

# Trevis Court

Underground Mine Remediation with Grout Block Construction for a residential development at Blackstone, Queensland.



**140+**

Total Lineal Meters Drilled

**9**

Grout Blocks Constructed

**19 m**

Maximum Drilling Depth

**2**

Days of Production

## PROJECT OVERVIEW

The Trevis Court site at Blackstone, Queensland, sits above a legacy coal mine belt tunnel. Historical subsidence events in the early 1990s and again in 2023 had confirmed the presence of partially collapsed mine workings beneath the site. With residential development proposed and the safety of the surface and future occupants dependent on resolving the subsurface risk, a design and construct mine remediation solution was required to fill and stabilise the abandoned workings ahead of further development activity.

## THE CHALLENGE

The mine tunnel ran beneath the site at depths ranging from approximately 8m to 19m below surface, with collapse heights of up to 6m recorded. Available borehole data indicated the workings were largely collapsed and rubble-filled, with voids and soft broken ground zones present across the zone of interest. The collapsed and variable nature of the ground complicated prediction of grout takes, and the risk of uncontrolled grout travel through interconnected voids required careful management during grouting operations. Works were required to be completed within a compressed programme of two days.



Drilling operations, Blackstone QLD

## SITE GEOLOGY

The subsurface profile at the site comprises fill and clay to approximately 6 to 9m depth, transitioning to sandy clay and soft ground through the zone of mine workings. Collapsed and rubble-filled mine voids were encountered at depths ranging from 7.5m to 19m. Weathered and fresh rock was intersected below the mine floor at most hole locations. Ground surface reduced levels ranged from approximately RL51.6m to RL52.3m.

## PROJECT SNAPSHOT

### CLIENT

DC Construction

### DEVELOPER / OWNER REPRESENTATIVE

Rogan Development Solutions

### LOCATION

Blackstone, Queensland

### OUR SERVICES PROVIDED

Underground Mine Remediation  
Grout Block Construction

### Grout Blocks Constructed

9 no.

### TOTAL DRILLING

145 Lineal Meters

### MAXIMUM CONE DEPTH

19 m

### GROUT AND AGGREGATE VOLUME

52.4 m<sup>3</sup> Grout

### WORKS DATES

25th to 26th September 2025

## Our Solution



### Mine Remediation

DGSA provided a full design and construct mine remediation solution, including geotechnical design in conjunction with the Engineer of Record, Steve Ditton of Ditton Geotechnical Services. Nine grout holes were drilled along the central alignment of the tunnel at approximately 6m centres, covering the full 40m section of mine workings identified as requiring treatment. All holes were drilled using a 114mm casing shoe with water flush, with each hole logged and camera-inspected where conditions permitted.

Collapsed mine working voids were encountered at all hole locations, with void roof depths ranging from 7.5m to 14m and void heights of 2.5m to 6m. Grout was placed by tremie pump through the installed casings directly into the collapsed zone, with casing lifted in stages to achieve full void infill and grout return to surface. A total of 52.4 m3 of grout was installed across the nine holes. Connectivity between adjacent holes was confirmed during grouting operations, with grout water and grout overflow observed at neighbouring casings during active pours, providing positive evidence of void infill and lateral grout spread between holes.



Drilling in operation, Blackstone QLD



Grouting in operation, Blackstone QLD



Grout overflow, Blackstone QLD



Water overflow, Blackstone QLD

### Verification

An Inspection and Test Plan (ITP) was prepared and executed in accordance with DGSA's QA system. Grout delivery docket, installation records, drill logs, and UCS test specimens were collected for all holes. UCS cylinders tested at 7 days returned an average of 4.1 MPa against a target of 5 MPa at 28 days, consistent with expected early strength gain trajectories for the mix design used. A complete QA/QC pack was submitted to the EOR for review and sign-off on completion of works.

### OUTCOME

DGSA successfully completed all 12 grout cones across Briswest Site 6, eliminating the identified sinkhole risk and satisfying the geotechnical conditions required for Rogan Development Solutions to proceed with permanent warehouse and hardstand construction. Camera verification confirmed roof contact at each cone location. The project was delivered with zero recordable safety incidents. On completion, all plant was demobilised from Site 6 and DGSA mobilised directly to the adjacent Site 4 works, continuing DGSA's programme of mine remediation across the broader Briswest industrial estate.