

Coal Mine Haul Truck Garage Re-Levelled

INDUSTRY

Mining

STRUCTURE

Mine garage

PROBLEM

Sinking floor

LOCATION

NSW, Australia

DURATION / YEAR

8 days / 2010

TECHNOLOGY

Uretek Deep Injection
& Uretek Slab Lifting

BUSINESS UNIT

Mainmark Australia



Summary

The workshop building's concrete floor at a major Hunter Valley coal mine had begun to crack. The building also serves to garage 220 tonne haul trucks in eight large bays.

The mine engineers had tried unsuccessfully to re-support part of the area with concrete injection under the 350mm floor slab. The large area was re-supported by Uretek Resin Injection over an eight day period.

Objectives

Analysis of the cause of the problem and the failure of the concrete injections was the first requirement.

Then the whole workshop and garage floor had to be resupported to stop the cracking and to confirm that the floor and foundation ground had been well strengthened for the future.

Solution

Bore logs for the area confirmed that there were weak strata deep down under the sub base because the workshop had been constructed on a cut-and-fill site.

At about 800mm depth under the lower end of the site, there was soft fill, as expected.

Uretek Deep-Injection of structural expanding resins were used to compact the sub-base and re-support the 1,000m² of each of the eight bays of garage area. One of the massive haul trucks was positioned over each site in the garage as the injections were carried out. The 220 tonne weight of the space trucks enabled maximum compaction pressure to be brought to bear as the Uretek expanding resins were injected into the weak strata. Then injecting directly beneath the concrete slabs Uretek Slab-Lifting was used to return slabs to their design levels.

The garage had full support restored with minimal interference to the workshop's normal activities. The mine engineers were very pleased and they subsequently engaged us again to resupport the extensive apron areas leading to the garage facilities.