

# FACT SHEET

## Tailings Storage

### What are Tailings?

- Tailings are the materials left over following the processing of mined ore to separate the valuable minerals from the host rock.
- Tailings are not the same as waste rock. Waste rock is the material that surrounds the orebody and is displaced during mining but is not processed.
- Processing involves the crushing and grinding of the mined ore into fine particles and then mixing with water and other agents to facilitate the extraction of the valuable minerals.
- At Fosterville Gold Mine (FGM), the tailings mixture is dewatered to the extent possible and then either combined with a binding agent to create paste fill used to backfill underground voids or stored in a Tailings Storage Facility (TSF).

### What is a Tailings Storage Facility?

- A TSF is a purposely designed, engineered and managed structure to permanently store mine tailings.
- FGM's TSFs are built and operated to specifications that are tailored to the physical nature of the tailings material and other factors including the local climate, topography, geological setting and seismicity.
- As the tailings is deposited into the TSF the materials settle, consolidate and the remaining water separates from the solid material and is reused back through the processing plant.
- Deposition is alternated between multiple storage facilities to optimise consolidation, water recovery and stability.
- FGM utilises surface and in-pit tailings storage facilities for tailings impoundment.



**Figure 1.** Consolidated tailings on FGM's surface TSF

### TSF Guidelines and Construction

FGM's TSFs are designed, constructed and operated in accordance with the following guidelines and standards:

- Earth Resources Regulation (ERR) Guideline for the Design and Management of Tailings Storage Facilities  
<https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/guidelines-for-design-and-management-of-tailings-storage-facilities>
- Australian National Committee on Large Dams (ANCOLD) – Guidelines on Tailings Dams – Planning, Design, Construction, Operation and Closure – Revision 1 (July 2019)  
<https://www.ancold.org.au/?product=guidelines-on-tailings-dams-planning-design-construction-operation-and-closure-may-2012>

Construction and operation of FGM's TSFs are approved by Earth Resources Regulation.

TSF construction methods adopted at FGM include upstream, centreline and downstream. The TSFs are constructed using a liner in accordance with nominated criteria, as designed by a third-party dam engineer.



**Figure 2.** TSF embankment construction methods

Source: BHP ESG Briefing: Tailings dams (June 2019)

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## TSF Management & Monitoring Programs

FGM's TSF Operating Manual details operating standards, design principles and performance monitoring requirements.

The TSF monitoring program includes, but is not limited to:

- Daily visual inspections.
- Weekly inspections.
- Freeboard monitoring.
- Continuous piezometer monitoring within embankments and automated notification system.
- Deformation monitoring using survey prisms and satellite imagery.
- Routine groundwater and surface water monitoring.
- Annual audits and verification by accredited third party dam engineer, and associated operator training.



**Figure 3.** FGM operators undertaking a routine TSF inspection.

## Emergency Management

- FGM has a TSF Emergency Response Plan, which details the actions to be taken in response to any potential emergency.
- FGM's TSF Emergency Response Plan addresses various risks including earthquakes and major rainfall events.
- FGM routinely engages with local authorities and State Emergency Services, including the CFA, Police, Ambulance, and local council on matters relating to its operations.

## Closure Planning & Rehabilitation

- FGM's regulatory approvals include a site Closure and Rehabilitation Plan.
- Upon closure, the TSF's will be dewatered, capped and revegetated to achieve a stable and self-sustaining landform.



**Figure 5.** Progressive rehabilitation at FGM.

## How do I find out more?

For more information, please visit Fosterville Gold Mine's website [fgmcommunity.com.au](http://fgmcommunity.com.au) or contact the FGM Community Team via:

- Phone: 03 5439 9000
- Email: [FGM.Community@agnicoeagle.com](mailto:FGM.Community@agnicoeagle.com)



**Figure 4.** Aerial image of FGM's TSF1 and TSF4 facilities