

Tailings Stewardship and Facilities Overview

Our Approach to Tailings Management

Eldorado Gold recognizes the impacts of mine tailings and tailings facilities on the environment, local communities and other stakeholders. The Company has worked to construct and maintain facilities that mitigate risks at each stage of the mine life cycle and incorporates best available technologies and leading international standards in the design, operation and closure of its tailings facilities.

At each of Eldorado’s tailings producing mines (see **Table 1**), tailings are stored and disposed of in specially constructed facilities that are designed to mitigate risks to health, safety and the environment. Our facilities are designed and operated with consideration to local climates, including heavier than usual rainfall, and consistently monitored in order to maintain the stability of tailings materials and dam structures.

In response to recent tailings dam failures and increased stakeholder awareness regarding tailings management, Eldorado has undertaken an internal review of all its tailings facilities.

Table 1: Eldorado’s Tailings Facilities¹

Site	Tailings Type	Facility Construction	Lifecycle
Kışladağ	Heap leach, waste rock stockpile (dry materials)	N/A – heap leach pad	In operation
Efemçukuru	Dry-stack tailings	Downstream	In operation
Kokkinolakkas Tailings Management Facility (Olympias and Stratoni)	Dry-stack tailings	D/S embankment: Downstream U/S embankment: Axial (Centreline)	In operation
Sigma Tailings Storage Facility (Lamaque)	Slurried tailings (alternative methods being considered)	Reinforced rock buttressed upstream	In operation
Skouries	Seeking permitting for dry-stack tailings	Downstream	Design stage
Vila Nova	Slurried tailings	Downstream	In care and maintenance

What are Tailings?

Tailings are a mixture of ground up rock particles and water that is left over after the economic minerals are removed from the ore. Wherever possible, we repurpose tailings materials and waste rock as backfill to stabilize our underground mining operations. Remaining tailings are then placed in a specially-designed tailings storage facility in order to protect the environment, communities and biodiversity in the area.

Tailings are classified based on their moisture content, which can range from wet to almost dry. All tailings begin wet; it is only through additional processing stages, or after many years of natural evaporation in a tailings pond, that they are dried.

Each of our mines produce different types of mine waste based on the processing methods used to extract gold and other valuable metals from surrounding ore. See **Appendix 1** for more details.

¹ A full list of tailings and waste facilities managed by Eldorado can be found in **Table 2** of this document. This document does not include historic tailings ponds located at Certej, as these are not operated by Eldorado.

Tailings Management

In order to mitigate risks to the environment, local communities, workers and other stakeholders, our tailings facilities are designed, operated and monitored in accordance with leading international standards and practices. Our facilities regularly undergo independent reviews by third party experts and government authorities, and are operated and maintained by Eldorado employees and contractors at each site.

Policies and Standards

Eldorado's [Environmental Policy](#) provides management guidelines for all of our tailings facilities. This includes locating, designing, constructing, operating, decommissioning and closing tailings facilities in a way that structures are stable and materials are managed within designated areas.

Our Environmental Policy also states the Company's commitment to international standards and best practices, including "sound engineering practices, Eldorado Gold's standards, the Mining Association of Canada's Towards Sustainable Mining (MAC TSM) Guiding Principles, MAC's Guide to the Management of Tailings Facilities and commitments to our Communities of Interest". In accordance with these policies and standards, Eldorado is committed to conducting annual reviews of tailings facilities and to continually improving health, safety and environmental risk management related to tailings.

Tailings Facility Monitoring

Our tailings facility monitoring programs include collecting and analyzing geotechnical, hydrological and environmental data from across our facilities. Physical inspections by site personnel and equipment such as piezometers and other sensors may be used to collect data. Our monitoring programs assess the stability of tailings materials as well as dam structures and related infrastructure, and allow the safety of tailings facilities to be continually strengthened.

Responsible Engineer of Record

A qualified, licensed and experienced external engineer is assigned to each of our active and inactive tailings facilities.

Assessing and Mitigating Risks

When designing a tailings facility, we consider local conditions such as topography, geography and climate, as well as the facility's location in relation to work sites, local communities and environmentally sensitive areas. We work with governments and other stakeholders to assess risks, and implement practices and technologies best suited to mitigate the risks specifically associated with each facility.

Eldorado's only acquired operational tailings facility, the Sigma Tailings Facility at Lamaque, has been redesigned and improved in accordance with these criteria to mitigate impacts and risks.

