (315.41 KB) (315 KB) MV2020D0007 MV2020L2-0003 - CZN - Consolidated Project Description - May 13 20.pdf (12.52 MB) (12.5 MB) MV2020D0007 MV2020L2-0003 - CZN - Engagement Plan - May 13 20.pdf (257.7 KB) (257 KB) MV2020D0007 MV2020L2-0003 - CZN - Engagement Log and Record - May 13 20.pdf (4.05 MB) (4 MB) MV2020D0007 MV2020L2-0003 - CZN - Spill Contingency Plan - May 13 20.pdf (15.82 MB) (15.8 MB) MV2020D0007 MV2020L2-0003 - CZN - Waste Management Plan - May 13 20.pdf (6.04 MB) (6 MB) MV2020D0007 MV2020L2-0003 - CZN - 2014 AEMP Design Plan - May 13 20.pdf (15.5 MB) (15.5 MB) MV2020D0007 MV2020L2-0003 - CZN - Closure and Reclamation Plan - May 13 20 (2.72 MB) MV2020D0007 MV2020L2-0003 - CZN - Closure Cost Estimate (Appendix 4) - May 13 20.pdf (112.86 KB) (113 KB) |
| Item For Review Distributed On: | May 21 at 11:13 Distribution List |
| Reviewer Comments Due By: | June 11, 2020 |
| Proponent Responses Due By: | June 18, 2020 |
| Item Description: | <p>Canadian Zinc Corporation (the Applicant) submitted complete renewal applications for a type A water licence (licence) and type A land use permit (permit). The purpose of the Applications is for underground mining of lead and zinc mineralization using explosives, followed by milling and flotation to produce mineral concentrates at the Prairie Creek Mine. This includes the operation of a camp for 110 personnel during routine operations, and 150 personnel during construction activities. The activity is currently authorized under Licence MV2008L2-0002 and Permit MV2008D0014 which expire on September 22, 2020 and June 15, 2020, respectively. The Applicant has requested a three-year term for the Licence and a five-year term for the Permit. The Applicant has also requested an exemption from preliminary screening because the Applicant believes that the development has not been modified since it was previously authorized.</p> <p>Using the Online Review System (ORS), reviewers are invited to submit comments and recommendations on the documents linked below by the review comment deadline specified. Reviewers may also wish to consider providing an overarching recommendation regarding whether the Board should approve the submission, to provide context for the comments and recommendations and assist the Board with its decision. Notices of intent to file a claim for water compensation must also be submitted by the review comment</p> |

deadline. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the Applicant prior to submitting comments and recommendations.

Board staff agree the renewal Applications may be exempt from preliminary screening in accordance with the Exemption List Regulations. If you believe the renewal applications have been modified since the Environmental Assessment EA0809-002 dated December 8, 2011 and a preliminary screening is required, please describe your rationale and provide comments and recommendations (e.g., on impacts and mitigation measures) to assist with the Board’s preliminary screening determination.

Board staff are seeking input from reviewers on whether a technical session and/or public hearing would be necessary given that the scope of the renewals would result in an alteration solely to the terms of the authorizations. A draft work plan will be distributed for review once comments have been received on whether a technical session and/or public hearing should be held. Please note the Board cannot cancel a Public Hearing until 10 days prior to the scheduled date.

All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.

Contact Information:

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Comment Summary

| CanZinc Corporation (Proponent) | | | | |
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| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Response |
| 1 | General File | Comment (doc) EBA letter re Tank Farm Recommendation | | |
| 2 | General File | Comment (doc) Follow-up EBA letter re Tank Farm Recommendation | | |
| 3 | General File | Comment (doc) Tank Farm schematics. Note, on p. 1, we believe Fig. 10a is what was built. Recommendation | | |
| 4 | General File | Comment (doc) Dec 26, 2014 WSP Backslope testing Recommendation | | |
| 5 | General File | Comment (doc) Financial Capacity Recommendation | | |
| 6 | General File | Comment (doc) Reagent Pad design. Note, this is what we obtained from site records. | | |

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| | | We do not know the reasoning behind the scribbles. What is shown seems to be what was built. Recommendation | | |
| 7 | General File | Comment (doc) Incinerator details. Recommendation | | |

Acho Dene Koe First Nation: Scott Mackay

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Response |
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| 1 | Effluent Discharge Quality | Comment ADKFN is very concerned with the risk of the discharge of metals in the effluent from the Prairie Creek mine and the consequent potential for bioaccumulation and biomagnification in fish and wildlife species. Metals such as mercury, cadmium, lead and zinc are known to bioaccumulate in fish and wildlife species which may move or migrate from the immediate area around the mine site to areas within our traditional territory. This includes species which migrate and species with larger home ranges. We rely on these species to exercise our rights as well as for the health and livelihoods of our members. Recommendation CanZinc must complete a Human Health and Ecological Risk Assessment for the Prairie Creek mine which includes migratory animals (e.g. waterfowl) and those with large home ranges. | June 17: Many such studies were undertaken previously and informed the decision made by the Board with respect to the issue of the Water Licence which we did not use but are seeking to renew, and the water management and effluent discharge provisions therein. The prior studies did not identify significant potential for metals bioaccumulation. | Can CZN provide the studies undertaken to reviewers? |
| 2 | Water Quality Monitoring | Comment ADKFN is very concerned with the lack of water quality monitoring information as a part of the WL and LUP applications. A detailed water quality monitoring plan, including sampling locations, | June 17: Water monitoring provisions were set by the Board in the Surveillance Monitoring Program as part of the Licence. We expect the Board will circulate drafts of the new permits for comment. | |

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| | | <p>frequency, methods and analytes is essential for ADKFN to properly assess whether CanZinc is adequately monitoring impacts to water quality in Prairie Creek and the South Nahanni River.</p> <p>Recommendation We strongly recommend that CanZinc provide their detailed operational surface water and groundwater quality and quantity monitoring plans to ADKFN. This must include all water quality monitoring sites upstream, downstream and within the project site, all stream gauge locations and all groundwater monitoring wells. Frequency of sampling and analysis for surface and groundwater sites should be monthly. Water quality monitoring at the point of discharge of the water treatment plant into Prairie creek should be sampled 3 times per week at the start of operations for at least 3 months.</p> | | |
| 3 | Water Storage Pond | <p>Comment ADKFN is also very concerned with the fact that the Water Storage Pond (WSP) on site is used for both sewage water and wastewater from the mill. This has the potential for unknown geochemical interactions that may increase metal mobility.</p> <p>Recommendation We strongly recommend a detailed monitoring and management plan specific to this concern to ensure that there are no unforeseen geochemical interactions between the disparate water sources that report to the WSP.</p> | <p>June 17: Sewage water, following treatment, would be a very small component of the WSP water balance, perhaps 2%. There is no logical basis to expect any increase in metal mobility, in fact, the opposite is more likely. WSP discharge is subject to monitoring.</p> | |

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| 4 | Mixing Zone Model | <p>Comment CanZinc has not provided a mixing zone model to assess the distance downstream that metals concentrations will be elevated above Canadian Water Quality Guidelines. This is important for determining the extent to which the water in Prairie Creek will be impacted by operation, as well as the fish in that section of the Prairie creek.</p> <p>Recommendation ADKFN recommends CanZinc develop a mixing model for Prairie Creek and provide opportunity for ADKFN to comment on the model. This is important as many of the metals predicted to be elevated in the mine effluent are known to bioaccumulate in fish and thus pose a risk to the health and wellbeing of ADKFN members.</p> | <p>June 17: Plume' delineation as a condition of the existing Water Licence.</p> | |
| 5 | Post-closure Monitoring | <p>Comment In the Closure and Reclamation Plan Section 4.2.6 (Monitoring, Maintenance and Reporting Program) CanZinc has stated the intention to monitoring water quality for 13 years after closure of the mine. This is an unacceptably short period of monitoring post closure, and risks ADKFN being left with an environmental liability long after CanZinc has left.</p> <p>Recommendation We strongly recommend that Can Zinc agree to continue to monitor for a minimum of 25 years after closure with agreement to continue sampling beyond this period as necessary if effluent has not achieved discharge criteria. Contact water must be treated prior to discharge</p> | <p>June 17: The author is not understanding the post-closure scenario correctly. The underground mine will be completely sealed so there will not be any 'effluent'. We expect that surface water monitoring will confirm the absence of significant contaminant discharge within the proposed 13 year post-closure period.</p> | |

