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April 28, 2021

File: MV2019L2-0006

David Harpley, Vice President
Environment and Permitting Affairs
Canadian Zinc Corporation
Unit 1710 - 650 West Georgia Street
Vancouver BC V6B 4N9

Sent by email

Dear David Harpley,

Re: Prairie Creek Mine – Closure and Reclamation Plan Version 1.0 – Not Approved – Water Licence MV2019L2-0006 – Mineral Exploration – Prairie Creek, NT

The Mackenzie Valley Land and Water Board (Board) met on April 22, 2021 and considered Canadian Zinc Corporation (CZN's) Closure and Reclamation Plan Version 1.0, which was submitted under Part G, Condition 1, of Water Licence MV2019L2-0006 (Licence) on December 31, 2020.

The Board requires that the Closure and Reclamation Plan Version 1.0 be revised and re-submitted as an Interim Closure and Reclamation Plan in accordance with the MVLWB (2013) *Guidelines for Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories* (the Guidelines)¹ and in accordance with comments made during this review, as detailed in Appendix A (attached) by **April 23, 2022**, for Board decision.

As part of the submission of the Interim Closure and Reclamation Plan, CZN should consider whether the development of the Interim Closure and Reclamation Plan has implications on the security required under the Water Licence and associated Land Use Permit. The Board requires CZN to include a discussion on security implications as part of the next submission that includes the original assumptions in which closure costs were estimated and to engage with the Government of the Northwest Territories on this issue prior to the next submission.

The Board reminds CZN that it is a requirement of Water Licence Conditions 3 and 4 to identify how Traditional Knowledge has been incorporated into each submission.

¹ See [MVLWB \(2013\) Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories](#)

Full cooperation of CZN is anticipated and appreciated. Please contact Andrew Wheeler at (867) 766-7467 or Kimberley Murray at (867) 766-7458 with any questions or concerns regarding this letter.

Yours sincerely,



Mavis Cli-Michaud
Mackenzie Valley Land and Water Board, Chair

BCC'd to: Distribution List
 Kyle Christiansen, GNWT-ENR, Water Resource Officer, Dehcho Region
 Jamie Chambers, GNWT-ENR, Regional Superintendent, Dehcho Region

Attached: Appendix A: Table 1: Board Directives for the Closure and Reclamation Plan

Appendix A – MV2019L2-0006 – Canadian Zinc Corporation

Table 1: Board Directives for the Closure and Reclamation Plan

| Item | Outstanding items requiring updating | Review comment reference |
|------|--|--------------------------|
| 1. | Develop the Closure and Reclamation plan at an Interim level in accordance with the MVLWB/AANDC <i>Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (2013)</i> ² | n/a |
| 2. | Ensure Section 2.1 clearly states the goal of the Closure and Reclamation Plan. | Racher 2 |
| 3. | Identify all of the components associated with the Prairie Creek mine site and differentiate between those that apply to mineral exploration and other existing components that will subsequently apply to mine operations. | MVLWB 1 |
| 4. | Identify potential opportunities for progressive reclamation for each component associated with mineral exploration or, provide clear rationale as to why progressive reclamation may not be suitable at this stage of CRP development | MVLWB 2 |
| 5. | Include clear closure objectives, options, and criteria for all mineral exploration components. As part of this, communicate how the future use of the site was considered. | MVLWB 3, GNWT 1 and 4 |
| 6. | Indicate the current status of Traditional Knowledge use. | ADKFN 2 |
| 7. | Incorporate engagement into closure and reclamation planning, in accordance with Schedule D, Item 1, d. | MVLWB 5 and GNWT 5 |
| 8. | <p>Waste Rock Pile</p> <p>Provide the following information as part of an updated plan:</p> <ul style="list-style-type: none"> ○ The current total volume of waste rock; ○ The current total volume of waste rock that CZN considers “near vein”; ○ Where “near vein” waste rock is located within the pile; ○ The anticipated additional volume of waste rock that will be generated from further decline development; ○ The anticipated additional volume of waste rock CZN would consider “near vein” that will be generated as part of further decline development; ○ Current dimensions of the waste rock pile; ○ Anticipated dimensions of the expanded waste rock pile; ○ Develop objectives for water quality that relate to adverse impacts of potential receptors; ○ Develop criteria for water quality; ○ Updated analysis of leachate that includes a scan for total metals, including mercury; ○ Provide more detail on how the expansion of the waste rock pile will be constructed, including where and how the synthetic liner will be installed, where and how leachate samples will be collected, and how leachate sample collection will continue as the waste rock pile is further developed; and ○ Clarify how CZN plans to collect leachate samples and monitor this process as part of closure. | ADKFN 3, GNWT 8, 9, 15 |

² See [MVLWB/AANDC Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories \(2013\)](#)

| Item | Outstanding items requiring updating | Review comment reference |
|------|---|--|
| 9. | <p>Waste Rock Pile</p> <p>Further develop closure objectives and activities for the waste rock pile and associated components. Consider the long-term physical and chemical stability of the pile, the base, the cover, and of the sources where material will be obtained for use as cover and the expanded base (address erosion and stability of the water treatment pond dike and borrow location). Also consider how it will be determined that material is suitable for use, and contingency sources of material should planned sources be deemed unsuitable.</p> | ADKFN 8, ECCC 1, Racher 6, GNWT 10, 12 |
| 10. | <p>Incorporate post-closure monitoring as part of further developing the objectives and criteria associated with mineral exploration components. This must address how long-term monitoring and maintenance will be used to demonstrate successful closure of various components.</p> | ADKFN 10, GNWT 17 |
| 11. | <p>Include the sampling of sediment in Prairie Creek to evaluate whether residual contamination has resulted from mine water discharges.</p> | ADKFN 5 |
| 12. | <p>Establish a closure schedule that communicates the sequence in which various components will be closed and reclaimed. This must clearly indicate the time periods associated with each component and the order in which components will be closed. This must also incorporate considerations of post-closure monitoring periods that are required to confirm closure activities were successful.</p> | ADKFN 7, Racher 7 |
| 13. | <p>Include response to Racher Consulting comment 5.</p> | Racher 5 |
| 14. | <p>Incorporate vegetation assessments as part of long-term monitoring of drill pads and access roads.</p> | ADKFN 6, GNWT 13 |
| 15. | <p>Include specifics related to closing and reclaiming site infrastructure and clarify whether camp facilities have been used to support mineral exploration. If camp facilities have been utilized, they should be included in the Closure and Reclamation Plan.</p> | GNWT 7, 11, Racher 3 |
| 16. | <p>Include a legend to Table 2 to explain why certain values are in bold.</p> | GNWT 2 |
| 17. | <p>Include additional information regarding the more recent flow data that is in the Winter Road Water Monitoring Plan in Section 6.2 of the CRP.</p> | GNWT 3 |
| 18. | <p>Ensure the CRP refers to the Geochemical Verification Program to indicate the commitment to sample seepage and runoff from the waste rock pile.</p> | GNWT 6 |
| 19. | <p>Ensure Section 12 outlines the security that is required by the Water Licence.</p> | GNWT 18 |