

REHABILITATION INFORMATION RELEASE

DATE: 4 JUNE 2020

Fieldsend Clay Mine returns to native bushland

Overview

The NSW Resources Regulator is a stand-alone regulator within Regional NSW and is responsible for compliance and enforcement activities across the mining and exploration industry. The Regulator undertakes risk-based compliance and enforcement activities in relation to obligations under the *Mining Act 1992*. This includes:

- conducting assessments and compliance activities to ensure the rehabilitation of mines is undertaken in accordance with the conditions of mining leases and the requirements of the *Mining Act 1992*
- ensuring that rehabilitation security deposits, held by the department, cover the full costs in undertaking rehabilitation in the event of default by the mining company.

This information release provides guidance about the successful completion of rehabilitation at the former Fieldsend Clay Mine, Metford, NSW. The Fieldsend Clay Mine was operated by CSR Building Products Limited.

The mine

Clay, shale and sandstone materials were extracted continuously from the site since 1882 for brick making. The brick making facilities subsequently moved to the adjacent Metford site and the Fieldsend Clay Mine closed in 2008.

Rehabilitation works began on the site in 2014 and the majority of works were completed by 2017.

Figure 1 Aerial photo of Fieldsend Clay Mine in 2010 before rehabilitation works

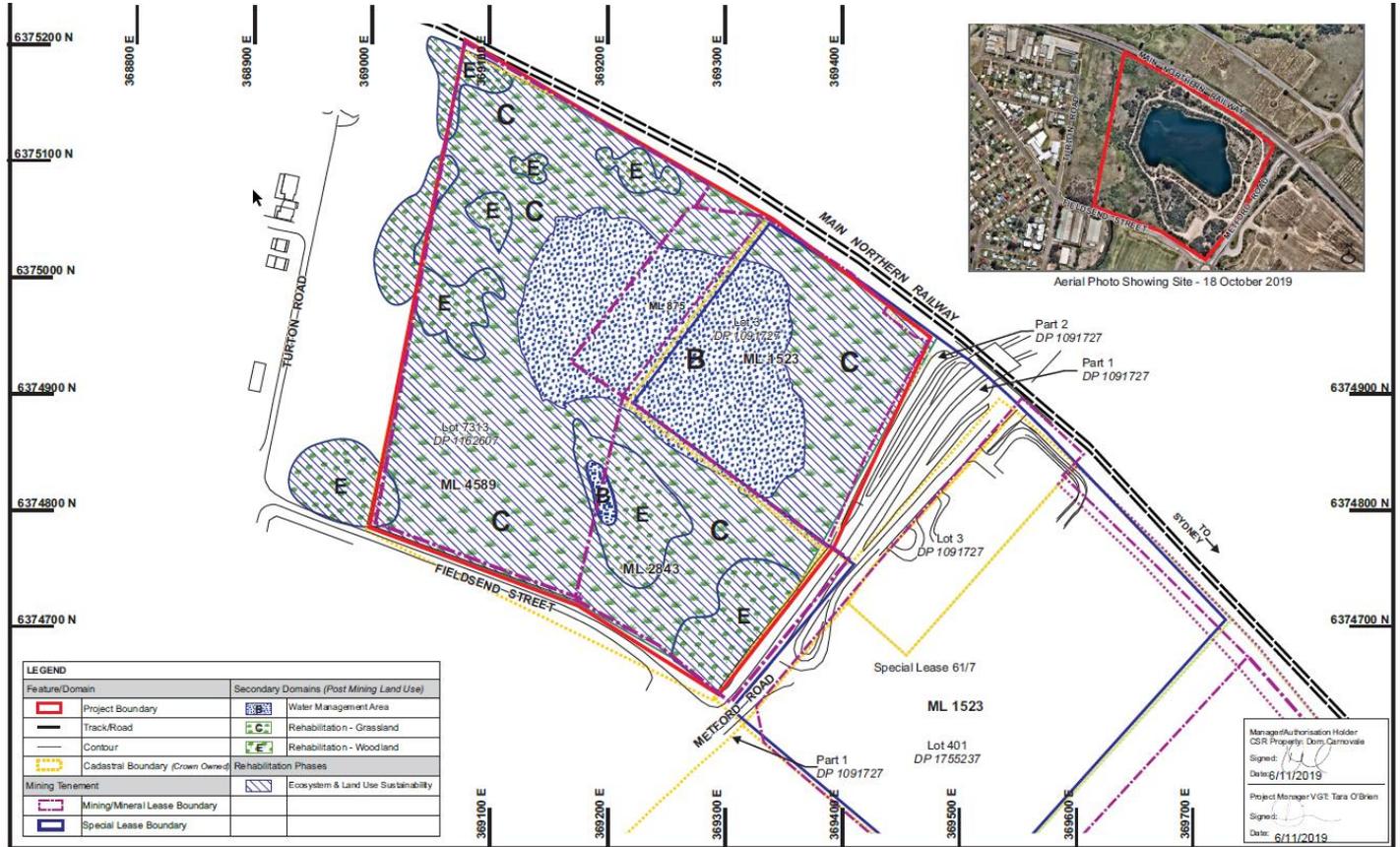


Required rehabilitation outcomes

The required rehabilitation outcomes for the former mine are detailed in the mining operations plan (MOP) approved by the Regulator. The former mine is on Crown land and the final rehabilitation outcomes were developed in consultation with Crown Lands within the (then) Department of Planning, Industry and Environment. Consultation was also undertaken by the title holder with Maitland City Council, which is the development consent authority for the mine. Additionally the community was also involved in consultation.

The objective of the rehabilitation works was to establish a safe and stable landform for passive recreational activities.

Figure 2 Approved final land use domains