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| | | into Prairie Creek or Harrison Creek as required during this time. | | |
| 6 | Closure Contingency Program | <p>Comment ADKFN also note that Closure and Reclamation Plan Section 4.2.7 (Contingency Program) is extremely brief and includes no specific risks to mitigate nor the contingency measures that CanZinc will carry out to manage those risks.</p> <p>Recommendation ADKFN recommends that CanZinc provide a much more detailed contingency plan for any water quality related risk for operations and during closure.</p> | <p>June 17: See Appendix B of the Closure Plan for details.</p> | |
| 7 | Aquatic Effects Monitoring Program | <p>Comment The AEMP lacks the necessary detail to allow for a meaningful and adequate assessment of potential impacts to ADKFN's rights and interests. For example, the study design for an Environmental Effects Monitoring (EEM) program should include a rationale for the selection of the final discharge point and a description of the manner in which the effluent mixes within the exposure area. In addition, CanZinc should include in their site characterization the major chemical reagents used in the overall production process and an inventory of nonpoint sources that may have impact the aquatic environment (e.g., areas where surface runoff might be expected). This information is critical for completing a meaningful assessment of potential impacts to the aquatic environment and has not been included in the AEMP.</p> | <p>June 17: A commitment has been made to engage upon, and revise, the draft AEMP.</p> | |

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| | | <p>Recommendation</p> <p>It is recommended that CanZinc revise the AEMP in strict adherence to the Metal Mining Technical Guidance Document for Environmental Effects Monitoring (Environment Canada, 2012). For information that has not yet been collected (e.g., information from the plume delineation study), CanZinc should include a proposed plan for collecting this data.</p> | | |
| 8 | Aquatic Effects Monitoring Program | <p>Comment Additionally, the survey design of the AEMP is questionable and may not be effective in monitoring impacts to the aquatic environment. For example, Can Zinc proposes to use a Before/After/Control/Impact (BACI) and Reference Condition Approach (RCA) as a basis for the study design. While a near-field and two far field sites have been identified for the BACI analysis, it does not appear that Can Zinc has a near-field biological monitoring site at the effluent discharge.</p> <p>Recommendation ADKFN recommends that Can Zinc include a near-field biological monitoring site at immediately downstream of the effluent discharge.</p> | <p>June 17: A commitment has been made to engage upon, and revise, the draft AEMP.</p> | |
| 9 | Aquatic Effects Monitoring Program | <p>Comment The RCA compares the biological community at impacted sites (test sites) to communities at sites in a natural, or minimally impacted, condition (reference sites). Subsequent analysis then groups reference sites based on similarities in their biological community. Test sites are then compared</p> <p>Recommendation For the</p> | <p>June 17: A commitment has been made to engage upon, and revise, the draft AEMP.</p> | |

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| | | <p>purpose of the RCA analysis, ADKFN recommends that Can Zinc compare sites to an already established reference model, such as the Nahanni River 2010 reference model.</p> <p>Alternatively, Can Zinc could collaborate with the MVLWB, Environment Canada, and ADKFN to develop an NWT reference model for the purpose of EEM.</p> | | |
| 10 | Aquatic Effects Monitoring Program | <p>Comment The RCA compares the biological community at impacted sites (test sites) to communities at sites in a natural, or minimally impacted, condition (reference sites). Subsequent analysis then groups reference sites based on similarities in their biological community. Test sites are then compared to the group of reference sites that have the most similar habitat characteristics to determine a level of divergence from the expected condition. Bowman and Summers (2005) recommends a minimum of 20 sites per group, but preferably 30 to 50. In the AEMP, Can Zinc is proposing to sample three reference sites (Prairie Creek Reference, Cathedral Creek Reference, and Wrigley Creek Reference).</p> <p>Recommendation For the purpose of the RCA analysis, ADKFN recommends that Can Zinc compare sites to an already established reference model, such as the Nahanni River 2010 reference model.</p> <p>Alternatively, Can Zinc could collaborate with the</p> | <p>June 17: A commitment has been made to engage upon, and revise, the draft AEMP.</p> | |

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| | | MVLWB, Environment Canada, and ADKFN to develop an NWT reference model for the purpose of EEM. | | |
| 11 | Aquatic Effects Monitoring Program | <p>Comment Can Zinc proposes to only complete one assessment of contaminants in fish tissue due to concerns of lethal surveys impacting slimy sculpin populations. While this concern is reasonable, slimy sculpin have been found to reach sexual maturity as early as age one (Gray, Curry, Arciszewski, Munkittrick, & Brasfield, 2018). Considering these findings, the proposed three-year sampling frequency should allow the slimy sculpin population time to recover between sampling events. Additionally, the maternal transfer of contaminants can sometimes occur during the development of eggs (Gray, Curry, Arciszewski, Munkittrick, & Brasfield, 2018). This may result in an increase of contaminants in tissue in subsequent generations of slimy sculpin, which could only be observed if lethal sampling of fish occurred in the second cycle of EEM.</p> <p>Recommendation We recommend that Can Zinc include lethal sampling of slimy sculpin in the second round of EEM, after which it would be appropriate to analyze benthic invertebrate tissue instead.</p> | <p>June 17: A commitment has been made to engage upon, and revise, the draft AEMP.</p> | |
| 12 | Engagement Plan | <p>Comment With regards to the Engagement Record, Can Zinc has not meaningfully engaged with ADKFN on these new applications. Over the last year Can Zinc has</p> | <p>June 17: We have conducted many engagements with ADKFN, many more than are reflected in the submitted engagement record. We have not included correspondence related to benefits negotiations since we consider these confidential, and not the purview of the Board.</p> | |

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| | | <p>notified us of its intent to file new applications and has kept us updated on their progress - these file updates are what have been categorized as "engagement" in the record. Further, Can Zinc has left out key correspondence from ADKFN in the record that provides our perspective on their engagement efforts to date. We have consistently raised concerns with Can Zinc regarding support required to review and consider potential impacts of Can Zinc's activities on our Aboriginal and Treaty rights. From our perspective, the volume of engagement is not an effective indicator of meaningful engagement.</p> <p>Recommendation The inadequate amount of time and detail provided by CanZinc to identify and address issues prior to application submission must be considered by the Board.</p> | <p>We encourage the comment author to confer with ADKFN's other representatives for a more fullsome, accurate perspective on our engagements.</p> | |
| 13 | Engagement Plan | <p>Comment Regarding the future looking Engagement Plan, the contents focus on Can Zinc's engagement efforts and approaches with other First Nations. Although it references ongoing discussions with ADKFN, the continued delay in arriving at a collaborative resolution on how ADKFN and Can Zinc will work together is an ongoing gap the MVLWB must consider and direct the proponent to rectify.</p> <p>Recommendation The inadequate amount of time and detail provided by CanZinc to identify and address issues prior to application submission must be considered by the Board.</p> | <p>June 17: See our response to ADKFN 12.</p> | |

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| 14 | Engagement Plan | <p>Comment In addition, we only just received the draft applications from Can Zinc through the MVLWB a mere month(s) before these permits are set to expire. The lack of information and detail shared to date severely challenges ADKFN to share preliminary concerns, identify impacts and collaborate with Can Zinc on future engagement approaches. This is unreasonable and does not provide adequate time to sufficiently consider the impacts of these activities on our Aboriginal and Treaty rights.</p> <p>Recommendation The inadequate amount of time and detail provided by CanZinc to identify and address issues prior to application submission must be considered by the Board.</p> | <p>June 17: We have notified ADKFN about our intentions to renew the operating permits, and engaged on our project development plans, for at least a year.</p> | |
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Dehcho First Nations: Carrie Breneman

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Response |
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| 1 | Comments on CZN's Mining and Milling Renewal Applications | <p>Comment N/A</p> <p>Recommendation Dehcho First Nations (DFN) supports the comments provided by Li'í'dli?i? Ku'e'&nbsp;First Nation and&nbsp;Nah&acirc; Deh&acute; Dene Band&nbsp;on Canadian Zinc Corporations&rsquo;s Renewal Application. DFN does not expect a technical session or public hearing, as the project has not been modified since it was previously authorized.</p> | | |

