NSW GOVERNMENT

NSW Resources Regulator

FWP0001581

# ABEL UNDERGROUND COAL MINE FORWARD PROGRAM

Wednesday 1 January 2025 to Friday 31 December 2027

# Summary

| DETAIL | |
|---|---|
| **Mine** | Abel Underground Coal Mine |
| **Reference** | FWP0001581 |
| **Forward program commencement date** | Wednesday 1 January 2025 |
| **Forward program end date** | Friday 31 December 2027 |
| **Forward program revision (if applicable)** | |
| **Contact** | Phillip Brown |
| **Mining leases** | ML 1618 (1992), ML 1653 (1992) |
| **Project location** | Donaldson Coal Pty Ltd |
| **Date of submission** | Friday 28 March 2025 |

# Important

The department may make the information in your program and any supporting information available for inspection by members of the public, including by publication on its website or by displaying the information at any of its offices. If you consider any part of your program to be confidential, please communicate this to the department via the message function on this submission within the NSW Resources Regulator Portal.

# Three-year forecast – surface disturbance activities

## Project description

The Abel Underground Coal Mine ("Abel Mine") is owned and operated by Donaldson Coal Pty Limited ("Donaldson Coal"), a wholly owned subsidiary of Yancoal Australia Limited. The Abel Mine is located approximately 23km northwest of Newcastle, New South Wales (the "Mine Site"). Donaldson Coal also own the Donaldson Open Cut Coal Mine ("Donaldson Mine"), located in the immediate vicinity of the Mine Site, with open cut mining operations having previously occurred immediately adjacent the Mine Site. Project Approval 05_0136 for the Abel Mine was granted in June 2007. The Abel Mine is approved to operate until 31 December 2030. In May 2016 mining operations ceased and the Abel Mine was placed into care and maintenance. During the care and maintenance period, no mining or ongoing transportation and processing of ROM coal from the mine has occurred.

## Description of surface disturbance activities

**Exploration activities**

No exploration activities are anticipated to be undertaken within the Abel Mine Site in the next three years.

**Construction activities**

No construction activities are anticipated to be required or to occur within the Abel Mine Site in the next three years.

**Mining schedule**

Mining development method and sequencing and general mine features.

As the Abel Mine is under care and maintenance, no mining operations are planned in the next three years. During care and maintenance, the remaining 'operational' areas of the Abel Mine will not be available for rehabilitation and as such, opportunities for further progressive rehabilitation prior to closure of the Abel Mine are limited.

Areas identified for emplacements, the sequencing of emplacements, construction, and management.

As the Abel Mine is under care and maintenance, no mining operations or emplacement construction activities are planned in the next three years. During care and maintenance, the

remaining 'operational' areas of the Abel Mine will not be available for rehabilitation and as such, opportunities for further progressive rehabilitation prior to closure of the Abel Mine are limited.

Processing infrastructure activities and the location of tailings facilities and schedule for emplacement.

As the Abel Mine is under care and maintenance, no processing operations are planned in the next three years. The Abel Mine does not include tailings facilities. During care and maintenance, the remaining 'operational' areas of the Abel Mine will not be available for rehabilitation and as such, opportunities for further progressive rehabilitation prior to closure of the Abel Mine are limited.

Waste disposal and materials handling operations.

As the Abel Mine is under care and maintenance, waste disposal and materials handling will remain minimal during the next three years. Waste oil will continue to be stored within 205L drums, 1 000L IBCs or the waste oil tank within the oil store before being removed from site, along with used oil filters and oily rags, by a licenced contractor. A purpose built bunded storage container is also utilised to ensure adequate bunded storage is available. Used tyres are removed from site during servicing by the licenced contractor for repair or disposal.

**Key production milestones**

| MATERIAL | UNIT | YEAR 1 | YEAR 2 | YEAR 3 |
|---|---|---|---|---|
| **Stripped topsoil** (if applicable) | ($m^3$) | 0 | 0 | 0 |
| **Rock/overburden** | ($m^3$) | 0 | 0 | 0 |
| **Ore** | (Mt) | 0 | 0 | 0 |
| **Reject material**[1] | (Mt) | 0 | 0 | 0 |
| **Product** | (Mt) | 0 | 0 | 0 |

[1] This includes coarse rejects, tailings and any other wastes resulting from beneficiation.

# Three-year rehabilitation forecast

## Rehabilitation planning schedule

**Rehabilitation planning schedule**

Opportunities for progressive rehabilitation during care and maintenance are limited. It is anticipated that Donaldson Coal will decide on the timeline of final mine closure or recommencement of underground operations within the Abel Mine, which would potentially include the deposition of tailings within the Square Pit prior to expiration of approval for mining operations at the Abel Mine on 31 December 2030. As such, no stakeholder consultation (other than ongoing Community Consultation Committee activities) or specific rehabilitation studies are planned during the next 3 years. However, continued environmental monitoring will be undertaken which will provide further information for mine closure planning. Prior to mine closure additional closure planning, including completion of a rehabilitation materials balance report (for capping material and growth medium), updated water modelling, and final void design will be undertaken.

