

Mining-metallurgical waste management

Commitment

Our commitment is to have a process for improving safety and reducing the risks involved in handling mining-metallurgical waste by applying current best practices and control technologies available in engineering, operation and governance of tailings storage facilities, heap leaching and water storage facilities, as part of our Comprehensive Tailings Management

System. Through continuous development and management, we intend to review and implement cutting-edge technologies, practices and methods in our facilities, with the goal of causing zero damage to people or the environment.

Our system is based on various guidance documents recognized by the industry available at the time it was created, which are referred to in the following sections. We will be updating this system to incorporate future changes in industry approaches and practices, in order to meet with global expectations for safe mining waste.

Governance

Our governance defines and documents roles, competencies, responsibility and accountability of the governance team responsible for the facility's safety throughout its life cycle. The team is organized into the following groups:

- i. Site management:** Mine managers (dam owners) are the risk owners responsible for operating the facility according to internal rules. The Regional Tailings Manager is the Responsible Tailings Facility Engineer (RTFE) while a qualified engineer of record provides the technical experience to guarantee that the facility is managed safely and according to appropriate governance and best practices. Site management and the tailings operations team work together to guarantee the safe operation and implementation of our system.
- ii. Corporate tailings team:** This is a group of experts who develop and administer corporate governance and controls, including implementation of inspections and external reviews. The Deputy CEO of technical services at Baluarte Minero leads the team, with the support of the Assistant Vice President of Infrastructure, as well as corporate tailings specialists and managers.
- iii. External reviews:** Our governance framework is supported by independent experts, inspectors, reviewers and auditors who confirm that our requirements for best engineering and governance practices are being met. Our independent review process includes an Independent Tailings Review Panel, dam safety inspections by the Engineer of Record and safety reviews of our dams by independent reviewers.
- iv. Group level oversight:** The Executive Tailings Dam Review Committee supervises general governance and operations. This committee, made up of members of senior management, seeks out the advice and assessment of independent experts for a continuous review of operating, governance, inspection, review and audit reports. The chief executive officer is the senior executive in charge of tailings management and the development and implementation of the systems necessary for responsibly managing tailings storage facilities.



Strategy

Our strategy for responsible tailings management is to adopt best engineering practices and management principles from MAC, CDA, ICOLD and ICMM. We apply the following basic principles to achieve a culture of safe tailings management throughout our facilities' lifecycle:

- i. Accountability, responsibility and competency:** The associated responsibilities and competencies are defined to support identification and management of the facility's risks.
- ii. Planning and resourcing:** The financial and human resources needed to ensure continuous management and governance are kept available throughout the life cycle of the resource fund.
- iii. Risk management:** Management of the risks associated with the facilities, including risk identification and an appropriate system for control and verification of performance targets.
- iv. Change management:** The risks associated with possible changes are evaluated, controlled and communicated to avoid inadvertently compromising the safety of the facilities.
- v. Emergency preparedness and response:** Processes for recognizing and responding to imminent failures in the facilities and mitigating the impact of a potentially catastrophic failure.
- vi. Review and assurance:** Internal and external processes for review and assurance so that the facility's risk controls can be comprehensively evaluated and continuously improved.

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Risk management

The standards of design, construction, oversight, maintenance and external review include requirements on protection of human health and the environment, and parameters for closure of the mining operation. Engineering of storage facilities includes the lining, system for interception of downstream drainage, and channels for diverting surface water. We also have environmental oversight programs aligned with our Management and Compliance System.

In 2022, we organized our first risk analysis workshop, dealing with Potential Failure Mode Analysis (PFMA). Our operating and management teams and the Engineer of Record together analyzed possible failure modes in the tailings storage facilities of the Saucito unit. With this structural knowledge, we have been able to define preventive and critical controls which, although still in the process of being implemented, provide greater certainty of the general state of the facilities and enable us to discern the most important and urgent matters.

