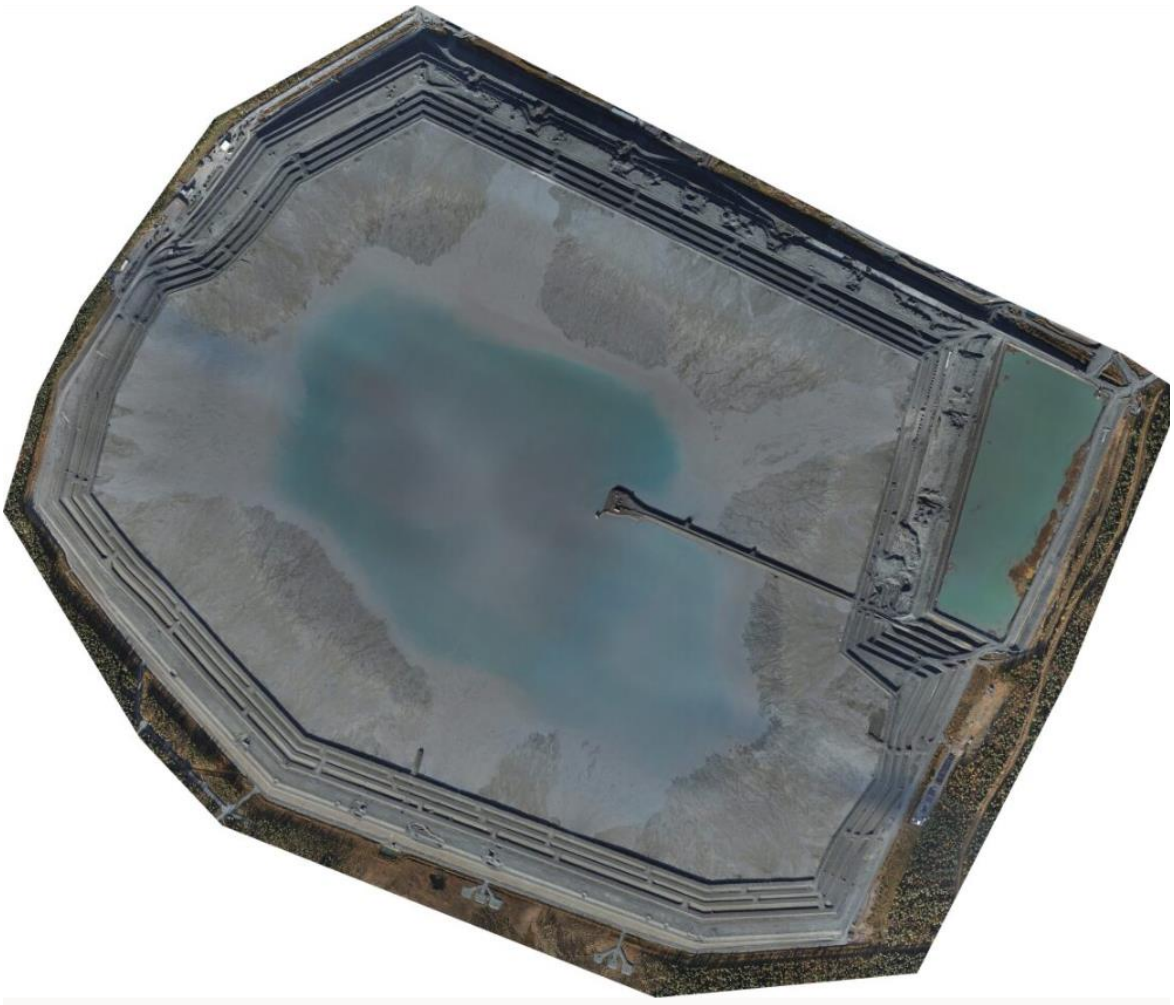
BOLIDEN

Public Disclosure Regarding Kevitsa Tailings Facility



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Approved by:
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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 Kevitsa tailings facility to fully provide the required information.

In addition, Chapter 11 of this document presents the status of implementation of GISTM for the Boliden Kevitsa tailings facility.

