



ᓄᓇᓂᓪ ᐃᓕᓕᓪᓴᓪᓴᓪᓴᓪᓴᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No: **1AR-NAN2030**

September 27, 2023

Johan Skoglund, Group Manager - Environment
Canzinc Mines Ltd.
2900 – 550 Burrard Street,
Vancouver, B.C. V6C 0A3

Email: jskoglund@skoglund-enviro.com

RE: NWB Technical Review of 2022 Annual Report for the Closure, Reclamation and Post-Closure Monitoring of the Nanisivik Mine; Water Licence No. 1AR-NAN2030

Dear Mr. Skoglund,

The Nunavut Water Board (NWB) has completed a technical review of the 2022 Annual Report.

On March 31, 2023, the NWB acknowledged receipt of the Annual Report, provided it to the Nanisivik distribution list for information, and invited parties to comment until July 03, 2023. The NWB received comments from Environment and Climate Change Canada (ECCC) on June 30, 2023. On August 11, 2023, the Proponent requested an extension to provided responses and submitted them on September 15, 2023. ECCC confirmed on September 27, 2023, that their comments/concerns had been addressed.

Copies of all documents received during the review can be accessed through the NWB's Public Registry and FTP site using the following link:

<ftp://ftp.nwb-oen.ca/registry/1%20INDUSTRIAL/1A/1AR%20-%20Remediation/1AR-NAN2030/3%20TECH/B%20GENERAL/2%20ANNUAL%20RPT/2022/>

Following is a summary of the actions and recommendations required by Interveners:

Environment and Climate Change Canada (ECCC)

1. QA/QC samples

Inspection conditions for both the Oceanview Pit and the Oceanview East Rise, the source of the ARD staining is stated to be not known. ECCC is of the opinion that efforts should be made to determine the source of the ARD staining so that appropriate mitigations can be determined.

ECCC recommends that the proponent conduct continued monitoring with an effort to identify the source of the seepage causing the ARD staining in both the Oceanview Pit and Oceanview East Rise, in order to determine adequate mitigation measures.

Proponent response: The seepage observed at the toe of the Oceanview pit cover system was very minimal in 2022 and is not visible in the photo. The caption for Photo 60 should have been amended to note the minor amount of seepage observed during the inspection. As noted in the report there is no concern with this seepage observed at the toe of the cover system and it is expected given the design of the cover.

The ARD staining has been observed for many years. Surface flows have never been observed during the inspections of these areas making determining the source of the ARD staining difficult. The Oceanview area is known for natural deposits of near surface sulphide materials, as evidenced by the shallow nature of the Oceanview open pit. Hence the supposition is that the ARD staining is likely related to periodic surface flows influenced by natural sulphide materials upslope of the observed staining.

Future inspections will continue to review these areas for indications of the source of the ARD staining.

2. Terminology

ECCC requests clarification on the incorrect use of MAAT to describe temperature anomalies for specified months/seasons in Section 4.0 of the Annual Geotechnical Inspection report.

Proponent response: Descriptions related to temperatures of individual months were mislabeled as Mean Annual Air Temperature (MAAT). Specific monthly values should rather be referred to as mean monthly air temperature.

3. Probable Maximum Precipitation (PMP) values

Section 4.0 of the Annual Geotechnical Inspection report states that “*climate data was collected at the Nanisivik Airport by Environment Canada from 1976 to 2010.*” Additionally, this section states that the “*twenty-four-hour Probable Maximum Precipitation (PMP) value was estimated to range from 140 to 210 mm.*” According to the Canadian Climate Normals 1981-2010 Station Data, the extreme daily precipitation for this period was 68.4 mm, consisting entirely of snow. The extreme daily rainfall for this period was 36.0 mm. It is unclear how the PMP values of 140 to 210 mm, depicted in the Annual Geotechnical Inspection report, were determined.

ECCC requests clarification on how the PMP values were derived, and whether the determination is influenced by the phase of the precipitation

Proponent response: The hydrologic design parameters for the Nanisivik Mine site were developed as part of the closure plan development and submitted to the NWB as

part of the approved closure plan in 2004. The parameters were developed using the information available at the time. Their inclusion in the annual geotechnical inspection report is intended to provide a frame of reference for the climate and site observations. Based on a review of the original project documentation, the 24-hour rainfall PMP was estimated to be 140 mm. Additional detail can be found in the original closure plan documentation submitted to the NWB in 2004.

The technical review of the Annual Report, found that the information submitted by the Licensee addresses the requirements of the Licence.

Should you have any questions, please feel free to contact the undersigned at (867) 360-6338 (extension 33) or ali.shaikh@nwb-oen.ca, at your earliest convenience.

Sincerely,



Mohammad Ali Shaikh
Nunavut Water Board,
Technical Advisor

Cc: Distribution List – Nanisivik
Attachments: ECCC