

## **Public Disclosure Regarding Kevitsa Tailings Facility**



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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 full compliance with the Standard. The Standard also requires that adhering members annually issue a status report on their implementation of and compliance 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.

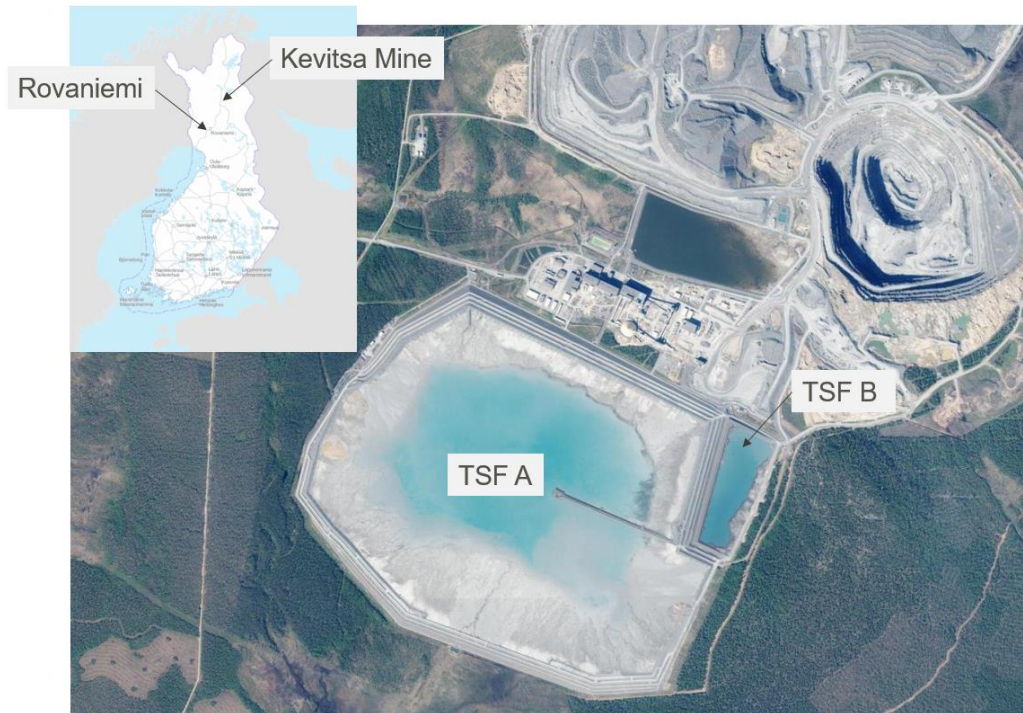
A separate document available via Boliden web, named Public Disclosure Regarding Boliden’s Tailings Management Framework, provides a general description concerning Boliden’s tailings and dam safety management for all sites, in which much of the information within requirement 15.1 is met.

This document provides additional information specifically related to Kevitsa tailings facility to fully provide the required information.

In addition, Section 11 of this document presents the status of implementation of GISTM for Kevitsa.

## 1 DESCRIPTION OF THE TAILINGS FACILITY

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



**Figure 1 Geographic location and aerial photo of the Kevitsa Mine**

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 99% of the total mass; and
- Sulphide flotation concentrate, also known as the high sulphur tailings, corresponding to 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 (Sulphur content less than 0.3%) 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<sup>2</sup>.

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 Pond, 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 5 for a more detailed description.

A prefeasibility study (PFS) has been completed for a new tailings facility (TSF A2) planned to be constructed south of the existing TSF A. The PFS was completed in 2023 and which identified an upstream raised conventional slurry tailings impoundment as the preferred alternative for development of a new TSF A2.

See Section 5.3 for a more detailed description of the current studies.



**Figure 2** Aerial photo (2022) of the Kevitsa mine – The tailings facility area marked with a dotted line

**Table 1 Description of main Structures of the Kevitsa tailings facility**

Structure	Description
<b>TSF A</b>	<p>Stores the flotation tailings within a footprint of 2.8 km<sup>2</sup>. It is an upstream raised facility with a planned 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.</p> <p>The tailings are deposited sub-aerially as a slurry through spigots located along the upstream crest.</p>
<b>TSF B</b>	<p>Stores the sulphide flotation tailings in the northeast corner east of TSF A, and with a footprint of 0,17 km<sup>2</sup>. 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 +250 masl. No additional raising is considered to be required based on the current life of mine estimate. The total estimated storage capacity will be 1.76 million tonnes.</p> <p>The tailings are deposited sub-aqueously as a slurry from spigots along the crest. The tailings are kept submerged to prevent oxidation.</p>

## 2 CONSEQUENCE CLASSIFICATION

The results of consequence classifications according to Finnish Dam Safety Guidelines and according to GISTM 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.