The site was progressively rehabilitated in accordance with the obligations set out in the approved MOP. The MOP requires the title holder to achieve the approved rehabilitation objectives, rehabilitation completion criteria and final landform. This includes the following key obligations:

- removing contaminants from the site and associated remediation of the soils to a standard suitable for recreational open space use
- stabilising and retaining access roads within the site
- establishing a natural landform consisting of grassland, shrubs and native trees similar to the pre-mining environment
- establishing a water body associated with the final mine void that is suitable for recreational use (visual with no contact) and supporting aquatic flora and fauna
- establishing a safe, stable, self-sustaining and non-polluting landform.

Rehabilitation progress

The progress of rehabilitation was in accordance with the measures outlined in the approved MOP. Since the completion of mining in 2008, the site was remediated, reshaped and seeded. This has included planting more than 250,000 mixed native tube stock around the waterbody to create a wildlife habitat and stabilise the banks.

Figure 3 Status of rehabilitation works in 2015



The rehabilitation was the subject of ongoing monitoring and maintenance in accordance with the requirements of the approved MOP. This included annual reporting to the Regulator and site inspections by both the Regulator and Crown Lands (the land owners) to assess the progress of rehabilitation performance. General observations have included:

- The final landform is safe, stable, non-polluting and free draining.
- The body of water meets the Australian and New Zealand guidelines for fresh and marine water quality (ANZECC guidelines) for recreational water (visual with no contact).

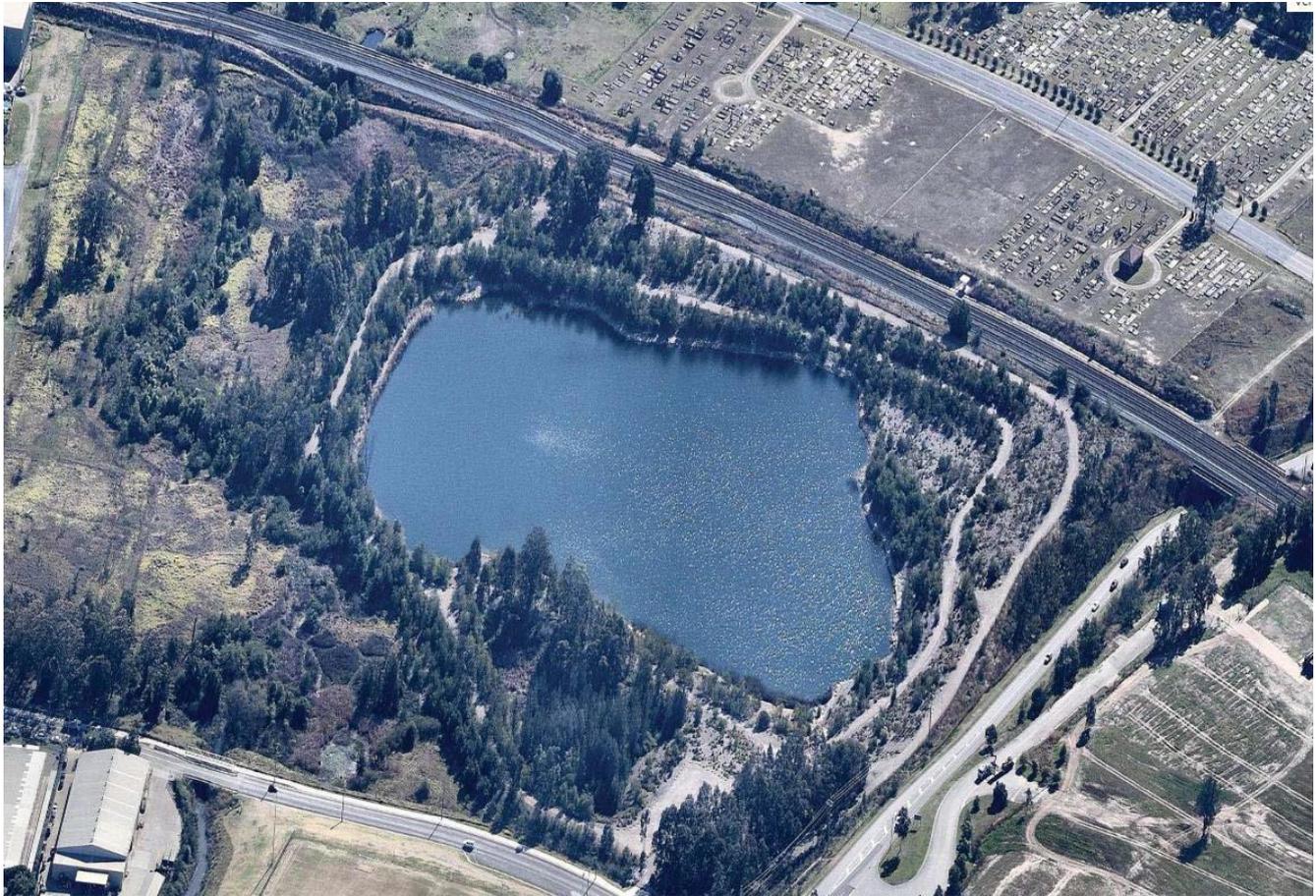
- The ecosystem is sustainable and requires minimal maintenance consistent with the approved final land use.
- There are mature trees with a well-established understorey and species, which are found locally.
- There is evidence of natural regeneration and recruitment from native trees and vegetation established as part of the rehabilitation.
- There are no significant weed infestations.
- The retained access road was surfaced with recycled crushed concrete, and both drains and culverts were installed.
- Evidence of functioning soil nutrient/biological processes through the development of soil profiles.

