

Greta Train Support Facility, NSW



Douglas Partners deploying our in-house downhole sonars to further investigate the layout of the workings.

Pacific National required a new train facility to maintain and “provision” its coal trains with fuel, water and sand to help increase the capacity of the Hunter Valley coal chain. Douglas Partners provided geotechnical support during the design and construction of the facility which included advice on managing the risks associated with former coal mines that underlie the site.

Pacific National's new coal train maintenance and refuelling facility is situated on a 2.5 km long site that adjoins the Hunter Expressway at Greta in the Hunter Valley. The site, which is not in a proclaimed mine subsidence district, had been mined by a number of collieries during the period from about 1860 (pre-dating the railway) until about 1930. The depth to the mine workings ranged from about 5 m to almost 300 m.

The project included fuelling and provisioning and maintenance buildings for coal haulage locomotives and wagons, together with electricity, data, water and fuel supply and storage facilities.

Douglas Partners was responsible for geotechnical investigation of past mining, assessment of the associated risks and development of strategies for management of the risks of mine subsidence. We provided advice to both Pacific National throughout the feasibility, planning and design stages and to Abigroup during the construction stage.

Douglas Partners' input included

searches and interpretation of historical records and interviews with retired miners / mine surveyors and close liaison with NSW Mine Subsidence Board (MSB) throughout the investigation, design and remediation phases with reports prepared for MSB on completion of the project.

Techniques employed by Douglas Partners to assess mine workings dating from the 1860s included cored bores, downhole CCTV camera and digital sonar, Mapinfo modelling and pillar stability analysis (University of NSW Pillar Design Procedure). We then designed, monitored and verified a mine rectification procedure to backfill shallow workings to prevent pothole subsidence.

Other features of Douglas Partners' role in the project included environmental (mine water, soil contamination), working with heritage consultants (indigenous and industrial), seismic refraction surveys for rock excavatability and railway track assessments to tie-in with Main Northern Line as well as assisting Pacific National with geotechnical input to cost review workshops and contractor selection.



“Douglas Partners hands-on approach was required to provide practical solutions on this geotechnical challenging project.”

*Scott McFarlane
Principal*

CLIENT Pacific National Group

YEAR 2004 - 2012

SCOPE OF WORK

- Geotechnical investigation
- Mine subsidence investigation

