



**Project name:** Broken River - Pier 27, Midland Line

**Client:** OnTrack

**Project date:** 2008 - 2009

#### Project description

The Midland line is a 212km section of railway between Rolleston and Greymouth. The line features five major bridges, five viaducts and 17 tunnels. The eastern abutment of the railway viaduct bridge at Broken River consists of heavily jointed greywacke, and required stabilisation.



#### Geotech's role

Geotech were engaged to undertake the rock stabilisation work. All work had to be done from ropes. The remote location and restricted access were two key issues to be planned for when undertaking the project. The steep, rugged geography meant that staff were working from a very exposed position. A specially designed drilling platform was utilized with a specific environmental plan to prevent material entering the river water below. Stabilisation was achieved through the installation of twelve, 12m long Macalloy tensioning bars and Enerpac tensioning system. Quality testing was undertaken at specific hold points, using an independent testing laboratory.

To increase site safety and reduce rock fretting, the face was draped using Maccaferri Steelgrid mesh and grouted rock bolts. This active ground support system provided additional strengthening over and above client requirements.



#### Resources applied

Geotech deployed our Marini drill, which is a specialised drill for operation on up to vertical rockfaces. Our specialised drillers/rope technicians worked on this challenging site.

#### Project value

\$230,000

#### Project reference

Owen Birchall

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