1 Description of the Tailings Facilities

The Kevitsa Mine is located near Sodankylä, 170 km north of Rovaniemi in Finland's Lapland's region, see Figure 1. The minerals extracted are Copper, Nickel, Gold, Cobalt and Platinum Group Metals. Kevitsa mine operations were started initially by First Quantum Minerals in 2012 but were acquired by Boliden on 1 July 2016.

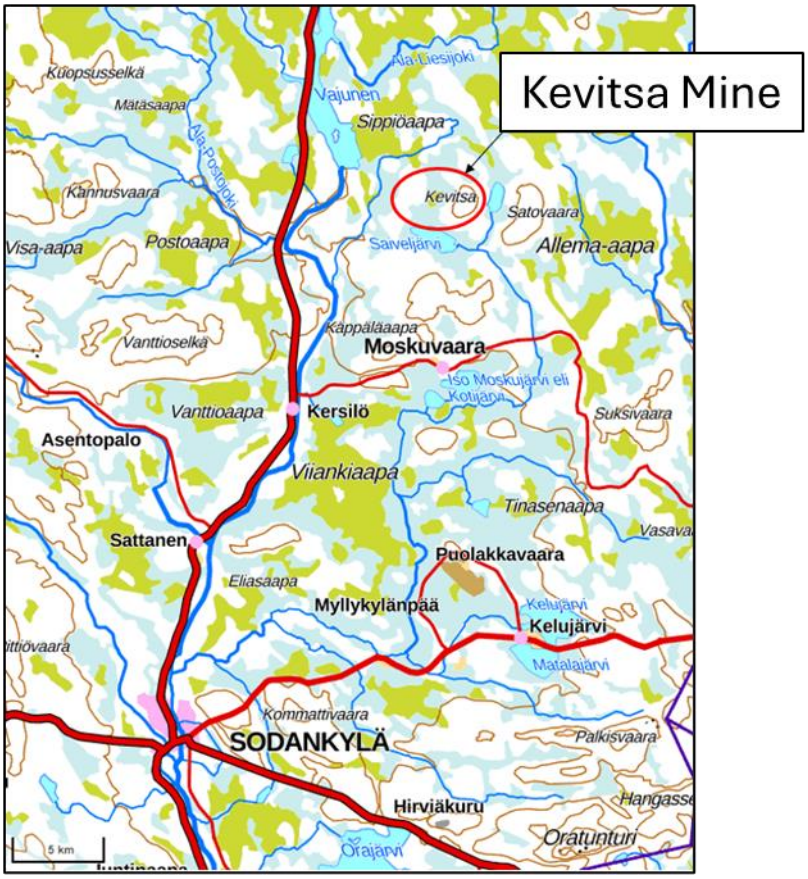

Figure 1 Geographic location (Source: Paikkatietoikkuna)

Ore is extracted from an open-pit mine and processed to produce metal concentrates (primarily nickel and copper with other by-products). Two streams of tailings are produced as a by-product of the process:

- Non-acid producing flotation tailings, corresponding to approximately 99% of the total mass; and
- Sulphide flotation concentrate, also known as the high sulphur tailings, corresponding to approximately 1% of the total mass.

The waste rock from the open pit is taken to the waste rock dump in the northern part of the mine area. A portion of the useable waste (Usable waste defined as having a Sulphur content below the specified threshold) is used for the construction of the dam embankments and for crushed rock.

The tailings generated from the mining process are being deposited in a full-perimeter (paddock-style impoundment) tailings facility (also called a Tailings Storage Facility, TSF) extending over an area of approximately 3.1 km^2.

The two tailings streams are deposited in two separate facilities, TSF A and TSF B, located adjacent to each other. The return water from these facilities is managed within the Process Water Reservoir, located to the north of the tailings facility, and which also receives the runoff from the waste rock area and open pit.

Figure 2 shows the location of the main structures within the mining area while Table 1 provides a summary of the tailings and water management structures. See Section 4 for a more detailed description.

