

MINE REHABILITATION CASE STUDY: DAWSON MINE

Anglo American continues to innovate and pursue best practice mine rehabilitation across the business, delivering outstanding results.

Dawson Mine has been leading the way in innovative rehabilitation approaches, including completed rehabilitation of an area previously containing voids, to final landform. Two recent case studies demonstrate Anglo American's commitment to industry-leading mine rehabilitation.

REHABILITATION OF HIGHWALL (PIT 18)

At Anglo American's Dawson Mine, the company pioneered the use of blasting techniques to successfully reshape void highwall into final landform position in 2013.

Pre- and post-blast surveying was undertaken to provide accurate estimates of how much reshaping and material was required for final landform.

Four blasts were required to complete the project, which moved considerable amounts of highwall material into final landform position. Following reshaping, the area was seeded with a grazing mix of native and introduced species. It was then treated with five tonnes per ha of Gypsum in 2017 and re-seeded.

The area is currently being monitored for plant growth and species richness. Monitoring will continue every three years for progression to a stable state, and the area is expected to be ready for grazing activities in around four to five years.

At the time, very few trials had been conducted using this sophisticated and innovative technique.

The successful rehabilitation of the area has demonstrated the technique can be applied to reshaping mining voids – one of the most challenging aspects of rehabilitation for the industry – and rehabilitate land for productive post-mining use.



Pit 18: During rehabilitation process



Pit 18: Prior to rehabilitation commencing



Pit 18: Site rehabilitation complete

REHABILITATION OF SPOIL DUMP (PIT 25)

Anglo American is continuing to pursue rehabilitation projects that deliver safe and stable landform for post-mining use.

In 2012, the company's Dawson Mine commenced a rehabilitation project aimed at successfully establishing grazing activities on an area that had been previously used as a spoil dump and topsoil stockpile.

As part of the project, around 165 ha of suitable rehabilitated land was identified east of Dawson Pit 25, with 161 ha of adjacent undisturbed paddock used as a control.

Mine spoil was pushed to a one in six gradient, and access tracks were added to the site. The rehabilitated area was landscaped, top soiled and then seeded.

Seeding occurred directly behind the dozer and included native pasture grasses such as Queensland Bluegrass and Curly Windmill Grass. Shrub and tree species were added to the seed mix including Brigalow, Silver-leaved Ironbark and bottle trees.

A dam was left as part of the rehabilitation area to accommodate livestock in the future.

From July 2015, cattle weaners have been grazing in the rehabilitated paddock. The cattle were weighed twice in 2016 and demonstrated strong weight gain.

Click here for aerial video footage of the site.



Pit 25: Prior to rehabilitation commencing (2011)



Pit 25: Rehabilitated area in 2014; good vegetation cover and no significant erosion



Pit 25: Cattle grazing still occurring sporadically (October 2018)

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