A preliminary GISTM consequence classification of Very High has been assigned to the proposed TSF A2 facility. No specific dam breach or runoff analysis was completed but will be undertaken as part of future design phases.

**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.
	TSF B	Class 1	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.
	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. Assessment of risks related to the operation and closure of tailings facilities have been undertaken by a team of multidisciplinary specialists. 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.

The majority of the identified risks were interpreted as acceptable with sufficient controls in place to manage these risks. No high, intolerable risks were identified. A number of medium class risks which were considered generally acceptable but that need to be managed or mitigated were identified. These are being acted upon.

**Table 3** provides a list of these medium class risks along with the status of associated mitigation measures.

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).

**Table 3 Medium Class risks and associated mitigation plans**

<b>Facility</b>	<b>Identified risk</b>	<b>Mitigation</b>
<b>TSF A</b>	Tailings liquefaction resulting in slope instability	Ongoing tailings characterization as part of current and future design raises to confirm tailings properties.  Ongoing buttress construction defined by the stability analysis, and with input from the tailings characterization.  Geotechnical surveillance and monitoring, with the use of automated systems.
<b>TSF A</b>	Slope instability following major seismic event	Site specific probabilistic seismic hazard assessment underway to better define the potential risk.  Evaluation of design change based on the outcome of the seismic hazard assessment and tailings characterization.
<b>TSF A</b>	Unanticipated tailings properties or weaker layers impacting stability	Ongoing tailings characterization as part of current and future design raises to confirm tailings properties.  Evaluation of the requirement of design changes, assessed as part of each stage raise design, and based on the outcome of the continual characterization.
<b>TSF A</b>	Trapped ice lenses within tailings	Reduce the locations along the embankment perimeter where water is returned to the facility, particularly during winter where this has the potential to freeze.
<b>TSF A and TSF B</b>	Unidentified weak layers in the soil and bedrock foundations	Investigations of the foundation have been undertaken to understand the behavior and provide input into the design.  Geotechnical surveillance and monitoring, with the use of automated systems which can provide alarms if trigger levels are exceeded.
<b>TSF A</b>	Seepage through basal liner impacting ground and surface water	Monitoring of environmental boreholes to understand the extent and severity of potential seepage.  Establishment of ground water interception wells to capture seepage water.
<b>TSF B</b>	Seepage through lining system impacting ground and surface water	Repair of the lining system within TSF B. The majority of the repair has been completed but with final repairs scheduled for summer 2023.
<b>TSF A and TSF B</b>	Contamination from embankment rockfill impacting ground water	Geochemical characterization of rockfill to determine the potential for groundwater contamination.  Capping of the rockfill embankment to be scheduled as part of progressive closure if analysis has identified for this to be required.

A risk assessment was also undertaken for the proposed new TSF A2, for the preferred option (conventional slurry upstream raise facility). The purpose of the risk assessment was to identify potential design and operational risks associated with the project, as well as the likelihood and severity of various operational,



environmental and social risks. The key risks were identified to be seepage into the environment, construction over peat within the TSF basin, stability of the facility (static liquefaction and phreatic level control), and shortage of rockfill for construction.

## **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 Chapter 2) of the dams and to develop the Emergency Preparedness Response Plan, see Chapter 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.

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 hypothetical dam breach analysis undertaken in 2022 modelled TSF A at the final elevation with the maximum tailings capacity. 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. Additional dam breach analysis is scheduled to be undertaken based on water volumes within operational limits to understand the variability.

Failure of TSF A north dam would inundate the mine plant site with the flood wave continuing to flow westward. A part of the flow would enter the Vajunen Reservoir and would attenuate here, without overtopping the Vajukoski Dam. The other part of the flood wave would flow south and eventually join and propagate down the Kitinen River. It would flow past the towns of Petkula, Kersilö, Ollila, and Sodankylä, and attenuate around Tahtelä. The Matarakoski and Kelukoski Dams along the Kitinen river would not be overtopped.

The flooding would affect buildings and infrastructure west of the plant site, and in populated centres around Petkula, Hannunoja, Kersilö, Sattanen, and Sodankylä, and overtop Kevitsantie and Mataraojantie roads.

