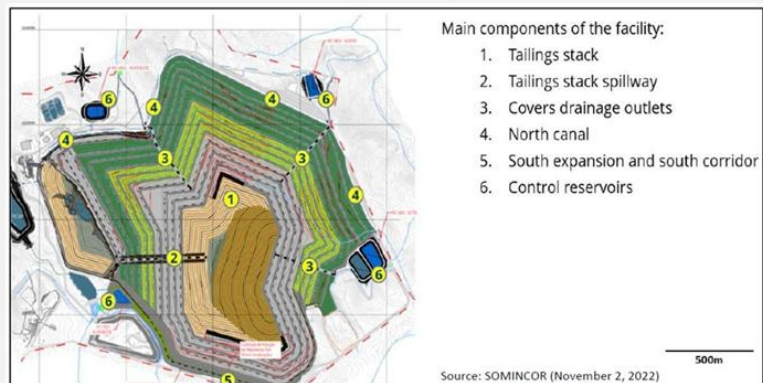


Public Disclosure Regarding SOMINCOR's Tailings Storage Facility

Cerro do Lobo TSF - Jun, 2025



Cerro do Lobo TSF - Final condition



2025-08-01

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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

Boliden acquired SOMINCOR from Lundin Mining on April 16. Integration into Boliden’s systems and practices has been ongoing since then. As a result, there may be some temporary gaps as full alignment with Boliden’s way of working is established.

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 SOMINCOR facility to fully provide the required information. In addition, Chapter 11 of this document presents the status of implementation of GISTM for SOMINCOR.

1. Description of the tailings facility

The Cerro do Lobo Tailings Storage Facility (TSF) is an active facility that is part of the Neves-Corvo Mine operation. The operation is owned and operated by Boliden's Portuguese subsidiary SOMINCOR. The operation has been in continuous production since 1988.

Located in the Alentejo district of southern Portugal, the operation is situated approximately 15 km southeast of the town of Castro Verde and approximately 200 km southeast of Lisbon. The climate of the region is Mediterranean with an average annual temperature of 17°C. The average temperature in July is 30°C while the average temperature in January is 10°C. Temperatures below freezing are rare. Rainfall occurs predominantly from October through April. Average annual rainfall in the last ten years is 380 mm; however, this is highly variable year on year. Most rainfall occurs from October through February with little or no rainfall occurring during the summer months.

The processing facility at Neves-Corvo comprises two plants. The copper plant processes copper ores and has a capacity of approximately 2.8 million tonnes per annum (Mtpa). The zinc plant, which can process zinc or copper ores, has recently undergone a significant expansion to a design nameplate capacity of 2.5 Mtpa. Tailings generated from ore processing are either sent to underground workings and used as paste backfill or are deposited in the Cerro do Lobo TSF located about 3 km southeast of the processing plants.

The tailings facility was originally developed for sub-aqueous slurry tailings storage, with an area of 191.5 hectares or 1.9 km², allowing for a total of 17 Mm³ to be deposited using this method. In 2010, the TSF was converted to a thickened tailings deposition facility with a thickened tailings plant to increase storage capacity, without any future raises of the main and perimeter rockfill embankments. The design included disposal of tailings with run-of-mine waste rock, which is potentially acid generating (PAG), in a co-disposal system. Waste rock is used for peripheral berms and cover construction, where the berms demarcate the deposition areas and levels. The storage capacity of the facility using this method was increased to 33.3 Mm³, based on a vertical expansion of five tiers.

In 2022, SOMINCOR received approval to expand the footprint of the Cerro do Lobo tailings facility to the south area to allow for sufficient additional storage capacity through 2033. Construction of the new embankment for the South Expansion Area started in 2022 and the deposition of thickened tailings in the new area started in April 2024. Additional lifts to the expanded facility will be constructed in accordance with the mine plan. The expanded facility occupies a total area of approximately 210 hectares or 2.1 km². With this expansion, the TSF storage capacity has increased in capacity from 33.3 to 50 Mm³ of extractive waste (tailings and waste rock), keeping the current system of co-disposing thickened tailings and run-of-mine waste rock. The expansion involved a footprint extension (18.5 hectares), already included in the current 210 hectares, to the south, limited by a new south embankment, and a vertical expansion from tier 5 at 266.5 masl to tier 13 at 283.5 masl.

