

Reference Project

Rock Blasting

Geotechnical: Rock Blasting

Location Hinetai Rd, Tapawera, Tasman
Date August 2018
Client Tasman District Council/Downer

During a period of wet weather, a slip blocked Hinetai Rd north of Tapawera. The slip left a large overhanging section of rock (approx. 80m³) suspended 20m above the road.

Abseil Access was engaged by Downer on behalf of Tasman District Council to remove the overhanging material from the slope. The blast design, drilling, shot firing, scaling and post-blast inspection was all completed by Abseil Access while Downer provided traffic control and completed the earthworks.

The blast design consisted of a decoupled pre-split line of 18 x 6m deep holes drilled from above the rock feature parallel to the desired profile. A further 18 holes were drilled in a grid pattern throughout the rock feature to break it into easily moveable fragments. All holes were drilled with a blast hole top hammer drill mounted to a lightweight "A" frame.

Initiation of the blast was instantaneous for the pre-split line and a 400ms delay throughout the rest of the feature. This was to ensure the blast energy was directed away from the slope and the desired final profile cut without back-break damage.

A total of 50kgs of high explosives was used to remove and break up the 80m³ slab of Separation Point granite. The powder factor was kept to a modest 0.6 to limit fly rock and have good fragmentation in the 'muckpile'. The entire project, including blasting, was completed within 15 days of the first inquiry. The overhanging rock feature was cut back to the same profile as the surrounding slope successfully and fly rock was minimal and well within exclusion zones.

