

## REFERENCE PROJECT

### Geotechnical (Rockfall Protection)

Location: NIMT 453 at Te Kuiti  
Date: April – June 2015  
Client: KiwiRail  
Consultant: AECOM NZ (Wellington Office)

The ignimbrite cuttings along the NIMT line through the King Country are classed as some of the highest rock fall risk for the KiwiRail network.

Abseil Access was awarded the project to stabilise five ignimbrite bluffs adjacent to the rail corridor.

KiwiRail required the works to be completed without delays to the rail network. The plant and machinery used to carry out the installations was setup in order to vacate the rail corridor rapidly, and for trains to pass. A modified hi-rail excavator and a rotary telehandler allowed us to achieve this, including being able to move around the constrictions of the overhead traction system.

Anchor lengths varied between 2.5m and 7m, with a hole diameter of 76mm or 100mm, which reflected the design load (DL) of 67kN and 133kN respectively. Selective anchor proof load testing was carried out, with maximum loads of 100kN and 200kN.

The tendons used in the project were a Glass-Fibre Reinforced Plastic (GRP) type, of 32mm and 38mm diameters. This provided the client with minimal corrosion issues, and also a less hazardous material to handle for Abseil Access personnel.

A high level of communication between Abseil Access and KiwiRail rail control ensured minimal disruption to the rail network, which included the overhead traction being re-electrified.