GNWT - Lands - Dehcho Region: Kyle Christiansen

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Response |
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| 1 | Consolidated Project Description: 1.4.4 Sewage and 1.4.5 Tailings Disposal | <p>Comment Sewage water will be treated in treatment plant with effluent being discharged into water storage pond. Tailings at the beginning of mine operations will be temporarily stored in water storage pond. Inspectors note that liner in water storage pond is compromised and needs to be replaced.</p> <p>Recommendation Replace the impermeable liner prior to any sewage effluent or tailings are stored within.</p> | <p>June 17: The reconfiguration of the large pond into a two-cell Water Storage Pond includes the installation of a new geosynthetic liner.</p> | |
| 2 | Consolidated Project Description: 1.4.7 Power Generation and Garbage Incineration. | <p>Comment Garbage will be incinerated in on-site incinerator.</p> <p>Recommendation Inspectors note that incinerator is out-dated and does not meet emission criteria. Incinerator needs to be replaced as soon as road access is available.</p> | <p>June 17: Yes, we've committed to this.</p> | |
| 3 | Explosives | <p>Comment If a second Water Storage Pond is required, it will be built where the current explosive storage is located.</p> <p>Recommendation Inspectors recommend proponent provide the location where explosives would be stored if a second water storage pond is required.</p> | <p>June 17: Noted. Water storage and the layout of site facilities will be addressed as part of a later submission in connection with an expanded project. For now, our focus is the renewal of the existing permits.</p> | |
| 4 | 2.9 Aggregates | <p>Comment Aggregate requirements at the mine site will be satisfied by on-site quarry. Any aggregate production requires a valid Quarrying Permit.</p> <p>Recommendation Inspectors recommend proponent contact the regional office to obtain a quarrying permit if aggregates are required.</p> | <p>June 17: Yes, we're aware of Quarry Permit requirements.</p> | |
| 5 | Closure and Reclamation Plan: 3.2.2 | <p>Comment During temporary closure of the mine site, all infrastructure is required to</p> | <p>June 17: OK. We note that the submission of a closure and reclamation plan was a requirement for the application. However, we ask the Board</p> | |

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| | Temporary Closure Activities - Onsite Infrastructure | be securely closed. Recommendation Inspectors recommend all buildings and infrastructure to be adequately secured to prevent wildlife from entering the buildings. | to defer consideration of the plan to a date linked to project commencement, as is reflected in the original permits. | |
| 6 | 4.2.1 Reclamation Objectives and Closure Criteria - Revegetation | Comment Observations indicate that natural invasion of native species is an effective process and should be fostered. Recommendation Inspectors recommend proponent provide the methods and practices that will be used to promote natural revegetation to occur. | June 17: OK | |
| 7 | 4.2.1 Reclamation Objectives and Closure Criteria - Revegetation | Comment What methods and controls will be used to prevent invasive species from establishing on site. Recommendation Inspectors recommend proponent provide methods and controls to prevent invasive species from establishing on site. | June 17: OK | |
| 8 | Draft Conditions | Comment Inspectors note that draft conditions were not provided for review. Recommendation Inspectors recommend the MVLWB provide draft permit conditions for review prior to issuing permit. | June 17: We believe that is the Board's intent. | |

GNWT - Lands: Darren Campbell

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Response |
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| 8 | General File | Comment (doc) GNWT Consolidated comments CZV LUP-WL review Recommendation | | |
| 1 | Spill Contingency Plan - General Comment | Comment The GNWT reminds CZN that clause 41 of its existing lease (95F/10-5-5) requires that waste be dealt with in a manner satisfactory to the Minister. Recommendation As per | June 17: We are aware of clause 41, and believe we are complying with it. However, we are unsure as to its relevance to the Spill Contingency Plan submitted for operations. We are also not aware of a requirement for Minister of Lands approval of the Plan. We have not encountered this requirement to date. Perhaps it | |

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| | | standard Department of Lands procedure, CZN must submit the Spill Contingency Plan, once approved by the MVLWB, to the Minister of Lands for approval. | is related to the acquisition of an operations lease. If approval by the Minister is required, it should be done concurrently with the Board since we require approval by both to proceed and we do not want two plans. | |
| 2 | Prairie Creek Mine - Aquatic Effects Monitoring Program - General Comments | <p>Comment CZN has noted that a draft AEMP design was submitted in 2014; however, a formal review did not occur. CZN has proposed that the AEMP be subject to formal review at an appropriate time, but has not specified an anticipated time. While the GNWT sees no immediate urgency to the AEMP design given the status of the mine, it should be reviewed and finalized prior to the commencement of mining activities at the site. As well, given that the mine plan will change as part of the future Type A Water Licence renewal, that subsequent Water Licence process would be a more suitable time for that discussion.</p> <p>Recommendation 1) The GNWT recommends that an updated AEMP Design be provided with the updated Mine Plan and Water Licence renewal in the future. 2) The GNWT recommends that CZN engage with stakeholders prior to the submission of the updated AEMP Design and future Water Licence renewal. The formation of an AEMP working group to facilitate this process would be advisable.</p> | <p>June 17: 1) Agreed. 2) We're not opposed to this recommendation, only we feel it is important for stakeholders to first understand the revised water management and discharge proposals, that include a substantial reduction in contaminant load being discharged, and that will be part of the application we expect to make for a Water Licence for an expanded project.</p> | |
| 3 | Waste Management Plan -General Comments | <p>Comment The GNWT reminds CZN that clause 31 of its existing lease (95F/10-5-5) requires that waste be dealt with in a manner and at a site approved by the</p> | <p>June 17: Our response is the same as that to your comment 1.</p> | |

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| | | <p>Minister.</p> <p>Recommendation As per Department of Lands standard procedure, CZN must submit the Waste Management Plan, once approved by the MVLWB, to the Minister of Lands for approval.</p> | | |
| 4 | Prairie Creek Mine Closure and Reclamation Plan -General Comments | <p>Comment The GNWT reminds CZN that Covenant 27 of its existing lease (95F/10-5-5) requires agreement from both parties on any changes to the Abandonment and Restoration Plan (synonymous to the modern Interim Closure and Reclamation Plan) on record.</p> <p>Recommendation As per standard Department of Lands procedure, CZN must submit any revised/updated Interim Closure and Reclamation Plan, once approved by the MVLWB, to the Minister of Lands for review and agreement.</p> | <p>June 17: Our response is the same as that to your comment 1.</p> | |
| 5 | Prairie Creek Mine: Closure and Reclamation Plan - General Comments | <p>Comment CZN has noted that a revised Closure and Reclamation Plan (CRP) is due six months prior to the extraction of waste rock and they are opposed to retaining a similar condition in the new Water Licence.</p> <p>Recommendation The GNWT supports the retention of the condition requiring the submission of the CRP six months prior to extracting of waste rock.</p> | <p>June 17: We agree with the recommendation, and that's what we said in our cover letter. Perhaps the word 'not' (opposed) is missing from your comment.</p> | |
| 6 | Cost Closure Estimate Robertson Geoconsultants Inc. Memorandum - Appendix B | <p>Comment In the application, CZN notes that "CZN previously engaged with the department of Environment and Natural Resources of the GNWT regarding an update of the security estimate for MV2008D0014 and MV2008L2-002. CZN</p> | <p>June 17: We note the comments. We ask that, if possible, any reconsideration of the security be deferred until our planned later submission for a Water Licence for an expanded project, or at least minimized. We expect to make that submission in approximately 6 months time, and given that our priority at present is to expediently acquire new permits with no changes from the old, we suggest that the time</p> | |

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| | | <p>provided a revised estimate using the most recent version of Reclaim. It was then agreed that further review of the updated estimate should occur during the formal regulatory process. This is documented in CZN's April 5, 2018 letter to the Board provided in Attachment 4." Of note, ENR recently provided an estimate on the security required related to CZN's Type B Water Licence MV2019L2-0006 and a subsequent increase in security has been submitted to ENR by CZN. Regarding the Type A Water Licence, ENR will review the current liability estimate associated with that Authorization and make a determination through this process on whether any updates or revisions are required.</p> <p>Recommendation The GNWT will provide final recommendations regarding liability estimates later in this process.</p> | <p>and resources for a detailed review of security might logically be deferred until this later submission, which we expect will necessarily include detailed review in any case.</p> | |
| 7 | <p>Closure cost estimate, Appendix 4, May 13, 2020.</p> | <p>Comment The GNWT reminds CZN that Covenant 27 of its existing lease (95F/10-5-5) requires agreement from both parties on any changes to the Abandonment and Restoration Plan (synonymous to the modern Interim Closure and Reclamation Plan) on record.</p> <p>Recommendation As per standard Department of Lands procedure, CZN must submit any revised/updated Interim Closure and Reclamation Plan, once approved by the MVLWB, to the Minister of Lands for review and agreement.</p> | <p>June 17: Our response is the same as that to your comment 1.</p> | |