**Stakeholder consultation**

No stakeholder consultation (other than ongoing Community Consultation Committee activities) or specific rehabilitation studies are planned during the next 3 years.

**Rehabilitation studies, risk assessments and/or design work**

A risk assessment to address the risks associated with rehabilitation of the Donaldson Mine was developed during 2022 in conjunction with the preparation of the Rehabilitation Management Plan (RMP) for the Donaldson Mine. A summary of the risk assessment is available in the RMP. The risk assessment will be reviewed and updated whenever any risk control measures are updated, or any foreseeable hazard that presents a risk to achieving the rehabilitation objectives outlined in the RMP is identified.

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# Rehabilitation research and trials

| RRT NUMBER | PROJECT/TRIAL NAME | OBJECTIVE OF TRIAL/PROJECT | METHODOLOGY | EXPECTED DATE OF COMPLETION | STATUS |
|---|---|---|---|---|---|
| FWP0001581 | | | | | |

# Rehabilitation maintenance and corrective actions

No rehabilitation performance issues, or knowledge gaps were identified in the 2024 Annual Rehabilitation Report. As such, no specific rehabilitation maintenance or corrective actions have been identified. Notwithstanding, rehabilitation monitoring will continue to measure the performance of previously rehabilitated areas of the Abel Mine Site. In addition, ongoing maintenance activities including weed and pest control programs will also be undertaken. Finally, Donaldson Coal will commence preparation of the Rehabilitation Quality Assurance Register. Rehabilitation monitoring will focus upon determining whether progress towards achieving the relevant performance indicators and completion and relinquishment criteria presented in Section 4.1 of the RMP are being achieved. The RMP also presents the proposed rehabilitation monitoring methodology for each indicator and criteria identified. In addition to other environmental monitoring, an annual rehabilitation review will be undertaken for rehabilitation areas to assess the progress of rehabilitation and need for remedial measures. Rehabilitation monitoring plots have been established within previously rehabilitated areas to assess and record progress towards the completion criteria. Additional plots will also be established following the establishment of additional areas of rehabilitation.

# Rehabilitation schedule

No further operational activities are planned to be undertaken and therefore no additional disturbance is planned during the next three years. Furthermore, no additional rehabilitation activities are planned in the next three years. Given the potential recommencement of operational activities at the Abel Mine, all feasible rehabilitation activities have been completed until mine closure.

# Completion of rehabilitation

There will be no areas where an application for rehabilitation completion will be lodged with the Resources Regulator within the next three years

# Subsidence remediation for underground operations

As no underground mining has occurred within the Abel Mine Site since 2016, no further significant subsidence impacts are predicted to occur. Minor subsidence impacts will continue to be managed and rehabilitated in accordance with approved management plans. In summary, principal subsidence impacts largely consist of surface cracking. Remediation of surface cracking generally involves: • excavation to the base of the crack; • compaction and refilling of the area; and • reseeding with suitable species for rapid surface stabilisation and the pre-existing land use (i.e. native and/or pastoral grasses). In the event of significant cracking of exposed bedrock, cement based grout and crushed

rock may be applied. Since the cessation of underground mining and the completion of all required subsidence surveys, monitoring of subsidence impacts and rehabilitation performance has and will continue to consist of visual monitoring and verbal communication with affected landholders.

# Progressive mining and rehabilitation statistics

## Three-yearly forecast cumulative disturbance and rehabilitation progression

| | FORECAST | UNIT | YEAR 1 | YEAR 2 | YEAR 3 |
|---|---|---|---|---|---|
| A1 | **Total disturbance footprint - surface disturbance** | (ha) | 13.81 | 13.81 | 13.81 |
| B | **Total active disturbance** | (ha) | 13.81 | 13.81 | 13.81 |
| P | **Total new area of land proposed for active rehabilitation** | (ha) | 0 | 0 | 0 |

## Rehabilitation key performance indicators (KPIs)

| | FORECAST | UNIT | YEAR 1 | YEAR 2 | YEAR 3 |
|---|---|---|---|---|---|
| O | **Total new disturbance area during reporting period** | (ha) | | | |
| P | **Total new area of land proposed for rehabilitation during the reporting period** | (ha) | | | |
| Q | **Annual rehabilitation to disturbance ratio** | | | | |

