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Public Disclosure Regarding Stekenjokk Tailings Facility

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Dam Safety Accountable Closed Mines

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I. INTRODUCTION

Boliden has committed to apply the Global Industry Standard on Tailings Management (GISTM), adopted by the International Council for Mining and Metals (ICMM) in 2020, setting a precedent for the safe management of tailings facilities, towards the goal of zero harm (the "Standard" or "GISTM").

The Standard contains 77 specific requirements that need to be fulfilled to be in conformance with the Standard. The Standard also requires that adhering members annually issue a status report on their implementation of and conformance with the requirements to support public accountability. In accordance herewith, Boliden as the operator of its tailings facilities is to publish and regularly update information on its commitment to safe tailings facility management, implementation of its tailings governance framework, its organization-wide policies, standards and approaches to the design, construction, monitoring and closure of its tailings facilities

A separate document available via Boliden web, named Public Disclosure Regarding Boliden´s Tailings Management Framework, provides a general description concerning Boliden's tailings and dam safety management for all sites, in which much of the information within requirement 15.1 is met.

This document provides additional information specifically related to the Stekenjokk tailings facility to fully disclose the required information. In addition, the final chapter of this document presents the status of implementation of GISTM for the Stekenjokk tailings facility.

1. Description of the tailings facility

The Stekenjokk tailings facility is located in the southwestern part of Västerbotten County within Vilhelmina municipality. The nearest permanent settlements are in Klimpfjäll located about 22 km southeast of the site and the village of Leipikvattnet, about 25 km southwest of the site. The nearest major towns are Vilhelmina and Gäddede, which are about 130 km southeast and 90 km south of the site.

The coordinates (latitude, longitude) of the site are 65°6'8.6"N 14°26'44.3"E.

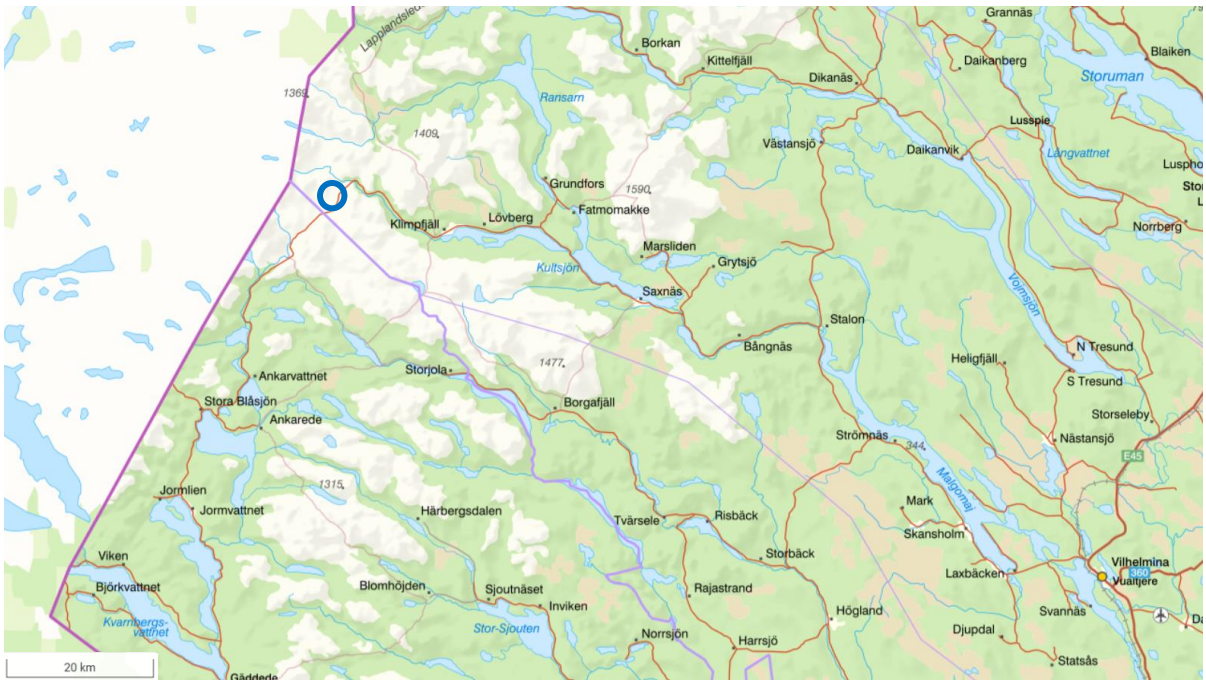

Figure 1 Geographic location of the Stekenjokk mine site shown with a blue circle (© Lantmäteriet)

The tailings managed in the tailings facility originated from the sulphide ore mine in Stekenjokk where primarily copper and zinc were extracted during 1976-1988. This results in the tailings containing sulfur that if allowed to oxidize dispures sulfuric acid and metal leach.

