

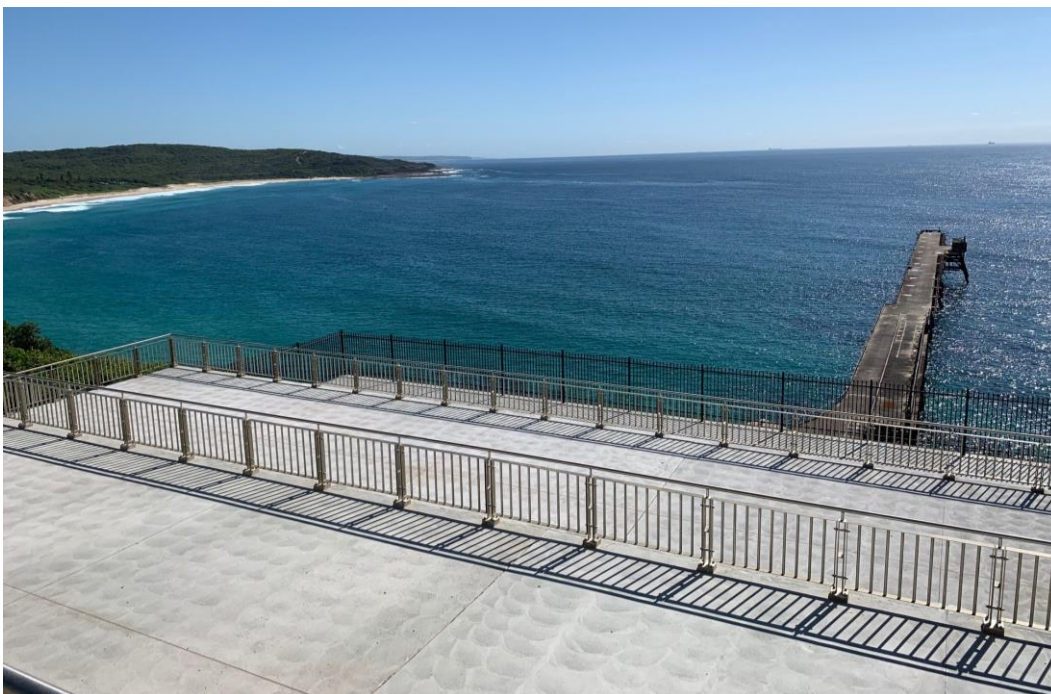
# REHABILITATION INFORMATION RELEASE

DATE: 03 JUNE 2021

## Catherine Hill Bay coal preparation plant and coal bin rehabilitation achieves residential, recreational and open space land uses

### Overview

The NSW Resources Regulator has approved the successful completion of rehabilitation on part of Consolidated Coal Lease 706 (CCL706) (1973) held over the former Catherine Hill Bay coal preparation plant, coal bin and coal stockpile areas. The completed rehabilitation works include the capping of the former coal loading bins. View the [drone footage](#).



## The mine

Catherine Hill Bay is about 30 kilometres south of Newcastle, NSW. Mining commenced in approximately 1873 and continued until 2002. The Catherine Hill Bay coal bin and surrounding infrastructure areas were built in 1964 to process and convey coal from the former Moonee and Wallarah Collieries for export. When mining ceased in 2002, a large part of the land, including most of the site, was sold to Catherine Hill Bay Developments Pty Ltd (now known as Coastal Hamlets Pty Ltd).

In 2011, development consent MP10\_0204 was approved by the (then) Minister for Planning and Infrastructure over part of the former mining areas at Catherine Hill Bay. The approved development comprises a 72-hectare residential subdivision of about 540 lots for residential development. The approved development also incorporates a village reserve and recreational/open space land use pursuits.

The domain where rehabilitation has now been completed comprises around nine hectares of a former coal preparation plant, coal bin and associated infrastructure area within this approved development.

