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May 28, 2020

MV2019L2-0006

David Harpley  
Canadian Zinc Corporation  
SUITE 1710-650 West Georgia Street  
Vancouver BC V6B 4N9

Sent via Email

Dear David Harpley:

**Geochemical Verification Program – Not Approved  
Administrative Update to MV2019L2-0006  
Mineral Exploration, Prairie Creek Mine, NT**

The Mackenzie Valley Land and Water Board (MVLWB or the Board) met on May 28, 2020 to review Canadian Zinc Corporation's (CZN's) Geochemical Verification Program, which was submitted under Part E, condition 6 of Water Licence (Licence) MV2019L2-0006.

At this time, the Board is unable to approve the Geochemical Verification Program submitted for the following reasons:

- Further evidence must be presented in an updated Geochemical Verification Program to support CZN's response to certain review comments; and
- The Geochemical Verification Program should be updated in accordance with comments made during this review, as summarized in Table 1 (attached).

The Board requires that CZN re-submit the revised Geochemical Verification Program 60 days prior to depositing Waste Rock.

The Board also reviewed an administrative update to Schedule A Condition 1 of Licence MV2019L2-0006. The requirements for the Annual Water Licence Report now also includes a summary of activities conducted in accordance with the approved Geochemical Verification Program, as per the updated Schedule A, Condition 1, item j).

If you have any questions or concerns, please contact Jacqueline Ho at [jho@mvlwb.com](mailto:jho@mvlwb.com).

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Mavis Cli-Michaud".

Mavis Cli-Michaud  
MVLWB, Chair

Copied to: Distribution List

Attached: Table 1: Board Directives on Geochemical Verification Program  
Water Licence MV2019L2-0006

**Table 1: Canadian Zinc Corporation –Prairie Creek Mine – Board Directives from review of the Geochemical Verification Program.**

Item	Outstanding items requiring updating	Review comment reference
1.	Update section 3. Waste Rock Monitoring to include the additional contingency options, as discussed in response to the review comments, for rock determined to be potentially acid generating/metal leaching based on test results.	ENR-1; Racher-6
2.	Update section 3. Waste Rock Monitoring to include clarification as to the weight of waste rock samples to be collected and submitted as a composite for analysis, as described in response to the review comment.	ENR-2
3.	Update section 3. Waste Rock Monitoring to clarify that SFE analysis will be conducted on “high risk” material (NPR<1).	ENR-3
4.	Update section 3. Waste Rock Monitoring to provide further information regarding the use of SFE results for waste rock management.	ENR-4; Racher-7
5.	Update the Geochemical Verification Program to further clarify the two discharge points described under section 5. Decline Water Management (third paragraph). Specifically, CZN is to clarify why the points of discharge would vary and how this would affect the combined stream at SNP station 3-7.	ENR-5
6.	CZN to consider sampling water from the second Decline for total metals as a response to a (defined) noticeable change in total metals observed at SNP station 3-7, to further assess the water quality of the second Decline. CZN should update the Geochemical Verification Program with the appropriate details. Alternatively, update the Geochemical Verification Program with further rationale as to why sampling for total metals is not necessary to fully characterize the water quality from the second Decline.	ENR-5
7.	Update the “Collection Pond Water Sample” in Attachment 2 to indicate that the data presented represents total concentration.	ENR-6
8.	Update Figures 3 to 5 to include figure numbers.	MVLWB-2
9.	Update section 4. Waste Rock Water Management and section 5. Decline Water Management to indicate the specific sampling requirements from MV2019L2-0006 Annex A Surveillance Network Program (SNP), Part A CZN is referring to in the Geochemical Verification Program when it is indicated that sampling will use the same methods as sampling for the Water Licence SNP.	MVLWB-3
10.	Clarify the reporting requirements for geochemical results in section 4. Waste Rock Water Management and section 5. Decline Water Management of the Geochemical Verification Program, including the frequency at which results will be submitted to the Board.	ADKFN-1; MVLWB-3; Racher-8
11.	Update the Geochemical Verification Program to include reference to the Effluent Treatment Plan and Minewater Treatment Contingency Plan, where appropriate.	MVLWB-6
12.	Update the Geology and Development Rock section in Attachment 1 to reference the collection pond results provided at the end of Attachment 2 for clarify.	Racher-2

13.	Update section 3. Waste Rock Monitoring to indicate how CZN will verify that metal leaching in non-ARD rock will not be an issue. CZN should consider referencing historical data and sampling a subset of waste rock samples.	Racher-4
14.	Update section 3. Waste Rock Monitoring with further justification for CZN's rationale that elemental concentrations which exceed the water quality guidelines by less than one order of magnitude are not interpreted to pose a risk to the receiving environment. This should include evidence to support the statement that "SFE results are widely assumed to over-estimate seepage concentrations due to the 3:1 liquid to solid ratio in the tests".	Racher-5