Mine geology

Each day holes are drilled into the rock face, rock is blasted into small pieces by explosives, ore is loaded and hauled to the surface in boggers.

What role does a mine geologist play in this process?

Development

When the rock is blasted a new rock face is revealed. Mine geologists use photos from advanced data capture technology to:

- Identify any faults or structures in the rock face and track them so they are in the best position to extract the most gold
- Estimate gold grade (gold ore quality) to ensure the development is viable
- Identify what minerals are present, including arsenopyrite, pyrite, gold and stibnite.

Production

The mine geologist estimates the rock grade to determine the success of stoping (extraction of ore) underground.

The production fronts (stopes) are inspected every day to ensure it is economically feasible to retrieve the rock, truck it to the surface, crush it and put it through the mill. For the extraction of underground ore to be economic, the rock must contain greater than 2 grams of gold per tonne of ore.

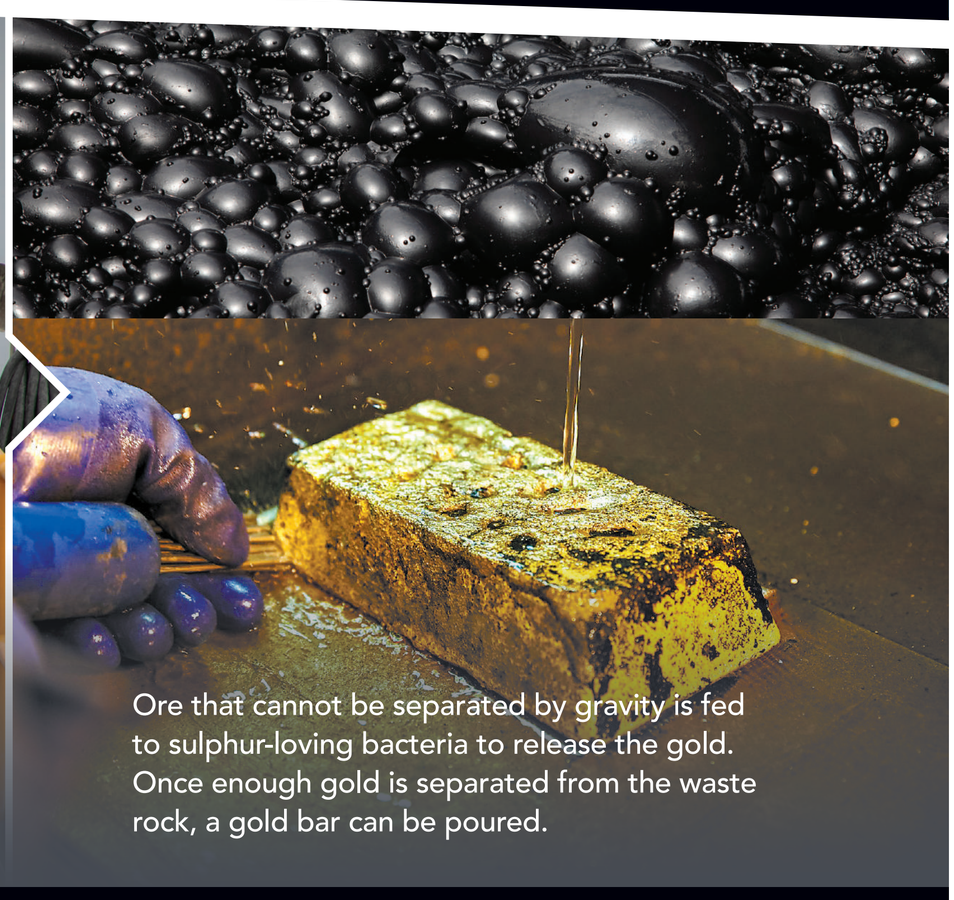
Ore samples are taken and sent for testing so that exact gold grades can be confirmed.

Gold processing

The mine is currently 1.4km deep, it can take trucks one hour to get from the bottom of the mine to the top.

Once the ore is on the surface, it is taken to the mill for processing.

Mine geologists ensure that a blend of different rocks containing an optimum amount of gold are fed into the mill. The ore is then crushed and visible gold is extracted by gravity.



Ore that cannot be separated by gravity is fed to sulphur-loving bacteria to release the gold. Once enough gold is separated from the waste rock, a gold bar can be poured.

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