The tailings facility covers an area of 1,2 km^2 and consists of the deposited tailings (4,4 Mton) impounded by the dams S1-S4 and the higher terrain to the west, and covered with a water cover (4,5 Mm^3) to minimize weathering of the tailings and waste rock. The surplus of water from the runoff area to the west is passively discharged via two spillways located in the Dam S3. During operation the tailings were deposited as a slurry via spigotting, mostly deposited from the crest of the southern Dams S1 and S2. The dams are in part constructed by using waste rock and along the dams S3 and S4 significant volumes of waste rock has been placed on the upstream side. Downstream Dams S1 and S2, on the south side, an impoundment of water used during operations to supply the concentrator is located.

An overview of the tailings facility is shown on the cover page of this document and in Figure 2.

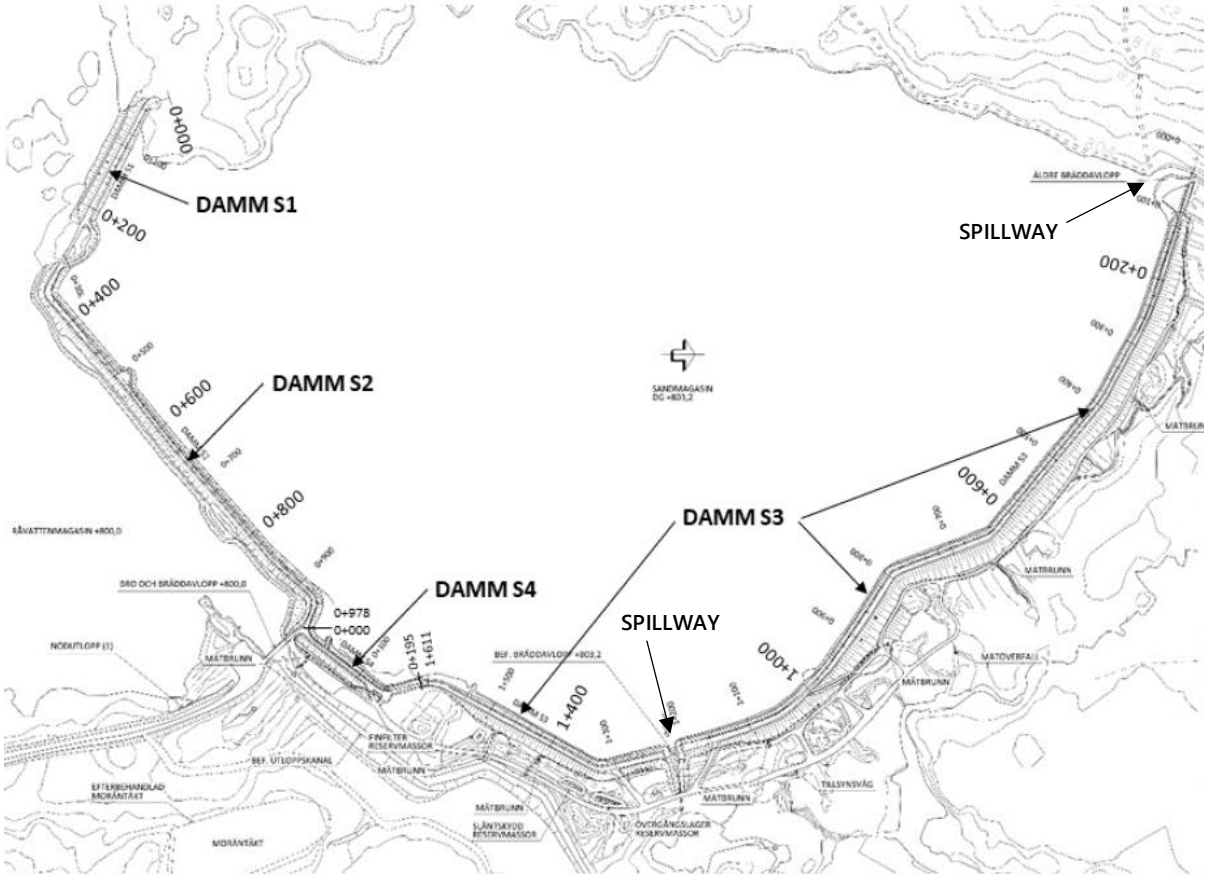

Figure 2 An overview of the Stekenjokk tailings facility.

