

# Exploration

Exploration involves locating gold resources which can be mined by open pit or underground methods. The exploration process follows a cycle of mapping, sampling, wide-spaced initial followed by closer-spaced infill drilling, assaying, and resource estimation. All of these activities define the gold resource and occur through the mining lifecycle.



## Analysis (Assaying)

A laboratory analyses the rock samples to identify the amount of gold in the samples and estimate the extent and value of the gold resource. If the results are favourable and the gold resource is large enough to support the cost of mining, ore processing, and post mining rehabilitation, after a Resource Consent is received the gold deposit can be mined.

## Did You Know?

The longest Exploration drill hole at Macraes reached 1074.4m and took almost two months to drill. It was started from the surface in April 2012 to target potential extensions to the Frasers Underground and filled 432 core trays.

# MORE THAN 1 MILLION METRES OF EXPLORATION DRILLING

## When deciding to explore an area we consider:

The **geology** of the area, the likelihood of economic gold mineralisation and the potential it has to hold a significant amount of gold bearing ore to justify the cost of open pit and/or underground mining.

The **practicalities and costs** involved to explore and subsequently develop the ore body.

Whether the resource to be extracted from the area can be done so in an **environmentally sustainable and socially responsible** way.

## Exploration Drilling

Drilling rigs are used to drill holes and collect samples of rock, sometimes hundreds of metres below the surface. The diameter and length of the hole depends on the type of drill rig used, the depth and accessibility of the ore body and what is required to achieve best-quality samples. Multiple holes are drilled in an area to identify the extent of the gold resource and gather information used to create 3D models of the geology and the gold resource.

