Reference Project

Drill & Blast

Geotechnical - Drill & Blast

Location	Gondola Bluffs East (GBE), Christchurch
Date	April - September 2014
Client	Christchurch City Council
Consultant	AECOM (formerly URS NZ)

The GBE area consisted of 2 – 3 levels of semi-continuous rock outcrops, with varying heights of 5 - 25m, above a 300m-long section of Summit Rd, Christchurch. Recent seismic activity in the area had caused a significant loss of material from the bluffs, with large amounts of rock debris covering Summit Road. The bluffs were left dilated and unstable, needing remedial action to reduce the rockfall risk.

Abseil Access were successful tenderers for the project, which included designing a drill and blast pattern, managing health and safety within a public setting, trapping and relocating lizards, and carrying out the site works.
Criteria included: ensuring the finished face had a similar profile to the surrounding escarpment, zero overbreak and maximum fragmentation size of 1m3.

Using a-frame drill rigs, in excess of 1500m of blast holes were drilled. This technique also permitted safe access close to the bluff edge and a high production penetration rate. We also relocated over 100 geckos and skinks.
In total, 6000m3 of rock was removed, of which 2800m3 remained on the road (to be cleared up by other parties), and the rest formed a talus slope below the road.

Pre-split decoupled charges (low powder factor) were primarily initiated followed by the production hole blast columns (standard powder factor). Due to the varying rock types (basalt, ash, weathered ash, weathered basalt), scaling and secondary blasting was carried out via rope access and hand-held drilling equipment.

Unauthorised access to the worksite was controlled with a large exclusion area and enforced by static security guards, who had radio contact with the Abseil Access site supervisor.

Please click link for the video of the project: https://vimeo.com/105204850