

ABSEIL ACCESS LTD

Reference Project

Geotechnical – Rock Fall Protection

Location: Tunnel 2, North Island Main Trunk line, Wellington

Date: January 2011

Client: KiwiRail

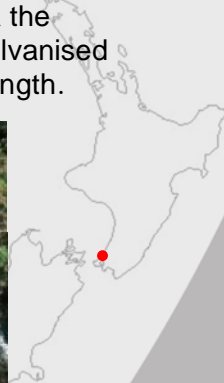
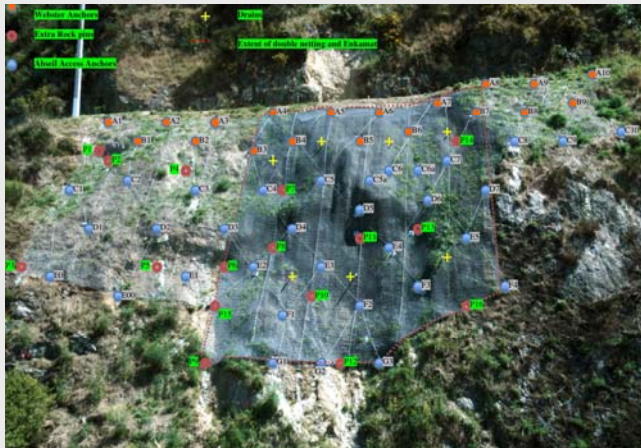
Consultant: Opus International

At the base of the Ngauranga gorge the NIMT line makes a cutting into tunnel 2. An active slip site above the line near the south portal regularly deposited debris on the tracks.

Investigatory drilling revealed a paeleolithic gully formation containing soft debris up to 5m deep. Rain and seepage contributed to the instability. The surrounding greywacke rock is predominantly sandstone, moderately weathered, fractured, dilated and loose. A team of nine completed the majority of the work within a 10-day block of time over the New Year period. Further work was scheduled between travelling trains and weekends.

The project involved removal of vegetation and loose rock, installation of 19 top anchors (up to 10m deep), 38 face anchors (2–3m deep) and seven drains 5m deep. Acceptance testing (70kN) was required on 10 selected anchors. All passed.

The netting is Maccaferri galvanised PVC coated double twist covering an area of 300m². In the gully area the netting was double thickness. Additional 8mm galvanised mid face cables laid diagonally provide extra strength.



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