2. Consequence classification

Boliden has, together with external experts, evaluated potential site-specific consequences in the event of a dam breach. Aligned with the results of this assessment, Boliden has classified the Stekenjokk tailings facility as *´High´* according to GISTM and as dam safety class *´Dammsäkerhetsklass B´* according to Swedish legislation (Miljöbalken).

In Chapter 4, Table 1, the rationale for classification is presented.

3. Risk assessment

The risks related to the Stekenjokk tailings facility have been assessed by a team of multidisciplinary specialists, in a manner consistent with Boliden's risk management instruction. The risks related to a potential dam breach have been evaluated regarding potential consequences related to a range of aspects, including but not limited to health and safety, environment, infrastructure, social aspects and local communities.

The risk assessment has been based on the current understanding of the facility and its surroundings. While some of the identified risks potentially have high consequences if they would occur the likelihood of occurrence are low, rendering that no unacceptable risks were identified. However, the risk assessment identified some uncertainties triggering additional development of the facility characterization aimed to lower the risks further.

Since the work on compiling the knowledge base for the facility is ongoing, the risk assessment will be continuously updated going forward to reflect the increased understanding of the tailings facility.

The identified events which can potentially lead to dam breach, are used as input for the Trigger Action Response Plan and the Emergency Preparedness Response Plan, which are both part of the operational routines for the facility.

4. Impact assessment

Potential impacts in the event of a dam breach have been assessed for the Stekenjokk tailings facility in 2022. The evaluated impacts are summarized in Table 1, based on the criteria provided in GISTM dam failure Consequence Classification Matrix.

The impact assessment is reviewed in the event of any major changes to the facility or local surrounding, or as part of the next Dam Safety Review at the latest.

Table 1 Summary of the Stekenjokk tailings facility impact assessment related to the GISTM dam failure Consequence Classification Matrix

Consequence Criteria	Classification GISTM	Impact assessment
Potential Population at risk	High	10-100 people in the risk of harm
Potential Loss of Life	High	Possible loss of life for 1-10 persons due to risk of drowning from increased water levels at houses close to Saxån
Environment	High	There is a risk for significant loss or deterioration of species and habitats in Saxån, Klimpviken and Kultsjön with surrounding Natura-2000 area. The tailings that would be deposited on land areas can in the long term mean a lowering of the pH in the surface water with increased metal contents as a result. The land area affected by studied dam failure considered to be 10-20 km^2. The recreation of the affected area is estimated to be possible but complicated and take longer than 5 years.
Health, Social and Cultural	Significant	Affects usage of downstream lakes, for example recreation, reindeer areas and fishing
Infrastructure and Economics	Low	Road 1067 might need to be repaired. Business in the field of tourism and fishing along affected waters will suffer economical losses. The economical loss is expected to be less than USD 1 million.

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5. Description of the design of the tailings facility

In Chapter 2 an overview description of the tailings facility is presented. The starter dams were constructed 1974-1976, raised 1977, and remediated 1991 according to acceptable standards at the time. It was later identified that the dam constructions did not meet the required standards related to stability or discharge capacity, and during 2014-2017 the dams were strengthened and spillways widened to reduce the risks by lowering the likelihood of dam breach. Today the spillways can passively discharge the design flood (Swedish guidelines corresponding to annual exceedance probability of 1/10 000) whilst maintaining adequate freeboard and without overtopping the moraine core.

Currently, work is ongoing to evaluate the performance of the remediated tailings facility, and to develop a safe closure design for the tailings facility as well as for the entire mine site.

See Table 2 for a description of the design of the main dams.

Table 2 Description of the design for the dams in the Stekenjokk tailings facility

Dam	Description
Dam S1	Modified centerline construction founded on till, with moraine core placed in downstream zone of the dam. The starter dam was constructed 1974-1976 with 3,5-4 m wide moraine core, dam raised 1977, remediation works 1991, and finally raised and strengthened in 2014-2017. Dam length 225 m, maximum height 10 m, crest width 6,5-10 m.
Dam S2	Modified centerline construction founded on till and in one section across a previous riverbed, with moraine core placed in downstream zone of the dam. The starter dam was constructed 1974-1976 with 3,5-4 m wide moraine core, dam raised 1977, remediation works 1991, and finally raised and strengthened in 2014-2017. Dam length 680 m, maximum height 11 m, crest width 6,5-10,5 m.
Dam S3	Modified centerline construction founded on till and in one section across a previous riverbed, with moraine core placed in downstream zone of the dam. The starter dam was constructed 1974-1976 with 3,5-4 m wide moraine core, dam raised 1977, remediation works 1991, and finally raised and strengthened in 2014-2017. Dam length 1610 m, maximum height 16 m, crest width 7,5-11,5 m. In section 0+040 and 1+200 two spillways are located, with wide thresholds to allow for water to be passively discharged and thereby maintaining a relatively constant water level with the purpose to keep the tailings water covered at all times as per design.
Dam S4	Modified centerline construction founded on till, with moraine core placed in downstream zone of the dam. The starter dam was constructed 1974-1976 with 3,5-4 m wide moraine core, dam raised 1977, remediation works 1991, and finally raised and strengthened in 2014-2017. Dam length 195 m, maximum height 6 m, crest width 7-8 m.