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| 1 | Consolidated Project Description Project and Regulatory History | <p>Comment Under 1.2 Project and Regulatory History on page 5 it indicates that "The repairs were made (to the access road alignmnet) and the LUP and Water Licence are still active". What authorizations are CZN referring to? Board staff note that the authorizations for the old winter road have all expired and that the expired Permits for the old winter road have not been granted final clearance.</p> <p>Recommendation CZN to clarify which authorizations are being referred to.</p> | <p>June 17: The LUP was MV2003F0028 and WL MV2007L8-0026, and yes they have expired, that part of the updated CPD was not updated in error.</p> | |
| 2 | Consolidated Project Description: Tailings | <p>Comment Under 2.6 Mine Waste Management Tailings it indicates that 50,000 tonnes of tailings is available in the water storage pond for start-up when it may take months before underground stopes are available for backfill. It further indicates that the tailings would be slurried to one section of the pond, and recovered later by dredging. Following temporary storage of the tailings in Cell A (as shown in Figure 2-15) will the temporary tailing storage area be used to store Mill Process Water? Please discuss if temporarily storing the tailings in Cell A could have implications to the water quality of mill process water in Cell A of the WSP. For example, will sampling be undertaken following dredging to understand any potential impacts in this area?</p> <p>Recommendation Czn to clarify the management of</p> | <p>June 17: Tailings management prior to backfill is under review. We may or may not retain the proposal to store tailings in Cell A. If we do, the up to 50,000 tonnes would be approximately 20% of the total cell capacity, the remainder being occupied by mill water. The tailings would be stored in the cell below the level of water level fluctuation i.e. in dead storage. This storage would have no implications regarding water quality because the tailings and the mill water would have already been in contact with one another in the Mill prior to thickening and filtering. If dredging were to occur during operations, there may be some temporary sediment suspension, but this would not be a significant issue for water recycle back to the Mill.</p> | |

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| | | tailings in the water storage pond. | | |
| 3 | Water Licence Application Form - Financial Responsibility of the Applicant | <p>Comment The Board must satisfy itself of the financial responsibility of CZN under paragraph 72.03(5)(d) of the MVRMA and 26(5)(c) of the Waters Act before it can issue a Licence. CZN's Water Licence Application mention that the financial capacity information is on file for MV2008L2-002, which is a long time ago. Can CZN clarify if there's any updated information on CZN's financial capacity?</p> <p>Recommendation CZN to discuss how they will satisfy the financial responsibility under paragraph 72.03(5)(d) of the MVRMA and 26(5)(c) of the Waters Act.</p> | June 17: See uploaded file. | |
| 4 | Engineered Structures | <p>Comment According to the Consolidated Project Description, Board staff identified that the following structures and/or facilities would be Engineered Structures that would require engineered stamped design drawings: - the water storage ponds, catchment pond, exfiltration trench effluent outfall, flood protection berm, tank farms, landfarm, waste rock pile/storage facilities, and other mine buildings including sewage treatment plant, solid waste disposal facilities (within the Waste Rock Pile/storage facilities), tailings containment facilities (in addition to the waster storage pond?), ore stockpile/stroage pad, Wastewater treatment plant, paste backfill plant, dense media separation plant, concentrate bagging plant, concentrate storage</p> | <p>June 17: It is not our impression that 'Engineered Structures' includes buildings, plants or tanks that are designed and constructed according to certain codes, rather they are structures built from natural materials. This would exclude underground facilities, which are the purvue of WSCC. Stationary fuel tanks are regulated by ECCC. Explosives storage is regulated by NRCan. There are also engineered structures that are already built and were previously authorized, and which will not be significantly changed: catchment pond, flood protection berm. These should not require new engineering stamps. Therefore, we consider new engineered structures to be the water storage pond, waste rock pile (includes seepage collection pond), stockpiles (mine ore, waste rock, tailings, DMS), and exfiltration trench. The current polishing pond will be removed.</p> | |

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| | | <p>shed, sulphuric acid storage tanks, reagent storage sheds, cement batch plant, underground facilities including 870 level portal with access ramp to lower mining levels, emulsion plant, explosives storage facilities, seepage collection pond, sewage sludge storage, paste plant, float storage pile, camp facilities, polishing pond, mill. Can CZN confirm the above structures and/or facilities are engineered structures related to Water Use or the deposit of Waste that is designed by a Professional Engineer? Are there any engineered structures on site that is not mentioned above?</p> <p>Recommendation CZN to clarify the list of engineered structures.</p> | | |
| 5 | Dam Safety Guidelines | <p>Comment In the Consolidated Project Description, Board staff identified the following structures that would meet the definition of Dam according to the Dam Safety Guidelines: Water Storage Ponds/Tailings Containment Area, and flood protection berm. Are there any other structures that would be considered a Dam as per the Dam Safety Guidelines and is intended to contain, withhold, divert, or retain Water or Waste? What are the Dam Class of those structures according to the Dam Safety Guidelines?</p> <p>Recommendation CZN to clarify the structures on site that would be considered Dams and their Dam Class as per the Dam Safety Guidelines.</p> | <p>June 17: The CDA Guidelines define a dam as "A barrier constructed for the retention of water, water containing any other substance, fluid waste, or tailings, provided the barrier is capable of impounding at least 30,000 m3 of liquid and is at least 2.5 m high". The definition excludes the flood protection berm. The Catchment Pond is only 1.5 m high, so is excluded. The collection pond associated with the WRP is sized to store 7,000 m3, so is excluded. The WSP is the only dam. The class of the dam would be "high" - consequence of failure would be significant loss or deterioration of important fish habitat.</p> | |

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| 6 | Consolidated Project Description - Section 1.4.3 Water Supply and Mangement | <p>Comment The CPD states Wells in the Prairie Creek aquifer will be used for potable water supply. Does the water require treatment before use e.g. drinking?</p> <p>Recommendation CZN to clarify whether the well water requires treatment prior to use. If treatment is required, CZN to provide further information regarding the water treatment.</p> | <p>June 17: The water does not require treatment prior to use. However, for operations,</p> | <p>Can CZN clarify if the response is complete.</p> |
| 7 | Consolidated Project Description - 2.2 Ore Stockpiles | <p>Comment CZN indicates in the CPD that there will be a temporary storage pad for approximately 2,000 tonnes of ore during the Mine start-up period. Board staff note that Figure 2-2 shows the temporary ore storage to be in the same location as the Decline Waste Rock Pad (authorized under MV2019L2-0006), as indicated on Figure 2-1. Board staff understand that further analysis may result in a change to Mine plans. Czn CZN clarify if there has been consideration wehther there is sufficient capacity to potentially temporary store 2,000 tonnes of ore as well as place Waste Rock from the 2nd underground decline.</p> <p>Recommendation CZN to discuss the location of temporary ore storage and the Waste Rock from the 2nd underground decline and the available capcity of the storage location.</p> | <p>June 17: Yes, there is sufficient capacity to potentially temporary store 2,000 tonnes of ore as well as place Waste Rock from the 2nd underground decline, in fact considerably more so. Iinitial projections indicate that the location can host approximately 100,000 tonnes.</p> | |
| 8 | Consolidated Project Description - 2.4 Fuel Consumption and Storage | <p>Comment Board staff note that the CPD indicates that tank farm has a capacity of 6,804,656 L. From the information presented in 13 Fuel on the Permit Application Form Board staff</p> | <p>June 17: We understand the Board wants to know the maximum quantity of fuel to be stored on-site. We suggest this be based on the Tank Farm (6,804,656 L), two 500 gallon tanks (2,000 L), and up to fifty 45 gallon drums (10,250 L). This does not include drums and tanks storing oil.</p> | |