Failure of TSF B South Dam would flow towards Saiveljärvi lake where it would be significantly attenuated. A part of the flood wave would propagate west

towards the Mataraoja Stream and ultimately join and propagate down the Kitinen River, similar to the TSF A north dam failure.

The flooding would affect buildings and infrastructure on the south shore of Saiveljärvi and in populated areas around Hannunoja, Siurunmaa and Sodankylä, as well as overtop the Saivselantie, Moskuvaarantie and Kuokkasentie roads.

The flooding would also impact the integrity of the natural streams and the water quality in the downstream reservoirs, lakes, and streams. Natural streams would be impacted by a combination of erosion and sedimentations processes. Most tailings would settle in the wetlands, reservoirs, lakes, and flat areas along the flow path.

For the failures propagating to the north (i.e., from the north side of TSF A or TSF B), many tailings solids would be expected to settle in the Vajunen Reservoir and the peatbog areas east of the reservoirs; also along the peatbog and forested floodplains of the Mataraoja Stream. Most solids that make it to the Kitinen River would be expected to settle upstream of the Matarakoski Dam.

For the failure propagating to the south, the majority of the tailings solids would settle in Saiveljärvi Lake and the neighboring marshland.

A dam breach assessment was not undertaken as part of the prefeasibility design for TSF A2 to be able to undertake a full impact assessment. This is planned as part of future design stages. It is, however, considered that that the impact from a dam break would be similar to that of TSF A south Dam.

**Table 4 TSF A Impact assessment according to the GISTM**

<b>Consequence Criteria</b>	<b>Classification</b>	<b>Impact assessment</b>
<b>Potential Population at risk (PAR)</b>	Very High (Between 100 and 1000)	PAR is estimated to be approximately 203 people (incremental loss above baseline flooding).
<b>Potential Loss of Life (LOL)</b>	Extreme (greater than 100)	Estimated to be between 42-140 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.
<b>Environment</b>	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 <sup>2</sup> Restoration potential – greater than 5 years
<b>Health, Social and Cultural</b>	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
<b>Infrastructure and Economics</b>	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
<b>Potential Population at risk (PAR)</b>	Significant (Between 1 to 10)	Potentially 1 to 10 people downstream with the crusher area and pit
<b>Potential Loss of Life (LOL)</b>	Significant	Potential for loss of life but number is unspecified, potentially between 0 and 3.
<b>Environment</b>	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 <sup>2</sup> Restoration potential – 1 to 5 years
<b>Health, Social and Cultural</b>	Low	Disruption of business, services or social dislocation – minimal Impact on regional/national heritage, community or cultural assets – none Human health effects – none
<b>Infrastructure and Economics</b>	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**

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 section 5.1-5.2 describes the design for these facilities, while section 5.3 summarizes the planned design for the new TSF A2, to be located south from the existing tailings facility. Finally, in section 5.4 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 is then raised by upstream construction by constructing 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 dam formed of an upstream moraine (till) wedge forming the low permeability element and 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 vertically. The height of each uplift embankment is therefore 4.5 to 5.5 m, depending on the foundation tailings level. An upstream embankment raise to crest elevation +241 m, called stage 3, was completed in 2016. The most recent upstream raise is Stage 7 and was completed in 2023. The final raise is Stage 13 which will be at elevation +270 masl.

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 pumped back to 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.

## **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.

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 TSF A 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 TAILINGS STORAGE FACILITY A2**

A prefeasibility Study (PFS) was completed in April 2023. Multi-criteria alternatives analysis was used to select the preferred location, embankment construction method and tailings dewatering/deposition technology. A total of seven alternatives were evaluated, and which consisted of two locations, three dewatering methods and three embankment raise configurations. These were compared using environmental, social, economic and technical criteria.

A number of concept studies were undertaken previously which evaluated and eliminated any additional potential sites.

The preferred location was identified to be south of the existing TSF A, with the new facility proposed to be constructed against the southern embankment dam of TSF A.

The preferred tailings deposition and embankment configuration was identified to be conventional slurry deposition with an upstream raised embankment facility, similar to TSF A. The design, construction and operation of the facility will ensure a drained outer shell of tailings with minimal water to be stored within the facility.

The facility will be fully lined to limit seepage into the environment. The peat within the proposed TSF A2 footprint area was identified in the PFS to remain in place but to be preloaded with rockfill.