The current TSF A design does not have sufficient storge capacity for the Life of Mine Plan (LoMP). A permit application has been submitted to switch the TSF A upstream raise construction to a modified centreline design. Modified centreline Construction to an elevation of +280 masl will provide capacity for the LoMP to 2034.

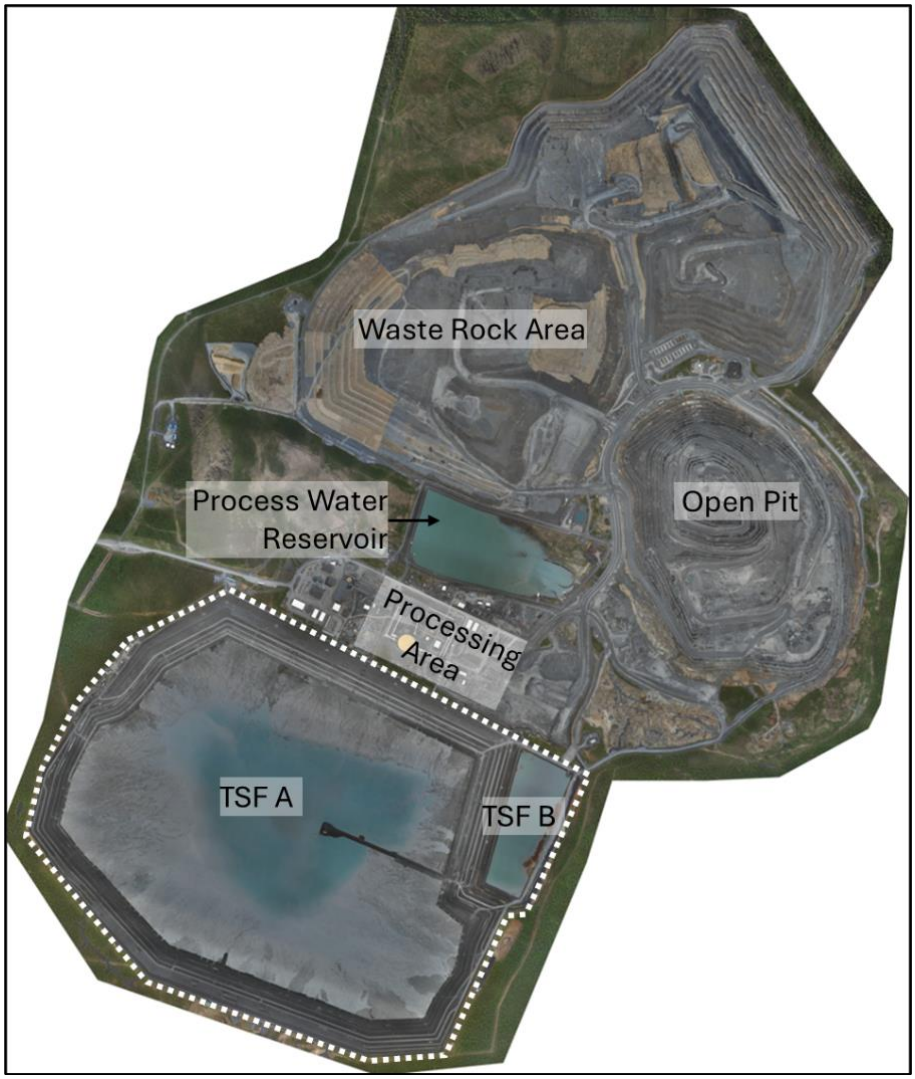

Figure 2 Aerial photo (2024) of the Kevitsa mine – The tailings facility area located within the dotted line

Table 1 Description of main Structures of the Kevitsa tailings facility

Structure	Description
TSF A	Stores the flotation tailings within a footprint of 2.8 km^2. It is currently an upstream raised facility with a permitted final fill elevation of +270 masl, resulting in a maximum height of 50 m along the northern dam and 42 m on the southern dam. The total final tailings storage capacity will be 150 million tonnes. The basin of TSF A has a lining of either a layer of peat (natural or placed) or a geosynthetic Clay Liner (GCL). The permit application to switch to a centerline raise has been submitted and is awaiting approval.