The tailings facility currently includes the Main Dam (Corpo Principal), the south embankment, and seven perimeter/secondary dams (MD, PCP, ME1, ME2A-C, and Monte Branco), resulting in a total embankment length of approximately 5.6 km.

The operation has an efficient water management system which maximizes recycling of water and transfer between the mining and mineral processing operations and the TSF. Process water is mostly

obtained directly from the recirculated overflow of the three paste thickeners preparing the tailings for deposition in the Cerro do Lobo TSF. Excess overflow water and runoff of pore and rainwater from the Cerro do Lobo TSF is stored in the Cerro da Mina fully lined water storage facility. The Cerro da Mina water storage facility, with a capacity of 1.4 Mm³, was built to cope with the reduction of water storage capacity in the TSF, when the operations switched from sub-aqueous disposal of slurry tailings to subaerial deposition of thickened tailings.

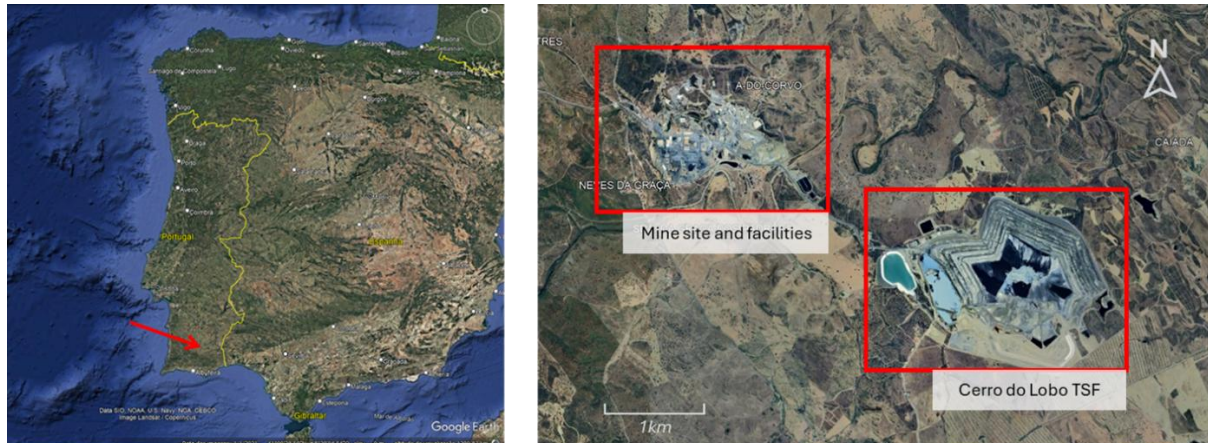


Figure 1. Geographic location of SOMINCOR

2. Consequence classification

The consequence of failure classification for the tailings facility is determined by assessing the downstream conditions and selecting the classification corresponding to the highest Consequence Classification from the following incremental loss categories: potential population at risk, potential loss of life, environment, health, safety, cultural, and infrastructure and economics.

The GISTM Consequence Classification for the Cerro do Lobo TSF was determined and documented after conducting a series of hypothetical breach analyses considering credible failure modes and scenarios. The Consequence Classification of the Cerro do Lobo TSF is **Very High** based on the potential environmental impact according to the system defined within the GISTM.