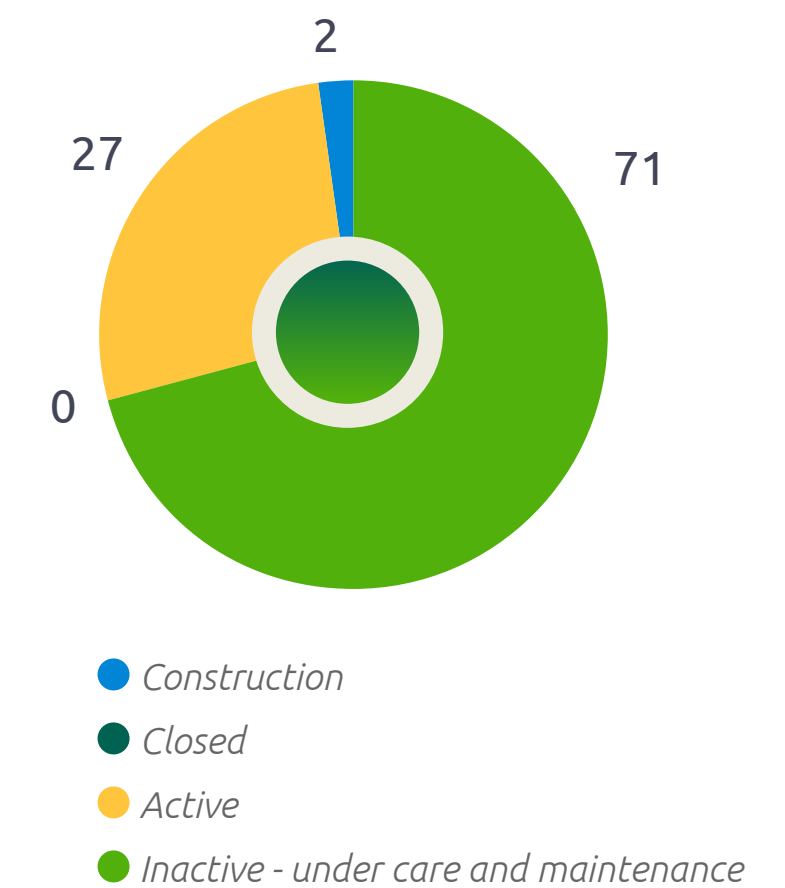
The PFMA risk workshop is aligned with best industry practices and international tailings management standards. With this, we can determine the status of each of our facilities in detail and make informed decisions based on the identified risks. We expect to complete this process this year and then extend it to the other facilities of the group.

Performance and metrics

We completed our inventory of tailings dam facilities in 2022, covering 71% of the group's facilities that are currently inactive—under care and maintenance—and 12 active facilities.

In our tailings storage facilities, record-keeping provides us with a reference for determining the status and useful life of the mines. In 2022, we had an onsite disposal of **19.1** million metric tons of tailings, **2.8** million metric tons of which were reused in mine backfilling processes and to replace material borrowed to upraise tailings storage facilities. The resulting indicator was **15%** of the tailings generation in 2022. Some **122.6** million metric tons of sterile rock were generated, which were used for mine backfilling.

Status of tailings storage facilities (%)

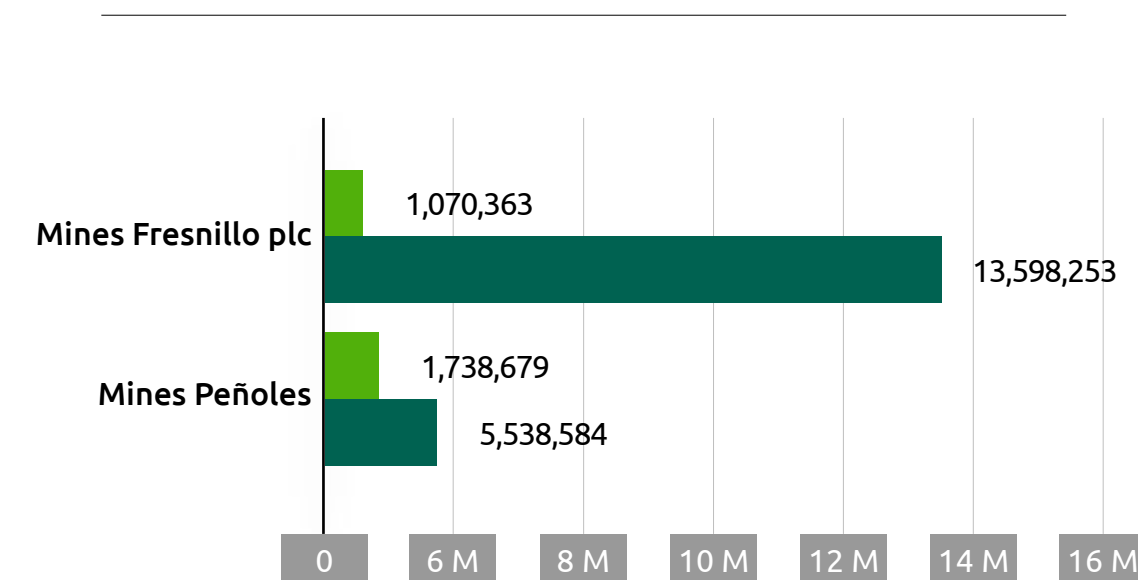


Final on-site disposal of mining and metallurgical waste (t)

	Tailings	Waste rock	Other metallurgical waste*
Mines Peñoles	5,538,584	3,235,922	–
Mines Fresnillo plc	14,160,415	119,424,384	–
Metals	–	–	1,465,733
Industrias Peñoles	19,698,999	122,660,307	1,465,733

* 97% of waste generated is jarosite and grease from furnaces that come from the zinc electrolytic plant and the smelter, which are disposed of on site.