While the majority of rehabilitation works were completed in 2016, the Regulator required further monitoring by the title holder to demonstrate the success of rehabilitation. This was to ensure that sufficient evidence could be submitted to the Regulator to assess whether the rehabilitation objectives and completion criteria, as detailed in the approved MOP, had been met.

Figure 4 Landform established in 2016



Figure 5 Rehabilitation status in 2019



Rehabilitation completion

The title holder lodged an application with the Regulator in November 2019 (using Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate) to obtain formal sign-off on completed rehabilitation works.

A detailed assessment was completed by the Regulator, which included consultation with Crown Lands (the land holder) and site inspections.

This assessment determined that rehabilitation obligations were fulfilled to a satisfactory level, in accordance with the approved rehabilitation objectives and completion criteria included in the MOP. Figures 6, 7 and 8 depict the status of rehabilitation across different parts of the site in 2019.

Figure 6 View of the western shore of the body of water



Figure 7 View of the south eastern corner of the body of water



Figure 8 Tree stands with understory vegetation



Obligations

The completion of rehabilitation at the former Fieldsend Clay Mine, and subsequent sign-off from the Regulator, demonstrates that there is a strong regulatory framework in relation to mine rehabilitation and that beneficial post-mining land uses can be established after the closure of a mine.

The Regulator requires leaseholders to comply with their rehabilitation obligations under the *Mining Act 1992*. This includes:

- undertaking rehabilitation progressively in a timely manner
- developing and implementing rehabilitation techniques, in consideration of detailed risk assessments and sound scientific principles, to overcome barriers/constraints to achieving successful rehabilitation
- undertaking monitoring to assess whether rehabilitation is trending towards meeting the approved rehabilitation objectives and completion criteria in a timely manner
- developing and implementing a maintenance program for rehabilitation areas to rectify potential issues identified from the monitoring program
- maintaining records of the methods used to establish rehabilitation, as well as monitoring data, to demonstrate success and facilitate continual improvement
- submitting a security bond that is held by the government to cover the full cost of rehabilitation should a company default on its obligations.

Further information

- [Exploration and mining rehabilitation fact sheet](#)
- [Form ESF2: Rehabilitation completion](#)
- [NSW Resources Regulator mining operations plan guidelines](#)
- [Rehabilitation compliance and reporting reforms](#)
- [Australian Government, Department of Industry, Innovation and Science 2016: Leading Practice Sustainable Development Program in the Mining Industry – Mine Rehabilitation](#)
- [Australian Government, Department of Industry, Innovation and Science 2016: Leading Practice Sustainable Development Program for the Mining Industry – Risk Management](#)

About this information release

The information contained in this publication is based on knowledge and understanding at the time of writing. However, because advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the NSW Resources Regulator or the user's independent advisor.

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DOCUMENT CONTROL

**Resources Regulator
reference**

DOC20/408442

Date published

4 June 2020

Authorised by

Director Compliance