

Fosterville Gold Mine is looking to extend our operations beyond the next 10 years through the Sustained Operations Project.

To support the continuation of operations for at least the next 10 years, we are proposing to extend underground mining development within existing mining areas and build the necessary infrastructure to support the Fosterville Gold Mine into the future.

As part of Agnico Eagle’s commitment to transparent and meaningful engagement, we are running a series of awareness articles to answer some common questions about the project.

This week’s question aims to explain how we safely manage mine tailings ...

How does Fosterville Gold Mine store and manage its mine tailings?

FGM has safely managed mine tailings, the material remaining from processing gold bearing ore, since production commenced in 2005. Our Tailings Storage Facilities are designed, constructed and operated in accordance with the required guidelines and standards.

The Sustained Operations Project proposes to build two new surface Tailings Storage Facilities (TSFs) and two new Carbon In Leach (CIL) Tailings Hardstands within the current CIL tailings precinct.

In Australia the construction and management of TSF’s is stringently regulated. Agnico Eagle has a robust governance model around safe and responsible tailings management, with internal standards that meet or exceed regulatory requirements and industry best practices. This includes an Independent Review Board (IRB) and defined roles and responsibilities in relation to tailings management.

Rigorous monitoring programs

Our extensive TSF monitoring program includes: daily visual inspections; weekly inspections, freeboard monitoring; continuous piezometer monitoring of embankments with an automated notification system; deformation monitoring; routine groundwater, surface water and air quality monitoring; and annual audits and verifications by accredited third party dam engineers.

In addition, operating and monitoring programs are also routinely reviewed by regulatory agencies such as Earth Resources Regulation.

TSF rehabilitation once mining ends

FGM’s regulatory approvals include an approved Closure and Rehabilitation Plan, which details how the TSF’s will be dewatered, capped and revegetated to achieve stable and self-sustaining landforms, once mining ceases.

The two different types of tailings at FGM

There are two different types of tailings generated at FGM, which are managed and stored separately:

Flotation and Neutralisation Tails - created during the front end of processing, when the sulphide mineral pyrite is extracted from the raw ore. It is mainly composed of quartz, shale and sandstone with a small amount of sulphide minerals. When deposited into the TSF, the tailings settle and consolidate. The remaining water separates from the solids and is reused in the processing circuit.



Flotation and Neutralisation Tailings Storage Facility.

CIL (Carbon in Leach) tailings - created during the back end of processing, when microscopic gold particles are extracted from the sulphide mineral pyrite using cyanide, which dissolves the gold into solution. In addition to cyanide, CIL tailings are enriched in antimony, arsenic, sulphate and sulphides. Once the CIL tailings are drained and dried, they are dry stacked. The CIL hardstands are lined facilities with all water draining into plastic lined dams for treatment and reuse.



Carbon in Leach Tailings Storage Precinct.