Table 1 - GISTM Consequence Classification for Cerro do Lobo TSF

Facility	Structure	Potential population at risk	Potential loss of life	Environmental	Health, Social and Cultural	Infrastructure & Economics	Overall GISTM Consequence Classification
IRCL	Main	S	H	VH	S	S	Very High

Note: L: Low, S: Significant, H: High. VH: Very High, E: Extreme

On the latest assessment, risks were categorized into four levels, based on likelihood and impact of occurrence and consequence of a critical hazard. Based on severity level, risks are managed according to Table 2.

Likelihood	Almost certain					
	Likely					
	Possible					
	Unlikely					
	Rare					
	Extremely rare					
Negligible						
	Negligible	Minor	Moderate Incident	Major	Catastrophic	

Severity **Action**

Low Accepted as inherent to day-to-day operations; no additional action required beyond existing risk management practices, controls, and procedures.

Moderate Monitored for changes to risk profile and to ensure any shift towards higher risk severity is identified. No additional action required beyond existing risk management practices, controls, and procedures.

Significant Require the development and implementation of a risk treatment action plan.

High Require the development and implementation of a risk treatment action plan as well as a business continuity plan, where feasible.

Added

The results of the risk assessment indicate the credible failure modes (foundation failure, liquefaction and slope instability, overtopping) for the current TSF configuration, along with their controls and mitigation measures. The risk assessment methodology and results were reviewed by the Independent Tailings Review Board (ITRB) in 2023. Following the FMEA risk assessment workshop, additional risk mitigation measures were identified to achieve ALARP through either reducing likelihood or consequences for people and the environment. These potential measures were further evaluated in 2024. A total of 47 potential failure modes were identified for Cerro do Lobo TSF. Out of the 47 potential failure modes, 26 were classified as credible failure modes, as summarized in the table below.

Table 3 - Failure modes identified in risk evaluation of Cerro do Lobo TSF

8 failure modes in Main Dam	Foundation Failure: 3 failure modes
	Slope Instability: 1 failure mode
	Contaminated Surface Water Release: 1 failure mode
	Contaminated Seepage: 2 failure modes
	Leakage: 1 failure mode
4 failure modes in the Stacking	Overtopping: 1 failure mode
	Slope Instability: 2 failure mode
	Dusting: 1 failure mode
3 failure modes in Saddle Dyke MD	Foundation Failure: 2 failure modes
	Slope Instability: 1 failure mode
4 failure modes in Saddle Dyke ME1	Foundation Failure: 3 failure modes
	Slope Instability: 1 failure mode
5 failure modes in Saddle Dyke ME2	Overtopping: 1 failure mode
	Foundation Failure: 3 failure modes
	Slope Instability: 1 failure mode
2 failure modes in Monte Branco Dam	Overtopping: 1 failure mode
	Foundation Failure: 1 failure mode

It was observed that out of the 26 credible failure modes, 3 of them (ID 1, 20, 22) remained at the ‘Significant’ risk level with current design and operational controls in place.

These failure modes are described below with additional mitigation measures to reach ALARP:

- The failure mode identified as ID 1 concerns the potential release of contaminated surface water from the Cerro do Lobo TSF stack perimeter drainage channel. Specifically, this scenario involves a flood event exceeding the design criteria, resulting in overflow of the North Channel and subsequent release of potentially acid-generating (PAG) contact water into the downstream area. For this failure mode, the following action plans have been established through the implementation of the IRCL south expansion design (to be completed by December 2026), as detailed below:
 - Design for the discharge of the berms (T=10,000 years), of the East contact water control reservoir (T=500 years) and East clean water control reservoir (T=100 years).
 - For floods under T=2,000 years, water is discharged in cell 15. For T=10,000 years flood the overflow is discharged by an emergency spillway on the upstream limit of the channel.
- The failure mode identified by ID 20 concerns the failure of the Cerro do Lobo TSF seepage collection pumping system. Failure of the pumping system leads to water accumulation up to the top of the wells, which initiates leakage of contact water (PAG) and contamination of soil and groundwater in the downstream area. To reduce the severity of the risk, additional surveillance through the installation of telemetry sensors on the water wells has been recommended.
- The failure mode identified by ID 22 refers to an earthquake event that leads to widespread liquefaction of the tailings. It is expected that liquefaction could occur during a 1/200-year earthquake event (type 1 seismic action). This may result in disruptions to operations, including a halt in tailings deposition, impacts on the Cerro do Lobo TSF water management, and the need for reconstruction activities. Several mitigation options have been reviewed by the EOR; however, none