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| | | <p>have calculated a proposed fuel use of 1,954,005 L.</p> <p>Recommendation CZN to clarify the maximum fuel to be used on site under the authorizations applied for as it is required to be included in the Permit condition.</p> | | |
| 9 | <p>Consolidated Project Description - Figure 2-16 Site Water Management</p> | <p>Comment The Figure shows minewater and mill process water would be used for milling, and then returned to the Water Storage Ponds, and excess minewater or process water is treated, and then discharged. Can CZN confirmed that the the Wastewater from the Water Storage Ponds would not be recycled on site for another use such as dust suppression or road watering, where the water could enter the Receiving Environment prior to treatment?</p> <p>Recommendation CZN to clarify if the Wastewater would be recycled on site for another use (other than milling) that could end up in the Receiving Environment.</p> | <p>June 17: Based on the development model for the original permits, none of the water from the WSP would be suitable for other site uses.</p> | |
| 10 | <p>Consolidated Project Description Section 2.6 Waste Rock</p> | <p>Comment This CPD states that "While there are some differences between the country rock units that will be mined in terms of geochemistry, all are non-acid generating (NAG) and will not require special management plans during operations because of their high neutralization potentials." In CZN's updates on Plans or Studies indicated the Waste Rock Pile below the 930 and 970 portals were sampled for the geochemical investigation but not reported yet. Can CZN provide the results, a analysis of the results, and whether those result show</p> | <p>June 17: The results indicate that the 930 and 970 level waste rock is non-PAG. A few samples indicate limited metal leachnig potential, the rest very little. We propose to provide the results with an interpretation as part of the future application for an expanded project.</p> | <p>Noted.</p> |

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| | | <p>the waste rock on site are non potential acid generating or metal leaching (PAG/ML)? Can CZN clarify when it is intending to report the results of the investigation?</p> <p>Recommendation CZN to provide the results and analysis of the waste rock geochemical investigation at 930 and 970 portal.</p> | | |
| 11 | <p>Consolidated Project Description Status of Management Plans and Studies</p> | <p>Comment In CZN's status update of plans or studies, CZN indicated that the sample and test WSP backslope for ARD/ML were completed and submitted. Can CZN clarify if these results were or will be incorporated in the consolidated project description? If not, can CZN provide the results and comment on whether significant leaching potential is defined and whether a overburden disposal plan is warranted?</p> <p>Recommendation CZN to provide the results and analysis from the geochemical testing of the north side of the Water Storage Pond.</p> | <p>June 17: The requested information was submitted on December 26, 2014 and is provided again.</p> | <p>Noted.</p> |
| 12 | <p>Permit MV2008D0014 condition 18 Reagents</p> | <p>Comment Condition 18 in MV2008D0014 was included in the Permit based on a commitment CZN made during the EA. It indicates that the Permittee shall consume or remove from site for disposal reagents currently stored on the reagent storage pad south of the Mine. Board staff note that the Spill Contingency Plan submitted with the Renewal Application includes the SDSs for old mill reagents that are stored on the Reagent Storage Pad.</p> | <p>June 17: Condition 18 is still relevant. The reagents can still be used.</p> | <p>Noted.</p> |

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| | | <p>Can CZN clarify if these reagents could have expired/no longer be appropriate for use?</p> <p>Recommendation CZN to discuss if MV2008D0014, Condition 18 is still relevant, or if it should be updated to require that all reagents on the reagent storage pad be removed, as opposed to consumed or removed.</p> | | |
| 13 | Permit MV2008D0014 condition 20 Concentrate Storage/Removal | <p>Comment Condition 20 in MV2008D0014 was included in the Permit based on a commitment CZN made during the EA. It indicates that the Permittee shall ensure all concentrates in bags leaving the site are free of external concentrate dust. Any torn bags will be double bagged, and any spillage cleaned up completely. In CZN's CPD, it is indicated that a containerized form of bulk concentrate transport will now be used.</p> <p>Recommendation Can CZN comment on the relevance of condition 20 in MV2008D0014.</p> | <p>June 17: Suggest reword: "All concentrate containers leaving the site are free of external concentrate dust".</p> | Noted. |
| 14 | Spill Contingency Plan - General | <p>Comment Board staff understands that CZN is seeking to submit a revised Spill Contingency Plan prior to commencement of mining and milling activities. Board staff have provided the following comments for the Spill Contingency Plan. It is not clear if Spill Contingency Plan is reflecting the current status of the mine site (care and maintenance). How is CZN handling the existing material/fuel/chemicals on site that is only associated with the mining and milling authorizations and not managed under the Type B exploration authorizations?</p> | <p>June 17: CZN currently holds a care and maintenance lease from Lands (copy provided) for management of the site while exploration is conducted. The lease, and all facilities on site, are subject to Lands inspection and regulation. CZN is currently managing all existing material/fuel/chemicals on site, per the lease. The spill contingency plan provided is intended to apply to the future mine construction period (although there is already mine infrastructure present). all of the facilities are currently also covered by the recently reviewed and updated plan for exploration. We're proposing an update to the plan provided for construction before operations to ensure all facilities are properly shown in the plan.</p> | |

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| | | <p>When CZN is responding to the following comments, please be clear whether the contingency only applies to during operation or to the current status of the mine.</p> <p>Recommendation CZN to comment on the applicability of the spill contingency below. If any of the practices apply to the current site condition (before CZN commences operation), Board staff recommend CZN revise the Spill Contingency Plan to reflect that and seek approval from the Board during the care and maintenace phase.</p> | | |
| 15 | Spill Contingency Plan, preventative measures, tank farm containment berm | <p>Comment Section 4.0 indicates the tank farm is surrounded by a containment berm. Board staff note the consolidated project description indicates the tank farm containment berm was previously inspected. Please be advised that supporting documentation should be provided with the application. Can CZN please provide the geotechnical inspection reports? Does CZN have design drawings for the tank farm?</p> <p>Recommendation CZN to provide any available geotechnical inspection reports or design drawings for the tank farms.</p> | <p>June 17: http://registry.mvlwb.ca/Documents/MV2001L2-0003/MV2001L2-0003-reTankFarmInspections-Jan06.pdf http://registry.mvlwb.ca/Documents/MV2001L2-0003/MV2001L2-0003- Tank Farm Inspection - Dec16-05.pdf http://registry.mvlwb.ca/Documents/MV2001L2-0003/MV01L2-03-EM-TankFarmRepairs-Jun06.pdf Copies of geotechnical inspection reports and design drawings are provided separately.</p> | |
| 16 | Spill Contingency Plan, preventative measures, tank farm four 10,700 barrel capacity tanks | <p>Comment Section 4.0 indicates the tank farm contains four 10,700 barrel capacity tanks. Are the four 10,700 barrel capacity tanks double-walled?</p> <p>Recommendation CZN to clarify the type of tanks.</p> | <p>June 17: The tanks are single-wall inside a secondary containment.</p> | |
| 17 | Spill Contingency Plan, fuel lines from tank farm | <p>Comment Section 4.0 indicates fuel is transferred from the tank farm via lines</p> | <p>June 17: See response to MVLWB 15.</p> | |

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| | across Harrison Creek to the mill | into the mill. Has CZN conducted inspections on the integrity of the distribution lines? Can CZN provide the inspections? Recommendation CZN to clarify the condition of the distribution lines with supporting evidence. | | |
| 18 | Spill Contingency Plan, preventative measures, airstrip | Comment Section 4.0 indicates 45-gallon drums containing aviation fuel are located at the airstrip. Are the drums stored at the airstrip year-round? Is the area sheltered? Can CZN provide a figure displaying the storage location and the drainage collection channel? Is the clay layer below the drainage collection channel? Please indicate the thickness of the clay layer. Recommendation CZN to clarify the management of aviation fuel at the airstrip. | June 17: We have a drawing of the airstrip drum cache area and the surface water flow, but we're having trouble locating it. Some drums stored year-round, the area is not sheltered, there is a clay layer below of unknown thickness. We believe Cadillac engineered the location but we don't have records. The clay liner is visually effective (stops penetration). The cache has been used since 1982, but CZN does not store any fuel there, the fuel is owned by Great Slave Heli, INAC, and/or NNPR. | |
| 19 | Spill Contingency Plan, preventative measures, south yard | Comment Section 4.0 indicates the south yard contains a reagent storage pad and drums containing soil impacted by hydrocarbons. The description indicates the material is stored on a clay pad and reports to a collection pond. Is material stored in this location year-round? Is the area sheltered? Can CZN update Figure 4 to include the locations of the stored material and the collection pond? Does the collection pond have an impermeable layer beneath it? Recommendation CZN to clarify the mitigation measure around the south yard. | June 17: The Reagent Pad occupies a small portion of the South Yard. Materials are stored year-round in their containers and under tarp cover. Fig. 4 can be updated. The original design drawing indicates the collection pond is lined with clay. Its purpose is to facilitate sampling of pad runoff. We know it ponds water. All sample results (SNP 3-8) have indicated an absence of contamination. Use of the pad is primarily for mill reagents which will be consumed in the early years of operations. | |
| 20 | Spill Contingency Plan, fuel | Comment Section 8.1 indicates fuel handling crews with be trained in spill | June 17: OK | |

