

Once we are underground it is easier to look for new opportunities. While we are mining we are also conducting an **exploration drill programme**. This will determine whether there are other viable deposits within the CEPA area that could be mined during the 12-year consent period.



4. New opportunities

Once the **development drives** have been constructed mining can begin. This starts at the bottom of the ore body and works upwards. For Correnso that means starting at around 300m deep and finishing at 130m below the surface. You can see this happening in the picture on the right. The ore is removed by **blasting**. A **panel** of ore up to 15m deep is **drilled and blasted**. This is a **production blast**, and it must be no more than 5mm/s for 95% of the time and the average must be no more than 3mm/s. The consent conditions allow three blast events a day from Monday to Saturday between the hours of 7.00-8.00 am, 1.00-2.00 pm and 7.00-8.00 pm. There will be no blasting on Sundays, Public Holidays, or at night. As each layer of ore is removed the void left behind is **backfilled** with **waste rock**. 50 tonne mining machines drive over the backfill as they work upwards, so that by the time all of the ore is removed the **stope** has been filled and the ore replaced with **tight-filled rock**.

1. Understand what's there



Surface **exploratory drilling** has provided information about the Correnso ore body. We now need to improve our understanding of this ore body to mine it more efficiently. To do this we will construct an **Exploration Development Drive**, which will be a long straight tunnel running parallel to the **ore body**. From this drive we can conduct **in-fill drilling**.

2. Develop infrastructure



To get to the **ore body** we create five metre by five metre tunnels. These are called **development drives**. To get deep underground we spiral down next to the ore body to the bottom of where we know the ore to be and then open tunnels into the ore body. These development drives are created through **drilling and blasting**. We drill three metre-long holes into the face of the drive then pack it with explosives and detonate the charge. This is known as **development blasting**. The fragmented rock that is produced by a development blast is **waste**. It is stockpiled either underground or on the surface. It will be used to **backfill stopes** after the ore has been removed.

Development blasts are not allowed to be more than 5mm/s for 95% of the time, although the average must be no more than 2mm/s. The consent conditions allow three blast events a day from Monday to Saturday between the hours of 7.00-8.00 am, 1.00-2.00 pm and 7.00-8.00 pm. There will be no blasting on Sundays, Public Holidays, or at night.

The Underground Mining Cycle at CEPA & Correnso

3. Mine the ore



Words or phrases in **bold** are explained in the Mining 101 Glossary of Terms on our website www.waihigold.co.nz