of these seem feasible, including both intrusive and non-intrusive options. Further studies are required to evaluate the mitigation and ALARP measures, including the dynamic response of the tailings stack and deformation analyses (ongoing work).

The following table provides a summary of the ALARP level after the additional mitigations.

Table 4 - Summary of mitigation actions and ALARP assessment.

Facility	Risk ID	Has the ALARP level been reached with current controls in place?	Will the ALARP level be reached after additional mitigation actions?
IRCL	1	No (Significant)	Possibly (Moderate)
	20	No (Significant)	Possibly (Low)
	22	No (Significant)	Possibly (on-going study) – TBD

4. Impact assessment

Hypothetical dam breach analyses and inundation studies have been conducted for the Cerro do Lobo TSF to identify potentially impacted areas and waterbodies in the extremely unlikely event of a tailings breach. Potentially affected areas primarily include agricultural properties and local roads/bridges located along or adjacent to the Oeiras River. No urban areas or rural villages will be directly impacted by a potential dam failure.

Under Portuguese Legislation, the people at risk are quantified by the number of permanent residential buildings downstream affected within the inundation areas, and internal employees potentially affected are not considered. For the potential loss of life category under GISTM, internal employees/contractors with a full-time work function on the facility or downstream are considered. For the Cerro do Lobo TSF, potentially affected internal employees include four people. The criteria for the quantification of the temporary workers are a third of the estimated number that are likely simultaneously in one work shift (one construction foreman, one bulldozer operator, one signaller and three trucks). For the Cerro da Mina water storage area, the number of potential losses of life is classified as unspecified since only occasional monitoring or maintenance work is conducted within the facility or downstream.

Table 5 - Potential dam breach impacted areas

Facility	Breach Location	Properties Affected	Community People Affected	Public Infrastructure Affected
IRCL	Main Dam	1	0	4 ⁽²⁾
	Perimeter Dams	1 ⁽¹⁾	0	1 ⁽³⁾
	South Dam	0	0	0

Note: (1) No residential buildings. Farm facilities or ruin buildings. (2) Municipal roads and one picnic park (3) Municipal road.

The controls and mitigations that have been implemented to reduce the likelihood and consequences of credible tailings facility failure scenarios at the Cerro do Lobo TSF were defined during the risk assessment.

5. Description of the design of the tailings facility

The current crest elevation for all main and perimeter dams is 255 masl with a maximum dam height on the Main Dam (Corpo Principal) of 42 m and a crest width of eight meters. The outer slope is currently 1.8H:1V overall with catchment berms located every ten meters vertically on the downstream faces of the larger dams.

The dams were built in four phases. Phase 1 (completed in 1987) was built as a starter dam to elevation 244 masl using mine waste rock for the upstream and downstream shells, weathered schist as an impervious core and coarse sand as a filter between the core and the downstream rockfill shell and as the blanket underdrain. For the successive three lifts (two four-meter-high lifts and a final three-meter-high lift), the impervious weathered core was replaced with a geomembrane either anchored into the core or attached to a concrete plinth attached to bedrock. All upstream shells have been constructed using mine waste rock, while the downstream shells of Phases 2 and 3 (first and second raise completed in 1990 and 1993, respectively) are mixed non-acid generating quarry rock and mine waste rock. The Phase 4 downstream shell (final raise) was constructed with non-acid generating quarry rock. The final lift of the rockfill embankment in Phase 4 was completed in 2005 to a crest elevation of 255 masl. All lifts below the start of thickened tailings placement have used the downstream method of dam construction.