6. Annual Performance Review

In conformance with GISTM and Boliden´s framework for tailings management an annual performance review has been conducted for the Stekenjokk tailings facility.

The following key activities to inform the annual performance review were performed in 2024:

- Further development of Operation, Maintenance and Surveillance (OMS) manual.
- Monthly dam safety rounds, and bi-annual dam safety inspections (spring, autumn), and dam safety performance reporting to authorities, all conducted as planned.
- Monthly environmental monitoring activities, and annual site inspection, and environmental performance reporting to authorities, all conducted as planned.
- Further development of site characterization; seismic hazard, hydrology, geohydrology, geology.
- Further development of the tailings facility characterization; environmental sampling and analysis, geotechnical investigations and analysis, InSar analysis, geochemical analysis of tailings, and development of as-constructed documentation.
- Site organisation aligned with Boliden´s Tailings Management Framework, with documented appointments of key personnel and stablished succession plans.
- Safe closure design process initiated.
- Risk analysis performed and risk register in place (see Chapter 3).
- Emergency Preparedness and Response Plan in place (see Chapter 8).

The assessments of the performance were deemed to be either ´full conformance´ or ´substantial conformance´ in all reviewed aspects, resulting in an overall assessment of the safety of the tailings facility to be satisfactory with some uncertainties that need to be investigated further.

7. Environmental and social monitoring program

An environmental and social impact assessment (ESIA) was carried out in 2025.

To allow for meaningful engagement with identified stakeholders, such as local residents, the Sami community and authorities, a stakeholder engagement plan has been developed.

The environmental performance of the Stekenjokk tailings facility is monitored according to an established environmental monitoring program. The result from the environmental monitoring is submitted in a written report to the supervising authority annually.

The Boliden portal for stakeholder feedback, available online, is used for the site and Boliden uses a specifically developed system to track and save stakeholder communications, including potential grievances.

8. Emergency Preparedness and Response Plan (EPRP)

The Emergency Preparedness and Response Plan (EPRP) is triggered by a failure or a near failure. The triggers of the EPRP are defined in the Trigger Action Response Plan (TARP).

The EPRP is common for all of Boliden's Closed Mines, supported by local appendices specific to each site and it's credible flow failure scenarios. The structure of the dam safety emergency group is similar to the dam safety organization in normal operation. Emergency response simulations are held every year for at least one of the Boliden Closed Mine sites. The EPRP is reviewed yearly after every simulation and updated when necessary.

9. Independent review

A senior technical Independent Reviewer (IR) was appointed to review the Stekenjokk tailings facility during 2024. A replacement of the current IR is underway, and the review process is deemed to continue in 2026.

A Dam Safety Review (DSR) was conducted in 2020 by Golder. The DSR is scheduled every five years as required based on the consequence classification.

10. Reclamation securities & other financial safeguards

The financing of operation and reclamation work costs at Boliden legacy sites is budgeted according to an annually updated work plan. Based on the updated long-term plan for closed mines, annual provisions are made to cover future costs. This long-term plan is reviewed with the responsible controller ahead of each budget process.

11. Implementation of the GISTM

Even though the tailings facility at the Stekenjokk legacy mine site was originally closed according to relevant standards and legislation at the time, it was deemed by Boliden that the remediated facility does not fully meet *´safe closure´* as defined in GISTM. For the Stekenjokk tailings facility this has initiated a comprehensive work to characterize the site and to update the closure design.

A self-assessment of the conformance to GISTM, based on the guidance in the ICMM Conformance Protocols, has been conducted. The results show that Stekenjokk are in partial conformance with the Standard. While significant progress has been made towards conformance, there are still several actions that need to be taken for the tailings facility to be in full conformance with all requirements. These actions have been summarized in a corrective action plan that has been submitted and approved by the Dam Safety Accountable, with the expectation to meet all GISTM requirements during 2026.