	The tailings are deposited sub-aerially as a slurry through spigots located along the upstream crest.
TSF B	Stores the sulphide flotation tailings in the northeast corner east of TSF A, and with a footprint of 0,17 km^2. It is a rockfill embankment impoundment dam and is fully composite lined with a bituminous geomembrane and geosynthetic clay liner. The current crest elevation is +241 masl. Scheduling for the raising of the facility to crest elevation +247 masl is being assessed. The total estimated storage capacity will be 1.6 million tonnes. The tailings are deposited sub-aqueously as a slurry from spigots along the crest. The tailings are kept submerged to prevent oxidation.

2 Consequence Classification

The results of consequence classifications according to Finnish Dam Safety Guidelines and according to GITSM for the Kevitsa tailings facility (TSF A and B) is summarized in Table 2. A description of what constitutes a Finnish Class 1 and 2 Dam is detailed in the Finnish Dam Safety Guide.

The consequence classification was interpreted with input from dam breach analyses and deposited material characteristics. See Section 4 for a summary of the impacts identified from the dam breach analysis.

The dam breach analysis has been updated for the potential change to a modified centerline design. The change to a centerline construction will not change the current classification listed in Table 2.

Table 2 Kevitsa tailings facility consequence classification

Classification System	Facility	Criteria	Comment
Finnish Dam Safety Guidelines	TSF A	Class 1	Loss and injury to human life and significant danger for human health. Greater than minor danger for protected areas, rare species, and important sources of water. Substantial loss of property and infrastructure and damage to multiple buildings.
	TSF B	Class 1	
	Process Water Pond	Class 2	The reservoir does not constitute a danger to human life.
GISTM	TSF A	Extreme	North dam is Extreme classification based on Potential Loss of life.

			South Dam is Very High classification based on environmental habitat impact.
	TSF B	High	Environmental impact of higher sulphur content tailings

3 Risk Assessment

Kevitsa has assessed risks in a manner consistent with Boliden's risk management instruction. A detailed assessment of risks related to the operation and closure of tailings facilities have been undertaken by a team of multidisciplinary specialists in 2024. The risks have been evaluated regarding potential consequences related to a range of aspects, included but not limited to health and safety, environment, infrastructure, social aspects and local communities.

Within Boliden's risk framework, risks are categorized into four levels, based on likelihood of occurrence and consequence of a critical hazard. Based on risk level, risks are managed according to Table 3.

Table 3 Required Actions for Different Risks

Risk	Action
Extreme	Intolerable – Requires immediate actions to reduce the risk
High	Generally unacceptable – Detailed action plan required and mitigation plan during transition
Medium	Acceptable if ALARP – Monitor and manage as appropriate
Low	Acceptable – Monitor and manage as appropriate

Most of the identified risks were interpreted as acceptable with sufficient controls in place to manage these risks. No extreme, intolerable risks were identified. Several high-class risks which are considered generally unacceptable and require an action plan were identified:

- Seepage from the TSF – This risk has been identified previously, and mitigation actions are ongoing which include active groundwater capture wells, as well as ongoing monitoring (refer to Section 7).
- Overtopping of the two Perimeter Collection Ponds – The perimeter collection channel and ponds will be upgraded as part of the change to a centerline construction method. This risk will, therefore, be mitigated.
- Static Liquefaction of the tailings – The change to centerline construction method will incorporate additional buttressing mitigating against this brittle failure mechanism.

The identified events which can potentially lead to instability are used as input for the dam breach analysis (see Section 4), the Trigger Action Response Plan (TARP) and the Emergency Preparedness and Response Plan (see Section 8).

4 Impact Assessment

The impact assessments for the Kevitsa tailings facility are based on dam breach analyses of credible flow failure scenarios for the current final permit condition of the facilities, which are based on the current life of mine plan. The results are used to evaluate the consequence classification (see Section 2) of the dams and to develop the Emergency Preparedness Response Plan, see Section 8.