Since 2010, thickened tailings have been pumped and retained by internal berms (waste rock) 40 m apart and raised two meters, with an overall mean slope of 5%. The berms have a downstream slope of 4H:1V and an upstream slope of 2.5H:1V. The tailings deposition sequence enables a free superficial drainage inside the stack from East to West, towards the stack spillway which conveys the water to Cell 15 and then to the Cerro da Mina water storage facility. Waste rock is used for berm and cover construction. The final cover – a multi-layer low flux cover – with a capillary break, followed by a geotextile, and then a clean rock and topsoil layer will be placed on the top of waste rock cover.

The Cerro da Mina facility serves as a process water storage facility and is located downstream on the western perimeter of the TSF. This facility receives the excess water from the TSF impoundment, by the Cell 15 spillway, connected to the Cerro da Mina main inlet. Cerro da Mina is lined with HDPE geomembrane over a bentonite geotextile composite placed on fine grained rockfill to prevent egress of low pH water. The final crest elevation of the Cerro da Mina facility is 240 m with a maximum dam height of 30 m, crest width of six meters, and 1,270 m long. The downstream slope is 2H:1V and the upstream slope is slightly flatter with one berm located at elevation 228 masl.

6. Annual Performance Review

The most recent independent dam safety review (DSR) for the Cerro do Lobo TSF was carried out by KCB in 2023. The DSR findings concluded that the Cerro do Lobo TSF met dam safety requirements. The next DSR will be completed in 2028.

The last Cerro do Lobo TSF Annual Performance Review (regarding 2024) was carried out by the EoR (with a report issued in 2025). No significant risks were identified based on the site visit inspections and review.

7. Environmental and social monitoring program

SOMINCOR's operations are subject to compliance with the requirements set out in the Título Único Ambiental (Single Environmental Title – TUA). In 2024, the Portuguese Environment Agency (APA) approved the revision process of the TUA, submitted by SOMINCOR in the context of operational changes resulting from the expansion project of the Cerro do Lobo Tailings Storage Facility (TSF), and consequently renewed the associated Environmental License.

Compliance with the obligations arising from the various Environmental Impact Assessment (EIA) procedures is ensured internally by the company. As part of its commitment to transparency and regulatory compliance, SOMINCOR annually submits two key reports to APA: the Monitoring Report, which provides evidence of compliance with mandatory mitigation measures established in the Environmental Impact Declarations (DIAs), and the Annual Environmental Report (RAA), which ensures reporting of all obligations included in the TUA.

Regarding the monitoring of industrial and domestic effluents, the current plan in place foresees analytical control whenever there is a discharge into the natural receiving body — the Oeiras River — with varying frequencies, including continuous, daily, biweekly, and monthly monitoring. This control covers the physicochemical and microbiological parameters of the water, as established in the discharge permits held by SOMINCOR. It is important to highlight that even during periods when no discharge occurs into the receiving body — which corresponds to most of the year — monitoring is maintained, ensuring regular and preventive environmental surveillance of the Oeiras River. It should also be emphasized that SOMINCOR prioritizes and has systems in place that enable operation with zero discharge, depending on the amount of precipitation, through processes of capturing and reusing industrial water within the internal circuit of the mining operation, fully aligned with the principles of circular economy and sustainable use of water resources.

The quality of the water in the Oeiras River is monitored systematically, both during discharge periods and when no discharges occur. The physical-chemical parameters analysed allow for the detection of potential changes associated with mining activity. Additionally, a biological monitoring programme is conducted to assess long-term ecological impacts, with particular attention to the accumulation of heavy metals in resident aquatic species. This programme includes the annual assessment of the aquatic macroinvertebrate community, triennial monitoring of aquatic macrophytes, annual monitoring of fish populations and native bivalves, triennial analysis of animal tissues (birds, fish, and bivalves) as indicators of metal bioaccumulation and ecosystem health, as well as five-yearly monitoring campaigns of hydromorphology and sediments.