# Attachment 1 – Reporting Definitions

| REPORTING CATEGORY | | DEFINITION |
|---|---|---|
| **A** | Total disturbance footprint – surface disturbance | All areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to surface disturbance activities.<br><br>The total disturbance footprint is the sum of the total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem and land use establishment, ecosystem and land use development and rehabilitation completion (see definitions below).<br><br>Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint. |
| **B** | Total active disturbance | Includes on-lease exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste rock emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped) and temporary stabilised areas (e.g. areas sown with temporary cover crops for dust mitigation and temporary rehabilitation). |
| **C** | Rehabilitation – land preparation | Includes the sum of all disturbed land within a mining lease that have commenced any, or all, of the following phases of rehabilitation – decommissioning, landform establishment and growth medium development.<br><br>Refer to the glossary of terms in this document for the definition of these phases of rehabilitation. |
| **D** | Ecosystem and land use establishment | Includes the area which has been seeded/planted with the target vegetation species for the intended final land use. However, vegetation has not matured to a stage where it can be demonstrated that it will be sustainable for the long term and or require only a maintenance regime consistent with target reference/analogue sites.<br><br>Typically, rehabilitation areas would be in this phase for at least two years (and usually more) before rehabilitation can be classified as being in the ecosystem and land use development phase. This phase does not apply to infrastructure areas that are being retained as part of final land use for the site. |

| REPORTING CATEGORY | DEFINITION |
|---|---|
| **O** | The area of any new active disturbance that will be created during the next three years, as defined under definition A1 (definition A1 Table 5). |
| **P** | The sum of any new rehabilitation to be commenced in the next three years. These areas may be in the phases "Rehabilitation - Land Preparation" or the "Ecosystem & Land Use Establishment" (definitions C & D in Table 5). |
| **Q** | The rehabilitation to disturbance ratio (S / R) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the three years. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that period are the same. |

# Attachment 2 – Definitions

| WORD | DEFINITION |
|---|---|
| **Active** | In the context of rehabilitation, land associated with mining domains is considered 'active' for the period following disturbance until the commencement of rehabilitation. |
| **Active mining phase of rehabilitation** | In the context of rehabilitation, the active mining phase of rehabilitation constitutes the rehabilitation activities undertaken during mining operations such as salvaging and managing soil resources, salvaging habitat resources, and native seed collection. This phase also includes management actions taken during operations to manage risks to rehabilitation and enhance rehabilitation outcomes such as selective handling of waste rock and management of tailings emplacements. |
| **Analogue site** | In the context of rehabilitation, an analogue site is a 'reference site' that represents an example of the defining characteristics (such as vegetation composition and structure or agricultural productivity) of the final land use. Characteristics of analogue sites can be assessed to develop the rehabilitation objectives and completion criteria for final land use domains. |
| **Annual rehabilitation report and forward program** | As described in the Mining Regulation 2016. |
| **Annual reporting period** | As defined in the Mining Regulation 2016. |
| **Closure** | A whole-of-mine-life process, which typically culminates in the relinquishment of the mining lease. It includes decommissioning and rehabilitation to achieve the approved final land use(s). |
| **Decommissioning** | The process of removing mining infrastructure and removing contaminants and hazardous materials. |
| **Decommissioning Phase of Rehabilitation** | Activities associated with the removal of mining infrastructure and removal and/or remediation of contaminants and hazardous materials. In the context of the rehabilitation management plan this phase of rehabilitation may also include studies and assessments associated with decommissioning and demolition of infrastructure or works carried out to make safe or 'fit for purpose' built infrastructure to be retained for future use(s) following lease relinquishment. |

| WORD | DEFINITION |
|---|---|
| **Department** | The Department of Regional NSW. |
| **Disturbance** | See Surface Disturbance. |
| **Disturbance area** | An area that has been disturbed and that requires rehabilitation.<br>This may include areas such as on-licence exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped), and areas requiring rehabilitation that are temporarily stabilised (i.e. managed to minimise dust generation and/or erosion). |
| **Domain** | An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation activities to achieve the associated final land use. |
| **Ecosystem and Land Use Development** | This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved rehabilitation objectives and completion criteria.<br>For vegetated land uses this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, and increasing habitat complexity, and development of a productive, self-sustaining soil profile.<br>This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management. |
| **Ecosystem and Land Use Establishment** | This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform.<br>For vegetated land uses this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control. This phase of rehabilitation may also include habitat augmentation such as installation of nest boxes. |
| **Exploration** | Has the same meaning as that term under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007. |