Future design stages will confirm the chosen embankment configuration, required foundation preparation, preferred basal liner alternative, environmental seepage controls and overall water management.

### **5.4 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 a maximum 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.

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.

The closure design for the proposed TSF A2 was identified in the PFS to be similar to that of TSF A, and will be advanced during future design stages.

## **6 PERFORMANCE REVIEWS**

### **6.1 ANNUAL PERFORMANCE REVIEW FOR 2022**

The following is a summary of the items assessed in the 2022 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.
- Risk assessment updated and risk register in place. Deviation and change management system are being implemented.
- Emergency Response Plan has been updated and tested successfully together with the local authorities.
- All required internal and external reviews for 2022 were scheduled and conducted as planned.



- The facilities are performing according to the design intent based on the monitoring and surveillance undertaken in 2022.
- The design criteria have been updated to include for brittle failure of the tailings.
- TSF B liner repairs have been successfully completed along the South and East Dams. Final repairs are scheduled for 2023.

## **6.2 DAM SAFETY REVIEW**

The following are material findings from the Dam Safety Review conducted by SRK Consulting (UK) Limited in 2022:

- The review agreed with the Kevitsa plan to incorporate the findings of the additional foundation site investigation undertaken in 2021 in the stability analysis for TSF A.
- The review agreed with the Kevitsa plan to update the design based on potential brittle failure of the tailings.
- Continue to monitor development of potential seepage around the perimeter of the tailings facility.
- Consider opportunities to minimize (as much as is practical) and progressively reduce the quantity of water stored on TSF A.

Action plans are in place to address the recommendations of the Dam Safety Review.

## **7 ENVIRONMENTAL AND SOCIAL MONITORING PROGRAMME**

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 35 ground water monitoring wells installed around the perimeter of the facility. The water is sampled and tested monthly at 16 monitoring wells and quarterly at 19 monitoring wells.
- 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 16 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 effectiveness is still being assessed, yet the preliminary results show decreasing or stabilized concentrations in the closest groundwater monitoring wells.

An additional 10 seepage capture wells were installed in May 2023 along the southwest toe of TSF A. The test pumping is scheduled to initiate during the spring 2023 and the seepage capture well system is expected to be fully operational by the end of the summer 2023.

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, placement of a special geotextile in areas of limited deposition, 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.

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**

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), see Section 3.

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.

The EPRP was updated based on the desk top exercise (19.12.2022 at Rovaniemi) with the authorities. A dam failure scenario was played with regulating and emergency authorities. The emergency response plan, TARP and crisis communication plan were reviewed and used.

## 9 INDEPENDENT REVIEWS

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 and the proposed new facility, TSF A2.

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**

Type	Conducted/planned	Year	By
ITRB	Online update meetings (2 and 4 August) Site inspection (29 August to 2 September)	2022	ITRB
ITRB	Online update meeting (2 and 5 April) Online meeting (8 June) Site Inspection (18 to 22 September) Online Update Meeting (November – date TBC)	2023	ITRB
ITRB	Online meetings and site inspection planned	2024	ITRB
DSR	Site Inspection (October)	2022	SRK
DSR	Planned	2027	To be determined

## 10 RECLAMATION SECURITIES AND OTHER FINANCIAL SAFEGUARDS

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 the operator has sufficient financial capacity to cover estimated costs of planned closure, early closure, reclamation, and post-closure of the tailings facility and its appurtenant structures. In addition, insurance is used to cover sudden and unexpected tailings related incidents.

Boliden's current provisions for reclamation works, can be found in its Annual and Sustainability Report.

## **11 IMPLEMENTATION OF THE GLOBAL INDUSTRY STANDARD ON TAILINGS MANAGEMENT**

At Kevitsa an initial self-assessment of the conformance to GISTM, based on the guidance in the ICMM Conformance Protocols, was conducted by the site personnel with involvement from the management team. To validate the self-assessment support was later provided by a panel of subject matter specialists from Boliden Mines Staff Functions.

The results from the self-assessment show that Kevitsa is substantially in conformance with the Standard. For some requirements however, the assessment show there is still actions that need to be taken to fully conform to all GISTM requirements. For these corrective action plans have been developed, and approved by the mine management team, to achieve full conformance by Q2 of 2024.

It is important to note that all activities related to the integrity of the tailings facility, or that may have safety implications have been, and will continue to be given the highest priority and therefore the current conformance status should not be seen as a direct reflection of the safety of the tailings facility.