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| | handling procedures | prevention techniques. Board staff could not find a description of fuel handling procedures in the Spill Contingency Plan. Recommendation Please update to the plan to include fuel handling procedures. | | |
| 21 | Spill Contingency Plan, storage locations of each hazardous material | Comment Section 4.0 indicates two camp generators are fueled by a 500 gallon diesel tank. Board staff are uncertain if the tank is displayed on Figure 3. Recommendation Please indicate whether this tank is identified on Figure 3. | June 17: Yes, on the south-west side of the Mill. | |
| 22 | Spill Contingency Plan, training program | Comment Board staff note training material is provided in section 8.1. Board staff are uncertain if the training includes information on how to obtain off-site resources. Recommendation Ensure the training program includes information on how to obtain off-site resources. | June 17: The plan states that the Incident Commander, present for all responses, is responsible for obtaining off-site resources, if needed. | |
| 23 | Spill Contingency Plan, catchment pond | Comment Board staff understand that should a major site issue occur, such as a mill water pipe rupture, or a release of hydrocarbon fuel at the main site that evaded containment, the material would flow to the site drainage ditches and to the catchment pond. Recommendation Can CZN confirm this interpretation is correct? | June 17: Correct. | |
| 24 | Spill Contingency Plan, catchment pond | Comment Section 4.0 indicates spills from the main site which evade containment would migrate to the catchment pond. In the event hydrocarbon liquid migrates to the catchment pond, how would CZN collect and dispose of the material? Are suitable resources on-site to collect the material? | June 17: All fuel tanks have secondary containments. Any spills will likely be small in quantity. We have absorbant pads and booms on site. | |

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| | | Recommendation CZN to clarify the contingency measures of hydrocarbon liquid spills. | | |
| 25 | Spill Contingency Plan, catchment pond | Comment Section 4.0 indicates the catchment pond will be lined for operations. Recommendation Can CZN provide detail regarding the catchment pond liner? | June 17: The liner will be a geosynthetic. | |
| 26 | Spill Contingency Plan, catchment pond | Comment Section 4.0 indicates the catchment pond culvert has a gate valve which can be closed to prevent discharge. When was the gate valve installed? Does CZN perform inspections and preventative maintenance to ensure it is operational? Recommendation CZN to clarify the maintenance of the gate valve. | June 17: The gate valve was installed during site construction in the 1980's. It is a very simple device requiring very little maintenance, but yes, it is inspected for functionality. | |
| 27 | Spill Contingency Plan, Harrison Creek | Comment Section 4.0 indicates the control point for spills in the tank farm is the containment berm, and beyond the containment berm is a culvert which discharges from Harrison Creek to Prairie Creek. The Spill Contingency Plan identifies the culvert which discharges from Harrison Creek to Prairie Creek as a secondary control point. Recommendation Please describe how the Harrison Creek culvert can be used as a control point for potential spills. Are sufficient spill response materials located nearby the Harrison Creek culvert for such an occurrence? Does CZN carry-out spill response exercises for this scenario? | June 17: The Tank Farm has a clay-lined containment, with berm. It is sized to store 110% of the largest tank. The secondary control point is a downstream control point just before Prairie Creek that would allow a secondary response, if necessary, because there are 2 large, perched, culverts within which flow barriers or controls could be instituted. Presently, an absorbant boom is stored at this location as a precaution for Catchment Pond discharge. The Tank Farm is currently not considered to pose a significant spill risk since one tank contains a 4 foot depth of diesel and the rest are empty, and the size of the containment. Spill response exercises, as described in the exploration Spill plan, are considered adequate for all areas of the site currently. | |
| 28 | Spill Contingency Plan, exfiltration trench | Comment The consolidated project description submitted with the | June 17: No. The trench would be constructed as part of overall site construction. The short-term and localized nature of the construction are not | |

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| | | <p>application describes the exfiltration trench, but is not described in the Spill Contingency Plan.</p> <p>Recommendation Has the exfiltration trench been incorporated into the Spill Contingency Plan? When will the exfiltration trench be constructed?</p> | <p>considered to be conducive for inclusion in the spill plan, rather any requirements might logically be included in the design report.</p> | |
| 29 | Spill Contingency Plan, general contingency planning | <p>Comment Board staff note the INAC Guidelines for Spill Contingency Planning contains a section for general contingency planning for other incidents: fires, explosions, equipment failures, wildlife encounters, security threats, etc.</p> <p>Recommendation Does CZN intend to generate a contingency plan for other incidents which could occur during mine operation?</p> | <p>June 17: Contingencies for fires and explosions would seem to be reasonable.</p> | |
| 30 | Spill Contingency Plan, incinerator | <p>Comment Section 6.5 indicates used absorbent materials for hydrocarbon spill response will be incinerated in a dual chamber incinerator.</p> <p>Recommendation Please be advised that absorbent material used for hydrocarbon spill responses is hazardous waste which requires disposal at an approved facility. Can CZN describe why used absorbents would be incinerated on-site instead of transported off-site to an approved facility? Can CZN provide additional detail on the dual chamber incinerator?</p> | <p>June 17: We do not understand why such waste cannot be incinerated on site. Neat fuel is burned for power generation. On-site incineration is quicker, easier and cheaper. An example of the type of incinerator we would acquire is provided. Also, refer to the Incinerator Management Plan appended to the Waste Management Plan.</p> | |
| 31 | Spill Contingency Plan, Unauthorized Discharge response | <p>Comment Board staff note Unauthorized Discharges were not included as part of spill response descriptions.</p> <p>Recommendation What is CZNs general response if a sample at the identified SNP</p> | <p>June 17: Board staff will need to be specific as to the nature and timing of this situation. As noted in our response to MVLWB 14, the plan is intended for the construction period. Re mine water treatment, we have noted in the exploration plans that it is currently not possible to stop mine water flow or store the water, and</p> | |

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| | | station exceeds EQC or fails acute toxicity testing, which constitutes an Unauthorized Discharge? | that there is a delay before laboratory results are available, by which time the mine water has discharged. This situation will not have changed during construction. This subject is really about construction water management, and belongs in the Construction Water Management Plan. | |
| 32 | Spill Contingency Plan, water contaminated with hydrocarbons | <p>Comment Section 6.5 states the following, "Water contaminated with hydrocarbons will be processed through an activated carbon vessel at the Mine. The site currently manages water accumulating from precipitation and runoff in storage tank secondary containments, especially in the spring with snow melt. Discharge of water from the tank farm containment is subject to prior testing for extractable hydrocarbons to confirm low concentrations. Effluent from contaminated water processing by activated carbon can be managed along with the water from the secondary containments."</p> <p>Recommendation See the following comments associated with this statement.</p> | | |
| 33 | Spill Contingency Plan, water contaminated with hydrocarbons | <p>Comment Can CZN clarify if the treatment water contaminated with hydrocarbon is a current practice or is this a proposal during the mining and milling operations?</p> <p>Recommendation CZN to clarify the activated carbon treatment timeline.</p> | <p>June 17: Water from the Tank Farm containment has never been contaminated requiring treatment, based on laboratory testing. Water from old diesel drums is processed using a charcoal filter and discharged into a clean drum for inspection. This water has always been visibly clean (no sheen or discoloration). From now on, we can sample this water as we do for Tank Farm containment water, and confirm the EPH concentration is below EQC prior to discharge.</p> | Can CZN confirm if this practice that will be conducted during the care and maintenance phase prior to construction and operation of the mine? Would CZN agree to include this practice in a care and maintenance plan? |