The impact assessment according to the Global Industry Standard on Tailings Management (GISTM) is shown in Table 4 for TSF A and

Table 5 for TSF B. The assessment is based on an updated dam breach analysis completed in 2022. An updated dam breach analysis for the TSF A centerline design was conducted in 2024, with similar results.

The impact from TSF A is more significant than that of TSF B, based on the greater volume of tailings and water, and due to the proximity to the mine infrastructure.

The 2022 dam breach analysis modelled the TSF A at the final upstream elevation (+270 masl) with the maximum tailings capacity, while the 2024 analysis based on the modified centerline design used an increased elevation of +280 masl. The pond volume selected was the maximum which could be stored in the facility and would be in exceedance of the permitted volume. The pond volume is maintained significantly lower than this. The dam breach assessment, therefore, assessed the ultimate worst-case scenario.

Table 4 TSF A Impact assessment according to the GISTM

Consequence Criteria	Classification	Impact assessment
Potential Population at risk (PAR)	Very High (Between 100 and 1000)	PAR is estimated to be approximately 200 people (incremental loss above baseline flooding).
Potential Loss of Life (LOL)	Extreme (greater than 100)	Estimated to be between 40-140 people at risk in office, plant, and canteen. The people with potential LOL are estimated to present within the inundation area for up to 10 hours a day during the work week and are, therefore, considered permanent. The greater number will be at lunch time on week days when the canteen is full.

Consequence Criteria	Classification	Impact assessment
Environment	High	Impact on habitat and endangered species – significant loss for dichelyma moss Impact on livestock/fauna water supply – some Process water quality – low toxicity ARD or metal leaching potential – low Potential area of impact – 10 to 20 km^2 Restoration potential – greater than 5 years
Health, Social and Cultural	Significant	Disruption of business, services or social dislocation – significant Impact on regional/national heritage, recreation, community or cultural assets – low likelihood for loss Human health effects – low likelihood
Infrastructure and Economics	High	Infrastructure effected - Includes local houses, roads and power lines Economic Loss - Estimated to be high

Table 5 TSF B Impact assessment according to the GISTM

Consequence Criteria	Classification	Impact assessment
Potential Population at risk (PAR)	Significant (Between 1 to 10)	Potentially 1 to 10 people downstream with the crusher area and pit
Potential Loss of Life (LOL)	Significant	Potential for loss of life but number is unspecified, potentially between 0 and 3.
Environment	High	Impact on habitat and endangered species – no significant loss (see text below) Impact on livestock/fauna water supply – none Process water quality – moderately toxic ARD or metal leaching potential – low potential Potential area of impact – less than 10 km^2 Restoration potential – 1 to 5 years

Health, Social and Cultural	Low	Disruption of business, services or social dislocation – minimal Impact on regional/national heritage, community or cultural assets – none Human health effects – none
Infrastructure and Economics	Low	Infrastructure effected - limited Economic Loss – less than 1 Million USD (not related to mine production)

5 Description of the Design of the Tailings Facility

The permitted maximum ore throughput through the Mill at Kevitsa Mine is 10 million tonnes per annum. Tailings is separated into two streams based on Sulphur content:

- Low Sulphur tailings (less than 0.8%), which is reported to TSF A.
- High Sulphur tailings which is reported to TSF B.

The following two sections 5.1 and 5.2 describe the design for these facilities. In section 5.3 the closure design is described for the tailings facility.

5.1 Tailings Storage Facility A

TSF A consists of a starter dam constructed in two stages to a crest elevation of +238 m (Stage 2) along the north and south perimeters, and up to approximately elevation +244 m along the east and west perimeter. The facility was then raised by upstream construction with rockfill embankments on the previously deposited tailings.

The basin of TSF A has a lining of either a layer of peat (natural or placed) or a Geosynthetic Clay Liner (GCL). The thickness of the natural peat layer is greater than 0,5 meters in approximately 66 % of the footprint and consequently meets the design criteria for the thickness of a natural-peat. Where the natural peat layer thickness was less than 0.5 meters, additional peat was placed so that thickness of the layer was greater than 1 meter or a GCL was placed. The GCL was installed on the eastern and western portion of the footprint, at the elevated areas of the Kevitsavaara and Hanhivaara where no natural foundation peat layer was present.

