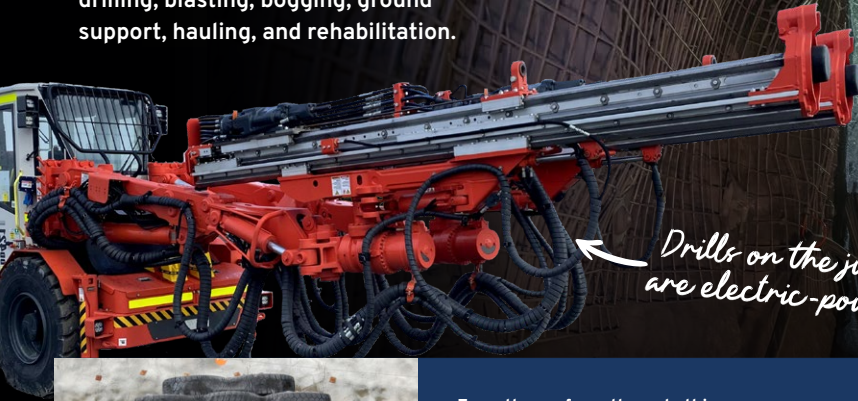


Underground Mining



We use tunnels to reach gold deep underground. The process of mining gold-bearing rock follows a cycle of drilling, blasting, bogging, ground support, hauling, and rehabilitation.



Drills on the jumbos are electric-powered



From the surface, the only thing you can see of an underground mine are the two tunnel entrances. The main tunnel is called a decline and the entrance is called a portal. This is used to access the mine. The second tunnel provides ventilation and a fresh air flow throughout the system. The main decline tunnels are around five metres wide and five and a half metres high, just big enough to fit our underground haul trucks and production equipment.

Did You Know?

Underground mining at Macraes produces a higher grade of ore per tonne of rock mined than our open pit mines. Underground we can locate the gold-bearing ore more accurately without having to mine as much waste rock.

EXTENSIVE GROUND, WALL AND ROOF SUPPORT



The first modern underground mine at Macraes was the Frasers Underground (you might be able to see the Portal entrance from the pit in front of you). In 2021, we opened the Golden Point Underground, located behind the Processing Plant near our Deepdell Viewing Area.

The Process

Underground, tunnels require extensive ground, wall, and roof support to ensure the area is safe to work in. From the main decline, access drives are developed into the gold-bearing ore body. The tunnels into the ore body create a platform. From here the orebody is drilled and blasted, then excavated to create a void called a stope. These stopes can be up to 20 metres in height. The blasted stope material is loaded out using remotely operated, low-profile loaders called boggers. Remote control keeps operators away from potentially high risk areas. The boggers dump blasted rock containing gold onto haul trucks to be brought up to the surface and taken to the Processing Plant.

Since opening in 2008, the Frasers Underground mine has developed more than 80 kilometres of tunnels and reaches as deep as 720 metres below the surface. That's more than twice the height of the Auckland Sky Tower!