The containment and control of seepage at tailings facilities is another priority for SOMINCOR. The Cerro do Lobo Tailings Storage Facility (TSF) and the Cerro da Mina Reservoir are subject to monthly

monitoring of surface water quality. In addition, physical-chemical monitoring campaigns of groundwater are carried out at monthly, quarterly, and annual intervals. This surveillance network includes dozens of drainage capture wells and nearly one hundred piezometers strategically located within the facilities' area of influence, ensuring the early detection of any changes in aquifers or subsurface flows.

Air quality in the vicinity of the mining operation is also under continuous monitoring, carried out at three nearby Villages. The main focus is on measuring concentrations of particulate matter (PM10) and various heavy metals. This program aims to assess the atmospheric impacts of mining activity and ensure the protection of the health of neighboring populations.

Finally, every five years, SOMINCOR conducts soil quality monitoring, targeting the presence of heavy metals and hydrocarbons at several locations around the Neves-Corvo mine and the Cerro do Lobo Tailings Storage Facility (TSF). The goal of this monitoring is to detect potential contamination and ensure the preservation of soil quality and the protection of terrestrial ecosystems.

This comprehensive set of monitoring actions reflects SOMINCOR's ongoing commitment to environmental protection, strict compliance with applicable legislation, and the conduct of a sustainable, responsible, and transparent mining operation.

Regarding the social monitoring program, SOMINCOR uses insights from the Social License to Operate (SLO) Index to identify stakeholders and engage on perceived and actual impacts. The SLO is not a one-time achievement; it can vary over time and therefore needs to be constantly maintained. Since 2018, the Neves-Corvo operation has engaged an independent third-party to measure the SLO Index. There have been no material findings associated with the Cerro do Lobo TSF from the already implemented surveys.

Along with these SLO surveys, the company holds an annual meeting with the surrounding communities: One at the communities within the municipality of Castro Verde and another with the communities that are part of the municipality of Almodôvar.

There is also a channel "Fale conosco | Talk with us" where members of the communities can have a direct conversation with the Comms & CSR Department if they have any questions or concerns.

8. Emergency Preparedness and Response Plan (EPRP)

The Cerro do Lobo TSF and Industrial Water Reservoir of Cerro da Mina Dam Breach Analysis and Emergency Preparedness and Response Plan were updated in 2021. A joint Emergency Preparedness and Response Plan was prepared covering both facilities. The hypothetical dam breach analysis was completed for the TSF south expansion project (13 tiers), considering failure scenarios for the TSF Main Dam, the saddle dam, and the south expansion embankment. Failure through the foundation of the embankment, triggered by a seismic event, was the failure more considered in the analysis. The cascade failure of Cerro da Mina, due to the TSF south embankment dam breach, was also considered. The failure mode considered for Cerro da Mina was overtopping of the embankment caused by the

inflow of the TSF south expansion embankment failure. Outputs from these analyses include inundation maps, flow depth and velocity, self-rescue zone, and downstream consequences. The warning system specified in the Emergency Preparedness and Response Plan is undergoing final engineering with implementation and drills expected to be completed by Q4 2025.

9. Independent review

An Independent Tailings Review Board (ITRB) has been established for SOMINCOR, with online meetings and a site inspection scheduled annually. The last ITRB site visit was completed in November 2024 and the report with recommendations was completed in 2025. The next ITRB site visit and review is scheduled for 2026¹. The last Dam Safety Review (DSR) was carried out in 2023. The next DSR is planned for 2028, as such reviews are scheduled to take place every 5 years.

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

Self-assessment confirmed GISTM conformance, with key requirements validated by an independent external audit following ICMM protocols. Ongoing validation will continue through the year as Boliden Tailings Management System is integrated after acquisition.

¹ ITRB site visit will not take place in 2025 due to SOMINCOR's transition from Lundin Mining to Boliden.