The starter dam is a zoned embankment dam formed of an upstream moraine (till) wedge as the low permeability element and with a downstream rockfill support. Granular filter layers, consisting of filter fabric (geotextile), a 400 mm thick layer of 0-32 mm crushed rockfill material, and a 600 mm thick layer of 0-200 mm crushed rockfill material, separate the till and rockfill. The embankment was constructed on a foundation of natural till, following the removal of the surface topsoil and underlying softer till layers.

Toe drains were installed at the base of the starter dams on the upstream side. The purpose of the toe drains is to lower the phreatic level within the tailings, reduce the seepage pressure against the dam and speed up tailings consolidation. The toe drains are equipped with three pumping wells to remove water.

The upstream raises are constructed of rockfill and filter layers. Every uplift raises TSF A by 3 m. The minimum allowed vertical distance between the tailings beach and the top of the embankment (embankment freeboard) is 1.5 m. The height of each upstream embankment raise is therefore 4.5 to 5.5 m, depending on the foundation tailings level. The first upstream embankment raise to crest elevation +241 m, called stage 3, was completed in 2016. The most recent upstream raise is Stage 8 at an elevation of +256 masl, and was completed in 2024. The final upstream raise is scheduled to be Stage 9 at an elevation of +259 masl under construction in 2025.

Stage 10 will be the first of the centerline raises, and all stages following this will be raised vertically. The design is being called a modified centerline design because the centerline raises (from Stage 10 onwards) will be centered over the Stage 6 upstream raise, and not the starter dam which would be typical of a centerline design. Widening of the original starter dam, through the placement of mine waste rockfill, will be required to buttress the centerline raises.

The current permit application specifies a final elevation of +270 masl, equivalent to the previous permitted upstream raise final elevation. The intent will be to further permit a raise to crest elevation +280 masl, which will provide the life of mine tailings storage capacity.

A Perimeter Collection Channel was built on the downstream side of the dams. The channel transports run-off and captured seepage to the northern and southern seepage collection ponds (TP1 and TP2). Water from TP1 flows by gravity to the Storm Water Pond and then pumped to the Process Water Reservoir. Water from TP2 is currently pumped back into TSF A.

The tailings delivery system consists of an east and west pipeline. The tailings distribution lines from the plant go up to the crest of the TSF approximately halfway along the north Dam, from where it splits into the east and west line. The lines extend along the crest of the TSF and terminate at approximately halfway along the south dam. Each line can accommodate approximately half of the total tailings throughput. Booster stations have been installed along the east dam and west dam which allows the tailings flow to be maintained along the full length of the pipeline. The tailings is deposited as a slurry through a series of spigots at approximately 30 m spacings along the perimeter of the embankment raises.

The water accumulating within TSF A is pumped back to the Process Water Reservoir (or directly to the Mill) by means of submersible pumps installed within two decant towers, or with the floating barge. There are two separate pipelines, one through the mill to the Process Water Reservoir, and the other directly to the Process Water Reservoir. There is no spillway within TSF A, but the facility can store multiple design flood events without overtopping.

The operation of the facility will remain relatively unchanged with the switch to modified centerline raise, with perimeter tailings deposition and collection of supernatant water within a central pond.

5.2 Tailings Storage Facility B

TSF B consists of a perimeter embankment constructed to crest elevation +241,0 m. The eastern boundary is formed by Kevitsavaara (Kevitsa Hill).

The TSF B embankment structure and foundation is generally similar to the TSF A starter embankment. The difference is that TSF B is a fully composite lined facility with a geosynthetic clay liner (GCL) and a bituminous geomembrane (BGM) installed on the upstream slopes and basin of TSF B.

A subsurface drain, or leakage monitoring pipe, was built between TSF B western embankment and the TSF A starter dam. Potential seepage from TSF B can be monitored with this subsurface drain pipe. Sampling can be done from outlet inspection wells, or at the end of a discharge pipe leading to a ditch. The pipe directs the water to the Perimeter Collection Channel on the northern side of TSF A. From there, the water goes to TP1.

