



# COLE MINING LTD

## BLASTING DIVISION

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**15/06/2021**

Darryn Shepard  
Woodstock Quarries  
Oxford, Canturbry

**Dear Darryn Shepard:**

As discussed over the phone, you are requiring some data involving post blast fracturing to satisfy the requirements for your ECAN Resource Consent Application.

Post-blast fracturing below the Toe RL is very limited in most circumstances, but can be exacerbated by several factors including:

- Ground water
- Geology ( Rock Type, inclination, homogeneity)
- Blasting ( Product, Subdrill, Relief)

Having inspected the Woodstock quarry and completed several production blasts we know that the negative factors increasing the likelihood of greater penetration of post blast fracturing are minor at the Woodstock Quarry. (Water in the pit is an accumulation of rainwater and not water permeating from an underground source.)

Also as low RBS (relative Bulk Strength ) and decoupled explosive charges are used. This limits the shattering effect of the surrounding rock mass.

It is there for expected that post-blast fracturing below the Toe RL is minimal, with an average penetration depth of 0.2m-1.0m to an extreme penetration depth of up to 2.2m.

If you are requiring any additional information please let me know.

Regards.

Wade

Wade Ashby  
Blast Technician  
Cole Mining Ltd (Blasting Division)