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| 34 | Spill Contingency Plan, water contaminated with hydrocarbons | <p>Comment Board staff note that Contaminated water is defined as hazardous waste if constituents are in excess of concentrations listed in Schedule 1 of the Government of the Northwest Territories Guideline for Hazardous Waste Management (2017). The management of waste should be described in the Waste Management Plan or Water Management Plan instead.</p> <p>Recommendation CZN to revise its Waste Management Plan to include the treatment of Tank Farm Decant Water and revise the Spill Contingency Plan to reference the management of the Tank Farm Decant Water described in the Waste Management Plan.</p> | June 17: OK | |
| 35 | Spill Contingency Plan, water contaminated with hydrocarbons | <p>Comment CZN's Type B Exploration Licence MV2019L2-0006 Part E, Condition 18 and 19 requires CZN to meet the EQC and notify an inspector prior to discharge. Since the Tank Farm will be continued to be used throughout mining and milling, the management of Tank Farm should be included in a Waste Management Plan until CZN is ready to submit the Water Management Plan for Board decision.</p> <p>Recommendation CZN to revise the Waste Management Plan to include the management of Tank Farm Decant Water and the associated EQC.</p> | June 17: OK | |
| 36 | Spill Contingency Plan, water contaminated with hydrocarbons | <p>Comment Has CZN considered whether adding the activated carbon treated water to the Tank Farm Decant Water without</p> | <p>June 17: On checking with our Site Manager, our previous advice was incorrect. Water from charcoal filtration is not mixed with Tank Farm decant water. Refer to our reply to MVLWB 33. We note the recommendation.</p> | Same as MVLWB-33. |

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| | | <p>analyzing the water chemistry could compromise the water quality of the Tank Farm Decant Water? Board staff note that the EQC in MV2019L2-0006 Part E condition 18 only applies to the Tank Farm Decant Water, and is not intended to apply for the discharge of Water Contaminated with Hydrocarbon treated with activated carbon. Waste stream separated from the Tank Farm Decant Water should be analyzed separately prior to discharge to the Receiving Environment. Can CZN clarify if the treated water is analyzed prior to discharge? what guidelines is being used to compare the results to?</p> <p>Recommendation CZN to revise the Waste Management Plan to include the management of hydrocarbon contaminated water treated with activated carbon. Please clarify what the contingency is if the treated water does not meet the applicable guidelines.</p> | | |
| 37 | Waste Management Plan | <p>Comment As indicated in CZN's application cover letter, CZN indicated that "Regarding the waste and spill contingency plans, while we would be happy to receive any review comments on the current versions, we suggest that it may be more efficient to require resubmission of these plans at a suitable time prior to construction, by which time we can incorporate updates to reflect the proposed project changes." Board staff note that an approved Waste Management Plan is</p> | <p>June 17: Road construction is not planned to occur until the winter of 2021-2022, so review and approval of the plan submitted for this application can be deferred for now.</p> | Noted. |

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| | | <p>required for CZN to management Waste associated with CZN's All Season Road Project. Can CZN clarify if it is intending to seek Board approval of the Waste Management Plan?</p> <p>Recommendation CZN to clarify its intention with the Waste Mangement Plan.</p> | | |
| 38 | Closure and Reclamation Plan - general | <p>Comment Board staff understand the CRP submitted by CZN to be a conceptual plan that will be developed over time as the mine advances.</p> <p>Recommendation CZN to clarify that Board staff's understanding is correct.</p> | <p>June 17: Correct. We understand subsequent comments are intended to inform future versions of the plan.</p> | |
| 39 | Closure and Reclamation Plan - Engagement | <p>Comment Board staff note that CZN has indicated that no feedback has been received to date on the final mine closure plan from local communities. Board staff note that the Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (the Guidelines) require continued community engagement as the CRP is developed. The Guidelines state that input should be sought as early as possible- for example during the development of the conceptual CRP for a mine- and continue with the interim CRP(s) and final CRP, such that comments regarding closure objectives, closure options, selected closure activities, and closure criteria can build on earlier comments and lead to CRPs that are well understood and supported by stakeholders. Furthermore, the Guidelines indicate that</p> | <p>June 17: First, it is important to note that that the main part of closure is addressed during operations in the form of tailings backfill. The main issue for closure is what land use is to occur - none or something else. Mine operations will include conveninig of a multi-party Technical Advisory Committee which will meet 3 times annually. That would likely be a good venue for closure plan engagement.</p> | |

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| | | <p>public meetings, face-to-face meetings, and workshops may be required at various stages; typically these occur prior to submission of conceptual, interim, or final CRPs. Future versions of the CRP will require a summary of completed and planned engagement.</p> <p>Recommendation CZN to discuss how engagement on the CRP will occur in the future.</p> | | |
| 40 | Closure and Reclamation Plan - Site-Wide Closure Objectives | <p>Comment According to the Guidelines, closure principles guide the selection of closure objectives. CZN has identified physical stability, chemical stability, no long-term active care requirements, and future use (including aesthetics and values) as the closure principles for the mine. Board staff note that CZN's CRP includes objectives for 3 of the 4 principles, but these objectives do not reference any specific project component. Does CZN consider these objectives to be site-wide objectives? If so, it may add clarity if they were identified as such.</p> <p>Recommendation CZN to discuss if the Objectives listed under 4.2.1 on page 13 could be considered site-wide closure objectives.</p> | June 17: Yes, site-wide. | |
| 41 | Closure and Reclamation Plan - Closure Objectives | <p>Comment According to the Guidelines, CRPs must include Closure Objectives for each project component at mine sites, and proponents must engage with stakeholders to develop and refine closure objectives. Board staff note that the components listed under 3.2.2 Temporary Closure Activities (Waste</p> | June 17: OK | |

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| | | <p>Rock Pile, Underground, Process Plant, Water Storage Pond, Water Treatment Plant, Onsite Infrastructure, Offsite Infrastructure) align with examples of project components outlined in the Guidelines. In order for CZN's CRP to align with the Guidelines, CZN should develop Closure Objectives for each Project Component.</p> <p>Recommendation CZN to discuss plans to develop project component closure objectives.</p> | | |
| 42 | Closure and Reclamation Plan - Closure Options | <p>Comment According to the Guidelines, Proponents will explore a set of closure options for each project component in order to achieve the closure objective. Following stakeholder engagement the proponent will present the final chosen closure activity to the Board for approval, along with rational and stakeholder views. Reclamation research and/or environmental monitoring may be required to determine appropriate closure options.</p> <p>Recommendation CZN to discuss inclusion of closure options in future versions of the Closure and Reclamation Plan.</p> | <p>June 17: OK, but we caution that there will be few components and few options, and we have to date not received any significant feedback regarding closure expectations.</p> | |
| 43 | Closure and Reclamation Plan - Closure Criteria | <p>Comment According to the Guidelines, closure criteria are developed for each closure objective for approval by the Board to determine if closure activities have met the closure objectives for each project component. Closure criteria must be measurable and achievable, and developed with stakeholders. Board staff</p> | <p>June 17: OK</p> | |

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| | | <p>note that the closure criteria proposed by CZN, particularly 1. and 3. do not appear to align with the intent of closure criteria as per the Guidelines - the criteria are not measurable/do not provide a narrative statement or numerical value that can easily be assessed as achieved/not achieved.</p> <p>Recommendation CZN to discuss their plan to develop closure criteria as the mine advances.</p> | | |
| 44 | Closure and Reclamation Plan - Reclamation Research | <p>Comment As per the Guidelines, Reclamation Research Plans are developed to resolve uncertainties related to closure objectives, options, activities, and criteria. It is necessary to initiate reclamation research as early as possible so that stakeholders and the Board can use the results in the closure planning process.</p> <p>Recommendation CZN to discuss possible necessary future reclamation research for the development of closure objectives, options, activities, and criteria.</p> | June 17: OK | |
| 45 | Temporary Closure/Care and Maintenance and Current Site Conditions | <p>Comment As per the Guidelines, Temporary closure occurs when an advanced mineral exploration or mining operation ceases with the intent of resuming activities in the near future. Care and Maintenance is the status of a mine when it undergoes a temporary closure. CZN's most recent Annual Report for the Prairie Creek Mine Operations Water Licence (MV2008L2-0002), submitted March 31, 2020 indicates that there has been</p> | <p>June 17: The site is under care and maintenance in terms of its lease while exploration is conducted. As far as we are concerned, MV2008L2-0002 has not been activated. The Board previously agreed to put it into 'abeyance'. We realize the Board and regulators consider permits active when issued. We believe that can be a problem for proponents that are not ready to proceed with activities, as is our case.</p> | <p>Would CZN agree to submit a Care and Maintenance Plan to reflect the current status of the mine site and provide the activities that is not covered under the exploration authorizations, until CZN is ready to go into operation?</p> |