The tailings (Sulphide Flotation concentrate) are pumped to TSF B through insulated pipelines. The location of the spigot points is as needed for the tailings to remain submerged. This is to minimize the reaction with oxygen and the resulting oxidation of sulphide minerals.

The re-circulation of the water to the mechanical effluent treatment plant is managed by a pumping station located on a rockfill embankment on the north-eastern corner of TSF B.

An overflow pipe is located at the northwest corner of TSF B at an invert elevation of +239.5 m. The design high water level is set at +239 m.

5.3 Closure Design

The closure plan for the tailings facility have been developed to focus on the protection of ground and surface water as well as to allow for use for reindeer herding and outdoor recreation.

The objectives of the closure TSF landform are to:

- Maintain the geotechnical stability developed by design and operation of the TSF into closure
- Reduce the infiltration of meteoric water and the influx of oxygen to acceptable levels as defined by a site wide impact analysis
- Provide a growth medium for establishment of vegetation and generation of non-impacted surface runoff
- Convey non-impacted surface water from the TSF surface to the adjacent original ground surface.

TSF A will be closed by reshaping the outer slopes to an average grade of 3H:1V (Horizontal: Vertical). The rockfill slopes will be capped to limit infiltration and promote vegetation growth. The tailings basin will be capped with a layer of till and a drainage provided to only allow a seasonal pond on the surface.

The change to a modified centerline design will not significantly impact the closure plan.

TSF B will be reclaimed by reshaping the tailings surface to shed water and will be covered with a geomembrane liner cover system. A till layer will be placed over the geosynthetic liner, with the top layer comprising a mixture of peat or hummus to promote vegetation. The embankment outer slopes will be regarded to a maximum of 3H:1V.

6 Annual Performance Review

6.1 Annual Performance Review for 2024

The following is a summary of the items assessed in the 2024 Annual Performance Review.

- All construction activities were according to the construction documents and documented according to GISTM requirements (Construction Records Report and Construction versus Design Intent Verification).
- The operation, maintenance and surveillance of the tailings facility have generally been within design parameters and permit requirements. Deviations in instrument readings have been acted upon according to the set routines defined in the OMS manual.
- Risk assessment updated and risk register in place. Deviation and change management system were implemented.
- Emergency Response Plan is in place.
- All required internal and external reviews for 2024 were scheduled and conducted as planned.
- The facilities are performing according the design intent based on the monitoring and surveillance undertaken in 2024.
- The design criteria have been updated to include for brittle failure of the tailings. Buttress construction is ongoing.

6.2 Dam Safety Review

A Dam Safety Review was conducted by SRK Consulting (UK) Limited in 2022. The next Dam Safety Review is scheduled for 2027.

A number of recommendations were made which have since been addressed. These include:

- Additional site investigation to further characterize the foundation
- Increased installation of piezometers within the tailings and foundation
- Update of the stability analysis to include brittle failure mechanism
- Ongoing monitoring of potential seepage locations.

7 Environmental and Social Monitoring Program

The environmental performance of TSF A and TSF B is monitored according to the established environmental monitoring program, which was approved by the supervising environmental authority (Lapland ELY-Centre) on 31.12.2021:

- Groundwater monitoring through 31 monitoring pipes and 11 ground water monitoring wells installed around the perimeter of the facility. The water is sampled and tested monthly and quarterly depending on the location.
- Dust Monitoring with 2 dust collection buckets installed to the south of TSF A (TSF A south in 2011 and Lake Saiveljärvi in 2022).
- Surface water monitoring includes a total of 17 monitoring points at Mataraoja, River Kitinen, Lake Saiveljärvi, Lake Satojärvi and River Viivajoki. Water samples are collected monthly.

The groundwater monitoring has shown elevated concentrations of primarily nickel, sulphur and chlorides in the water to the northwest, southwest and southeast of TSF A.