Independent Reviews

In accordance with MAC's Guide to the Management of Tailings Facilities, as well as applicable regulations in the jurisdictions where we operate, our tailings facilities regularly undergo independent reviews and third-party inspections by experts and government authorities. These reviews assess the stability and structural integrity of our tailings facilities, and note any improvements that should be made in order to further mitigate risks.

In 2018, all of our tailings facilities underwent third-party reviews. Eldorado's Board of Directors has oversight of these reviews.

Table 2: Eldorado Gold Tailings Facility Review

Mine	Facility	Tailings Deposition Method	Construction Method	Consequence Classification ²	Current Storage Volume & Max Height	Number of Tailings Dam Structures	Engineer of Record	Most Recent Review	Designed Against Extreme Weather	Operational Status
Efemçukuru <i>Izmir Province, Turkey</i>	Efemçukuru Tailings Storage Facility	Dry-Stack	Downstream	Significant	Current volume: 982,296m ³ Max height: 58m	3 rock toe berms	Norwest (Stantec)	2018	Yes	Active
Olympias ³ <i>Halkidiki, Greece</i>	Kokkinolakkas Tailings Management Facility	Dry-Stack	Downstream Embankment: Downstream	Significant	Current volume: 2.6M m ³ Max height: U/S: 40m; D/S: 80m	2 embankments 2 abutments	Omikron Kappa Consulting S.A.	2019	Yes	Active
Stratoni <i>Halkidiki, Greece</i>			Upstream Embankment: Centerline							
Skouries ⁴ <i>Halkidiki, Greece</i>	Skouries Integrated Waste Management Facility	Dry-Stack	Downstream	Significant	Planned capacity: 38.3Mm ³ Max height: 220m	1 embankment	Omikron Kappa Consulting S.A.	N/A	Yes	Inactive; Designed but not yet constructed
Lamaque <i>Quebec, Canada</i>	Sigma Tailings Storage Facility	Slurried	Upstream embankments with reinforced rock buttressing	High	Current volume: 765,000m ³ Max height: 18.5m	4 dykes; 4 internal basins	Wood	2018	Yes	Active
Vila Nova <i>Amapa State, Brazil</i>	Vila Nova Tailings Dam	Slurried	Downstream	Significant	Current volume: 288,500m ³ Max height: 16.4m	1 dam	TEC3	2018	Yes	Inactive; on care and maintenance

² Eldorado used the Canadian Dam Association’s *Consequence Classification Ratings for Dams* to assign a consequence classification to each facility.

³ The Olympias Mine historically disposed of tailings in the Olympias Tailings Facility. Eldorado is currently completing the environmental reclamation of this facility. The facility has no remaining pond or dam structures, and the remaining 1Mt of historic tailings is currently being reprocessed and stored in the Kokkinolakkas TMF.

⁴ Skouries is currently 50% constructed and under care and maintenance. Eldorado has submitted a revised technical study and permitting application to use dry-stack tailings at Skouries.

Appendix 1: Tailings/Waste Types

Eldorado selects the type of tailings production and disposal method to use for each of our operations based on a range of environmental, social and economic criteria. We seek to implement best available technologies and leading practices that mitigate the impacts and risks associated with tailings management. We currently employ the following tailings management methods:

Heap-Leached Ore

At Kışladağ, we crush and stack dry ore in a contained facility. A water-based solution is irrigated through the ore in order to separate gold from the surrounding rock. As all of the water that enters the ore is removed or evaporates, the material remains dry and stable. No tailings are produced using this method.



The Kışladağ Leach Pad, Turkey

Slurried Tailings

Slurried tailings are produced when milled ore is mixed with water and chemical solutions to separate and extract valuable metals. The resulting tailings material is between 80%-90% liquid. Tailings are then transported to a tailings storage facility to mitigate the potential impacts of this material on the environment and surrounding communities. Lamaque and Vila Nova currently have slurried tailings storage facilities.



Rock Buttreassing at the Sigma Tailings Storage Facility, Canada

Dry-Stack Tailings

Dry-stack tailings are produced by passing a slurried tailings mixture through filter presses. These presses remove excess water from tailings. The output is a sand-like material that is then stacked and compressed.

Dry-stack tailings have a number of environmental and safety advantages:

- High density allows the material to occupy less space, reducing the environmental footprint of a tailings facility
- Water removed from tailings can be recycled, reducing water use
- Solidity significantly improves safety and stability during flooding or seismic events



Dry-stack tailings at the Kokkinolakkas Tailings Management Facility, Greece