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| | | <p>no activity under the Licence in 2019.</p> <p>Recommendation Can CZN confirm if they are currently in a state of Care and Maintenance, as per the definition from the Guidelines.</p> | | |
| 46 | Closure and Reclamation Plan - Temporary Closure/Care and Maintenance and Current Site Conditions | <p>Comment The Temporary Closure Activities in the CRP submitted with the Renewal Application do not appear to all be immediately relevant considering the current status of the site (e.g. activities under Process Plant, Water Storage Pond, etc.).</p> <p>Recommendation CZN to clarify that the Temporary Closure Activities listed in the CRP are for a future time when operations at Prairie Creek Mine have commenced.</p> | June 17: The Temporary Closure Activities listed in the CRP are for a future time after further construction has occurred and operations at Prairie Creek Mine have commenced. | See above question |
| 47 | Closure and Reclamation Plan - Temporary Closure/Care and Maintenance and Current Site Conditions | <p>Comment Board staff note there are components authorized under MV2008D0014 and MV2008L2-0002 that are not being used under the Exploration authorizations (MV2019C0011 and MV2019L2-0006). It is not clear how CZN is currently maintaining the facilities that are only associated with the mining and milling authorizations. Can CZN clarify the activities, facilities, or structures not covered or used under the Exploration authorizations. Can CZN clarify how facilities such as the Water Treatment Plant and Process Plant are currently maintained on site? Has CZN been conducting inspections and maintenance on the facilities that are only covered under the mining</p> | June 17: OK, but to be clear, we are currently managing all facilities on site under the terms of the lease, and subject to inspection by Lands. This include the Mill. There is currently no Water Treatment Plant, other than the exploration-scale facilities adjacent to the 870 portal. | See above question. |

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| | | and milling authorizations? Recommendation Board staff recommend CZN revise 3.0 Temporary Closure in the CRP to reflect the current status at Prairie Creek Mine, in addition to the temporary closure once the mining operations have commenced. | | |
| 48 | Closure and Reclamation Plan - Temporary Closure Contingency Program | Comment As per the Guidelines, a Temporary Closure Contingency Program should be included in the Temporary Closure section of the CRP. This section is to describe how unforeseen events or conditions would be handled during temporary closure if the response would differ from normal operations. Proponents must explain the effects on any monitoring activities and how they would address any such effects. Recommendation CZN to discuss the necessity for a temporary closure contingency program in Section 3.0. | June 17: OK | |
| 49 | Closure and Reclamation Plan - Temporary Closure Schedule | Comment As per the Guidelines, the Temporary Closure Schedule should include an estimate of how long the temporary closure will last and provide the approximate end date of the closure period for planned temporary closure. Recommendation Board staff recommend CZN revise 3.2.5 Temporary Closure Schedule with an estimate of how long the current state of care and maintenance will last. | June 17: We believe Board staff are seeking a development schedule. Our current plan is to commence site construction in spring 2022. | |
| 50 | draft AEMP | Comment Board staff understands CZN submitted a draft AEMP Design Plan from 2014 and is expecting | | |

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| | | <p>to update the AEMP Design Plans in accordance with the MVLWB/GNWT Guidelines for Aquatic Effects Monitoring Programs. Board staff have the following comments understanding that the AEMP Design Plan will be resubmitted in accordance with Board's AEMP Guidelines for Board decision.</p> <p>Recommendation See the following comments.</p> | | |
| 51 | draft AEMP - Aboriginal Engagement and Involment | <p>Comment CZN has indicated in this section that CZN will incorporate TK in future iterations through AEMP Working Group and EEM Technical Advisory Panel. Board staff note CZN must outline the approach to enagement and how the engagement information will be integrated in the AEMP Design. Can CZN clarify if the AEMP Working Group will involve all potentially affected parties, including Board staff and GNWT, and any other affected organization as recommended in the Board's AEMP Guidelines? Can CZN comment on the plans for the AEMP Working Group before CZN applies for its new, longer term Water Licence as indicated in the cover letter? Board staff notes that section 3.1.1 of the AEMP Guidelines provide engagement recommendations.</p> <p>Recommendation CZN to clarify the AEMP Working Groups' invited representatives and timing.</p> | <p>June 17: See our response to GNWT Lands (Darren Campbell) 2. All potentially affected parties can be involved.</p> | |
| 52 | draft AEMP - Baseline | <p>Comment CZN included a baseline study from 2013. Does CZN have any plans to collect further baseline data</p> | <p>June 17: We expect to collect further baseline data prior to operations.</p> | <p>Does CZN mean prior to construction? Because baseline</p> |

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| | | is needed to fill gaps or shortcomings of existing baseline reports? Board staff note that affected parties should be engaged to determine whether the baseline data collected is adequate. Recommendation CZN to clarify plans for collecting baseline data for AEMP. | | should be collected before impacts of the any activities. |
| 53 | draft AEMP - Problem Formulation | Comment This section should also address issues and concerns identified by affected parties, or provide rationale for not directly addressing the concerns. These concerns can be collected through AEMP Working Groups. Recommendation CZN to clarify its plan to engage with affected parties to identify concerns on the AEMP Design and be incorporated in the next iteration. | June 17: See our response to MVLWB 51. | |
| 54 | draft AEMP - Management Response Plan | Comment The Response Framework requires revision to define terms such as normal range, significance threshold and Action levels. Low, moderate, and high action levels should be proposed with rationale and the respective response actions if triggered. The action levels should be below significant threshold. Recommendation Revise the Response Framework in accordance with the Board's AEMP Guidelines. | June 17: OK | |
| Racher Consulting: Kathy Racher | | | | |
| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Response |
| 1 | Joint submission of L'ÀÀDLII KU'É' FIRST NATION (LKFN) | Comment Note the KRacher Consulting is submitting these comments on behalf of | | |

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| | and NAHA DEHÅ‰ DENE BAND (NDDDB) | the LKFN and the NDDB. Recommendation None | | |
| 2 | Extending the term of NorZinc's mining authorizations | <p>Comment NorZinc is requesting a renewal of water licence MV2008L2-0002 for a 3-year term and a replacement of land use permit MV2008D0014 for a 5-year term. We understand that NorZinc is making these requests to ensure their mining authorizations remain valid while they complete their plans for expanding the throughput of ore at the mine. Since NorZinc plans on making an amendment application in the next year to accommodate their expansion plans, they are not seeking any changes to either the licence or the permit at this time.</p> <p>Recommendation As part of our review of the application, we have identified the need for some updates to the current authorizations based on changes in policy (e.g., new AEMP guidelines, new CCME guideline for dissolved zinc) or studies done (e.g., baseline water quality in Prairie Creek, updated groundwater modelling) since the original licence/permit were granted in 2013. However, since additional amendments will be necessary to accommodate NorZinc's mine expansion proposal, we believe that it makes most sense to consider all the potential changes to the mining authorizations when the final details of the mine expansion are available.</p> | June 17: Thank you. | |

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| | | <p>Therefore, we support NorZinc's request for a 3-year term for its mining water licence and a 5-year term for its mining land use permit. Since we are not considering changes to any other conditions of either authorization at this time, we do not believe a technical session or a public hearing are needed prior to approving the current application. We agree with NorZinc that this application should be exempted from preliminary screening.</p> | | |
| 3 | <p>Management and monitoring plans submitted with the application</p> | <p>Comment We note that NorZinc has submitted a number of management/monitoring plans with this application. We assume that these have been submitted because it is standard requirement for proponents making an application related to a Type A water licence and not because the Board is seeking to approve the plans at this time. Based on this assumption, we have not thoroughly reviewed the submitted plans.</p> <p>Recommendation We have no review comments or recommendations for any of the management/monitoring plans submitted as part of this application as we do not expect the Board to consider approving these plans at this time. If and when the Board seeks to approve any management or monitoring plans required in NorZinc's mining authorizations, we expect to be notified of the review process and will participate fully at that time.</p> | | |