A series of 11 seepage capture wells were installed along the northwest toe of TSF A to capture the seepage water back to the process water circulation. The pumps have been fully operational since March 2022. Based on chloride concentration the pumping has decreased seepage water flow to environment.

An additional of eight seepage capture wells were installed in May 2023 along the southwest toe of TSF A. Five of the wells were partially in use during 2023 and all eight pumps have been fully operational since April 2024.

The surface water monitoring shows no significant changes in water quality at Mataraoja stream. At Lake Saiveljärvi and River Viivajoki (which is downstream from Lake Saiveljärvi) a minor increase in sulfate-, chloride- and alkali metal concentrations has been observed since 2018, yet the concentrations are still low and close to background concentrations.

Dust control measures put in place consisted of rotational spigot to prevent the tailings beach from drying out, and dust binding agents on haul roads.

The results of the environmental monitoring are reported monthly, and an annual summary document prepared by the Environment department is delivered to the supervising authorities (ELY) and the environmental authority of Sodankylä municipality yearly. The geotechnical monitoring report prepared by the Designer of Record is included as part of the environmental submission to ELY.

Routine external stakeholder engagement meetings were conducted. Feedback is provided of any potential changes and future developments at Kevitsa Mine. Measures exist to record and address any 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).

When the EPRP is triggered by a dam safety related incident, the Kevitsa emergency group is activated, and the dam safety emergency group is a technical support to the Kevitsa emergency group. The dam safety emergency group is responsible for proposing and initiating dam safety related measures, but is subordinated the Kevitsa emergency group.

In case of an emergency, the EPRP provides routines for cooperation with local emergency authorities in Sodankylä.

Based on the desk top exercise with the authorities in 2022 and the newly introduced GISTM requirements in 2023, the EPRP was updated in February 2024. A dam failure scenario was played with regulating and emergency authorities. A crisis management training was conducted in February 2025. The emergency response plan, TARP and crisis communication plan were reviewed and used.

9 Independent Review

An Independent Tailings Review Board (ITRB) has been established for Kevitsa, with online meetings and a site inspection scheduled annually. The review undertaken included both TSF A and B.

A Dam Safety Review (DSR) was undertaken in 2022 by SRK Consulting (UK) Limited. The reviews are scheduled every five years as required based on the extreme consequence classification.

Table 6 Meetings and site inspections related to independent reviews (2024 and 2025)

Type	Conducted/planned	Year	By
ITRB	Online meeting (15 January) Online Meeting (5 March) Online Meeting (17 June) site inspection (3 to 5 September)	2024	ITRB
	Online Meeting (planned for July) Site Inspection (planned for September) Online meeting (planned in Q4)	2025	ITRB
DSR	Planned	2027	To be determined

10 Reclamation securities and other financial safeguards

Boliden makes provisions in its accounts for future reclamation costs. Boliden´s current provisions for reclamation works can be found in its Annual and Sustainability Report. In addition, insurance is used to cover sudden and unexpected tailings related incidents.

Mining operations, including tailings management, are subject to court/authority approved environmental permits, including the posting of mandatory reclamation securities, usually in the form of bank guarantees. These securities are intended to make sure that there are sufficient financial resources available to cover estimated costs of planned closure, early closure, reclamation, and post-closure of the tailings facility and its appurtenant structures, even in a situation where the operator is unable to cover these costs.

11 Implementation of the Global Industry Standard on Tailings Management

A self-assessment validation of the conformance to GISTM, based on the guidance in the ICMM Conformance Protocols, was conducted first in June 2023 and again in April 2024 by the site personnel with involvement from the management team, as well as subject matter specialists from Boliden Mines Staff Functions.

The results from the self-assessment validations showed that Kevitsa made advances towards compliance and considered itself in conformance by June 2024.

To validate the results of the self-assessment, Boliden Kevitsa went through an external audit of GISTM conformance status. The external independent auditor (Knight Piesold UK(Ltd) conducted the audit according to the ICMM conformance protocol during November and December 2024 and issued a conformance status report in April 2025 confirming that the Kevitsa TSF is in full conformance with GISTM.