*Figure 1: Relevant mine closure domains: Domain 1A - coal preparation plant; Domain 2A - coal bin; Domain 4A - associated infrastructure and water management area*

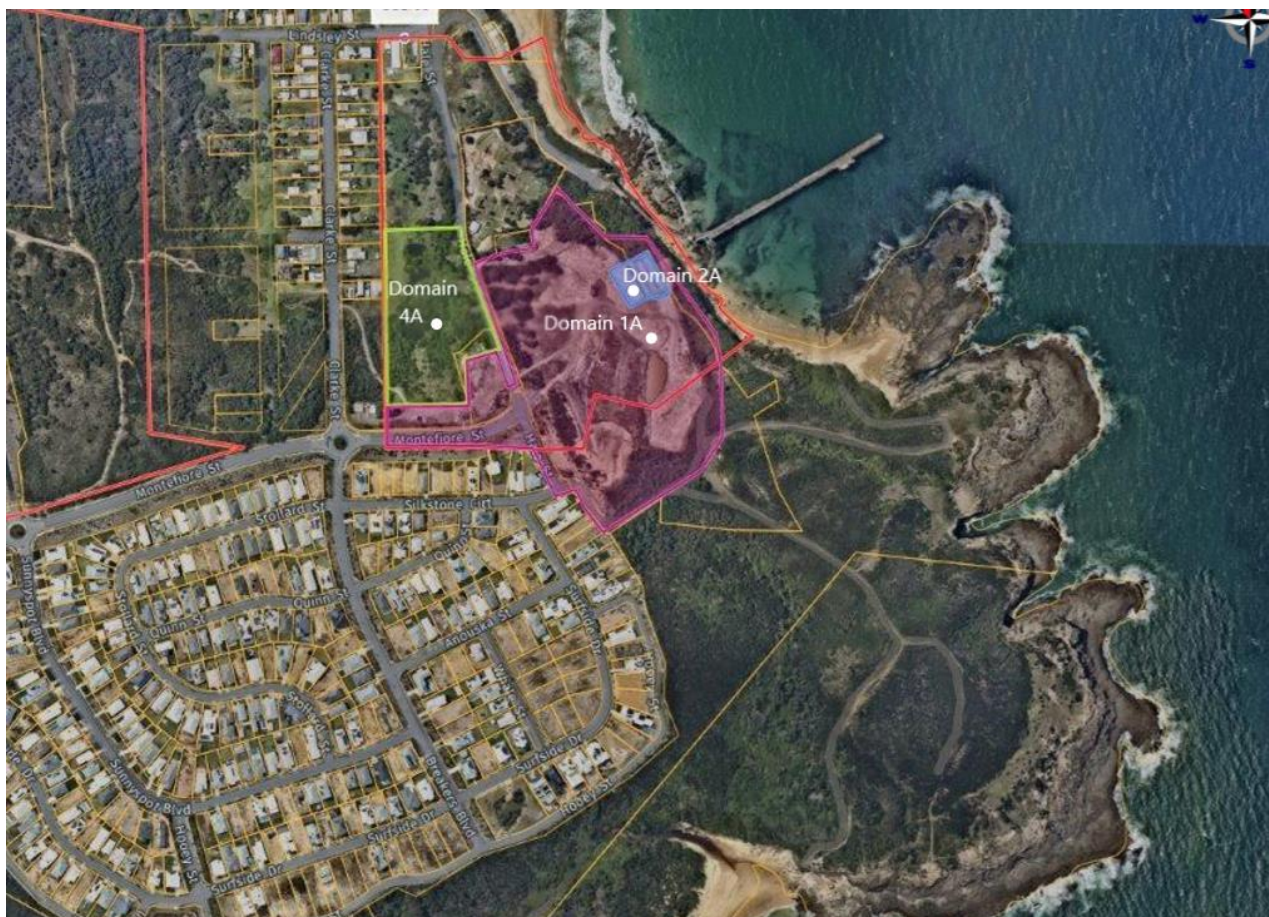


Figure 2: Approved residential, recreational / open space and associated village precinct as per Development Consent MT10\_0204 (Source: <https://www.planningportal.nsw.gov.au/major-projects/project/25501> )



## Required rehabilitation outcomes

The required rehabilitation outcomes for the former coal preparation plant, coal bin and associated infrastructure areas are detailed in the Catherine Hill Bay Coal Preparation and Coal Stockpile Areas Mine Closure Plan approved by the Regulator. The approved rehabilitation objectives include:

- no risks to public safety
- remediation of contamination to a standard suitable for recreational / open space use
- development of final landforms that are safe, permanent and compatible with the approved final land uses
- retention of the coal bin 'in situ' and to be made stable for the long term
- management of weed species
- ensuring the remaining dams are stable and non-eroding.

## Rehabilitation progress

Following cessation of mining activities in 2002, the rehabilitation has included:

- stakeholder consultation
- decommissioning and removal of site infrastructure
- site contamination studies, including groundwater assessments, development of a remedial action plan and associated remediation
- recovery of carbonaceous material for on-site blending or off-site removal
- processing of hardstand (concrete) material for backfilling in the coal bin
- grouting and concrete backfilling of the 13,000 tonne coal bin in line with the approved engineered design
- completion of earthworks to reshape the site, to ensure it is consistent with and facilitates the approved final use
- erosion controls, site drainage, revegetation and weed management
- installation of public safety control measures including fencing and balustrades.

