

## NORMANDY MINING LIMITED

JUNDEE GOLD OPERATION

SUBJECT:

14 - 17 S80N Preliminary Extraction Sequence

A preliminary sequence for the extraction of the 80 lode (from the 14 to the 17 Level) has been completed. The ore zone in this area is approximately 4.0m wide and dips at 35 EW. The main access to all the levels will be via the South Decline due to the sterlisation of the Northern Decline.

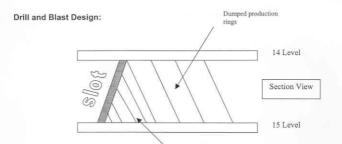
Due to the shallow dip and width of the ore body the following issues have been raised:

- 1. Positioning the ore (in the development face)
- 2. Rilling of the ore
  - Use of scrapers
  - Use of water monitors
  - · Change in Drill and Blast Design
- 3. Safe access for personnel to install scrapers.
- 4. Unable to tight fill stopes.

  Hangingwall void
  Risk of Slump

  Cable Bolts

  STRIPPING



Slot Rings (slasher holes to break in to rise)

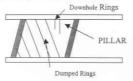
- 1. Hand held rise to be across dip. (back on the ore)
- 2. Dumped Slot Rings Drilled to break through into the rise.
- 3. Dumped Production Rings.
- 4. Fire guickly to get maximum throw towards drawpoint. (extraction level)

## Drill and Blast Practices:

It is vital that efficient drill and blast practises are adapted to minimise ore loss. The above practise is used at Darlot gold mine and may be suitable for the shallow stopes in lower Barton Deeps.

An initial hand held rise is mined oblique to the ore. Then as seen in the diagram, slasher rings are drilled to break through in to the rise. (A large drag) Following this dumped rings are used to throw the ore to the extraction level.

It is vitally important that only a few rings are fired and all attempts are made to recover the ore. This might be a slow process but ensuring a clean footwall will reduce the risk of loosing further amounts of ore.

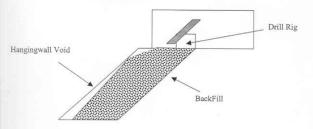


When Pillars are left, down hole scavenger rings were used to retieve the extra ore. The Drill and Blast method above may be slow and tedious but when executed propertly, the recovieries rose (Darlot mine) from 50-60% to 80-90%.

## BackFilling of Stopes:

When mining bottom up, the stopes are required to be filled followed by equipment and personel travelling on this area.

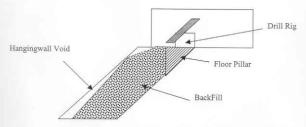
The stopes being flatter than the rill angle of the fill, creates a gap in the hangingwall. (diagram below). This reduces the support of the hangingwall and also creates room for the fill to move.



Risk: The Risk posed here is for the fill to slump and therefore create a subsidence effect.

Attached are the geotechnical calculations to prove that the fill is stable and normal mining operations may proceed.

If the fill is deemed unstable then the following may be used as an option:



The use of the floor pillar will ensure that the rig is always drilling on solid ground.

However it must be accepted that not all sections look like the above.

## The above is only a preliminary concept for the extraction of these stopes.

Please feel free to contact me if you have any further suggestions or any queries.

Regards,

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