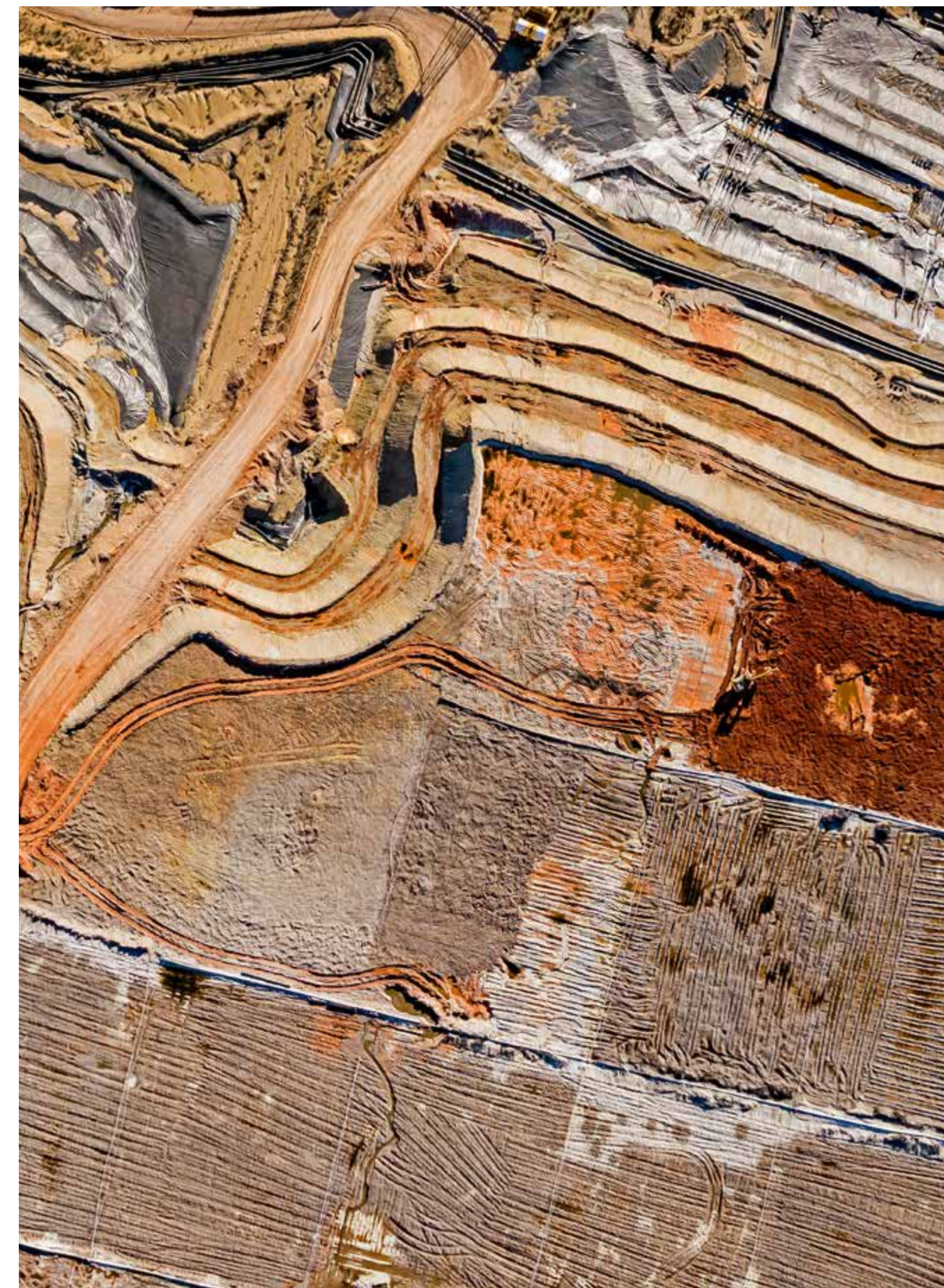
Generation vs. reuse of tailings (t)



Disposal in leaching pads (t)

	2020	2021	2022
Mines Peñoles	694,219	–	894,745
Mines Fresnillo plc	20,570,573	28,641,642	29,345,382
Industrias Peñoles	21,264,792	28,641,642	30,240,127

Our facilities include active leaching pads. In 2022, the Milpillas unit, which belongs to Peñoles, resumed operations. Leaching pad management is a key aspect of its record-keeping, because it provides information on the necessary care, maintenance and closure processes, when processed leachates become mining/metallurgical waste.



Success story – Enhancing our management capacity

More than two years ago, we began the process of improving management of the south dam at Metalúrgica Met-Mex Peñoles. Today, this facility has the appropriate governance and defined roles and responsibilities, as well as increased integration and synergies among the teams responsible for designing, building, operating, maintaining and managing these facilities.



With this robust structure, the south dam now has an operating staff of trained personnel, which is improving the performance of this facility every day. The management team, supported by the future engineer of record, has provided technical support to ensure optimally safe and efficient structures. Geotechnical research has also been conducted to characterize and understand the short- and long-term behavior of the waste deposited at this facility. Today, we have procedures and quality specifications to guarantee safe and stable disposal over the years. All of this with the goal of causing zero damage to people or the environment.