Figures 3 to 8 below show the progress of these rehabilitation works, including the backfilling of the coal bin site.

*Figure 3: Domains 1A, 2A and 4A in 2016 showing decommissioning of infrastructure, investigation and remediation of areas of contamination including landfarm bioremediation and stockpiling of fill material*



Figure 4: Domains 1A, 2A and 4A in 2017 showing shaping, reinstatement of bioremediated material, application of growth media and removal and stockpiling (prior to sizing) of hardstand materials



Figure 5: Domains 1A, 2A and 4A in 2018 showing consolidation of hardstand 'rubble', temporary erosion and sediment control works and temporary revegetation efforts



Figure 6: Domains 1A, 2A and 4A in 2019 prior to coal bin filling showing consolidation and preparation of fill material



Figure 7: Domains 1A, 2A and 4A in June 2020 showing installation of fill material within the coal bin site. Fill material included crushed concrete (generated on site), flyash, cement, grout and excess material generated from bioremediation works



Figure 8: Domains 1A, 2A and 4A in September 2020 finalisation of coal bin filling works to produce a terraced viewing platform, finalisation of associated drainage control measures and installation of balustrade and associated fencing. Filling works achieved up to 35MPa compressive strength that has been independently verified. Weed control efforts also performed.



## Rehabilitation completion

In November 2020, Delta Coal, trading as Great Southern Energy Pty Ltd lodged an application with the Regulator to obtain formal sign-off on the completed rehabilitation works. As part of the application, evidence was provided including contamination remediation reports, engineering reports and as-constructed drawings to demonstrate that the rehabilitation was completed.

A detailed assessment was performed by the Regulator, that included a review of technical studies, engineering reports 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 in the development consent and the Catherine Hill Bay Coal Preparation and Coal Stockpile Areas Mine Closure Plan.

The area subject to the rehabilitation assessment is identified by the approved Mine Closure Plan for the Catherine Hill Bay coal preparation plant and coal stockpile areas as:

- Domain 1A – Coal Preparation Plant and associated infrastructure
- Domain 2A – Coal Bin
- Domain 4A – Fluren Compound / Refueling Area

These domains represent the majority of contemporary rehabilitation liabilities associated with the former Wallarah / Moonee Collieries. Following the completion of these works, remaining liabilities only exist within the area identified as Domain 5B – Possum Gully that will be returned to native vegetation as part of the Munmorah State Conservation Area.

*Figure 9: Excavation of former laboratory location for testing and treatment of contaminated material (2016)*



*Figure 10: Stockpiling of hydrocarbon contaminated material for bioremediation (2016)*





Figure 11: Fenced coal bin site prior to filling works (2019)



Figure 12: Fenced coal bin site prior to filling works (2019)



Figure 13: Coal bin filling works including placement of crushed hardstand material ('rubble') (April 2020)



Figure 14: Pouring of grout / cement slurry within coal bin site (April 2020)



Figure 15: Preparation ('forming') for installation of final capping slab on top pier of the coal bin site (June 2020)



Figure 16: Pouring of final capping slab of third pier of the coal bin site (July 2020)



Figure 17: Preparation ('forming') of the stairs along the piers of the coal bin site (August 2020)



Figure 18: Completed capping of the second pier of the coal bin site (February 2021)



*Figure 19: Completed stairwell and drainage arrangements that serve the viewing platform of the coal bin site (February 2021)*



*Figure 20: Completed coal bin site to three levelled (piers) capped platform (February 2021)*



Figure 21: Completed coal bin site to three levelled (piers) capped platform (February 2021)



Figure 22: Final landform and revegetation efforts to facilitate residential development (February 2021)



Figure 23: Completed Coal Bin (Domain 2A) and associated drainage



Figure 24: Northern component Domain 1A reprofiled and shaped to facilitate residential / recreational development



Figure 25: Domain 1A reprofiled and re-shaped to facilitate residential / recreational development



## Recommendations

The Regulator expects title holders to comply with their 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

- [Fact sheet: Exploration and mining rehabilitation](#)
- [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

Visit [www.resourcesregulator.nsw.gov.au](http://www.resourcesregulator.nsw.gov.au) to:

- learn more about mine rehabilitation
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