| WORD | DEFINITION |
|---|---|
| **Final landform and rehabilitation plan** | As defined in the Mining Regulation 2016. |
| **Final land use** | As defined in the Mining Regulation 2016. |
| **Form and way** | Means the form and way approved by the Secretary. Approved form and way documents are available on the Department's website. |
| **Growth Medium Development** | This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short lived pioneer species.<br>This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical, chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion. |
| **Habitat** | Has the same meaning as that term under the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994* (as relevant). |
| **Indicator** | An attribute of the biophysical environment (e.g. pH, topsoil depth, biomass) that can be used to approximate the progression of a biophysical process. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion (i.e. defined end point). It may be aligned to an established protocol and used to evaluate changes in a system. |
| **Land** | As defined in the *Mining Act 1992.* |
| **Landform Establishment** | This phase of rehabilitation consists of the processes and activities required to construct the final landform.<br>In addition to profiling the surface of rehabilitation areas to the approved final landform profile this phase may include works to construct surface water drainage features, encapsulate problematic materials such as tailings, and prepare a substrate with the desired physical and chemical characteristics (e.g. rock raking or ameliorating sodic materials). |
| **Large mine** | As defined in the Mining Regulation 2016. |
| **Lease holder** | The holder of a mining lease. |

| WORD | DEFINITION |
|---|---|
| **Life of mine** | The timeframe of how long a mine is approved to mine, from commencement to closure. |
| **Mine rehabilitation portal** | Means the NSW Resources Regulator's online portal that lease holders must use (via a registered account) to:<br>■ upload rehabilitation geographical information system (GIS) spatial data<br>■ develop rehabilitation GIS spatial data (using online tracing functions)<br>■ generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities.<br>Data submitted to the mine rehabilitation portal is collated in a centralised geodatabase for use by the NSW Resources Regulator to regulate rehabilitation performance of lease holders. |
| **Mining area** | As defined in the *Mining Act 1992*. |
| **Mining domain** | A land management unit with a discrete operational function (e.g. overburden emplacement), and therefore similar geophysical characteristics, that will require specific rehabilitation treatments to achieve the final land use(s). |
| **Mining land** | As defined in the *Mining Act 1992.* |
| **Native vegetation** | Has the same meaning as that term under section 60B of the *Local Land Services Act 2013.* |
| **Overburden** | Material overlying coal or a mineral deposit. |
| **Performance indicator** | An attribute of the biophysical environment (for example pH, slope, topsoil depth, biomass) that can be used to demonstrate achievement of a rehabilitation objective. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion, that is, a defined end point. It may be aligned to an established protocol and used to evaluate changes in a system. |

| WORD | DEFINITION |
|---|---|
| **Phases of rehabilitation** | The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are:<br>■ active mining<br>■ decommissioning<br>■ landform Establishment<br>■ growth medium development<br>■ ecosystem and land use establishment<br>■ ecosystem and land use development. |
| **Progressive rehabilitation** | The progress of rehabilitation towards achieving the approved rehabilitation completion criteria. This may be described in terms of domains, phases, performance indicators and rehabilitation completion criteria. |
| **Rehabilitation Completion** | The final phase of rehabilitation when a rehabilitation area has achieved the approved rehabilitation objectives and rehabilitation completion criteria for the final land use. Rehabilitation areas may be classified as complete when the NSW Resources Regulator has determined in writing that the relevant rehabilitation obligations have been fulfilled following submission of *Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate* application by the lease holder. |
| **Rehabilitation Completion criteria** | As defined in the Mining Regulation 2016. |
| **Rehabilitation cost estimate** | As defined in the Mining Regulation 2016. |
| **Rehabilitation management plan** | As defined in the Mining Regulation 2016. |
| **Rehabilitation objectives** | As defined in the Mining Regulation 2016. |
| **Rehabilitation risk assessment** | As defined in the Mining Regulation 2016. |
| **Rehabilitation schedule** | The defined timeframes for progressive rehabilitation set out in the forward program. |

| WORD | DEFINITION |
|---|---|
| **Relevant stakeholders** | Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes:<br>■ the relevant development consent authority<br>■ the local council<br>■ the relevant landholder(s)<br>■ community consultative committee (if required under the development consent) or equivalent consultative group<br>■ affected land holder(s)<br>■ government agencies relevant to the final land use<br>■ affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities)<br>■ local Aboriginal communities, and<br>■ any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease. |
| **Risk** | The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009). |
| **Secretary** | The Secretary of the Department. |
| **Security deposit** | An amount that a mining lease holder is required to provide and maintain under a mining lease condition, to secure funding for the fulfilment of obligations under the lease (including obligations that may arise in the future). |
| **Surface disturbance** | Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration. |
| **Tailings** | A combination of the fine-grained solid material remaining after the recoverable metals and minerals have been extracted from the mined ore, and any process water[2]. |
| **Waste** | Has the same meaning as that term under the *Protection of the Environment Operations Act 1997*. |

[2] Commonwealth of Australia (DITR), 2007. *Tailings Management*.

# Attachment 3 – Plans

Plan 2A.jpg

Plan 2B.jpg

Plan 2C.jpg