

FWP0001484

DURALIE MINE FORWARD PROGRAM

Monday 1 July 2024 to Wednesday 30 June 2027





Summary

DETAIL		
Mine	Duralie Mine	
Reference	FWP0001484	
Forward program commencement date	Monday 1 July 2024	
Forward program end date	Wednesday 30 June 2027	
Forward program revision (if applicable)		
Contact	Thomas Kirkwood	
Mining leases	ML 1427 (1992), ML 1646 (1992)	
Project location	CIM DURALIE PTY LTD	
Date of submission	Friday 27 September 2024	

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

Duralie Coal Pty Ltd (DCPL), a wholly owned subsidiary of Yancoal Australia Limited (Yancoal), owns and operates the Duralie Coal Mine (DCM). The DCM is an existing mine situated approximately 35 kilometres south of Gloucester, New South Wales (NSW). Development of the DCM is approved under Mining Leases 1427 and 1646 and NSW Project Approval (PA 08_0203), and the other key approvals, licences and permits described in Section 1.2 of the DCM Rehabilitation Management Plan (RMP). Condition 5, Schedule 2 of PA 08_0203 authorised mining operations to be carried at the DCM until 31 December 2021. Accordingly, coal mining at the DCM has ceased and the mine closure phase has commenced. NSW Resources has acknowledged that DCPL is in the process of refining and optimising final landform outcomes (preparing the Detailed Mine Closure Plan) for the DCM. A revised FLRP will be prepared following the completion of Yancoal's Detailed Mine Closure Plan.

Description of surface disturbance activities

Exploration activities

Mining operations at the DCM ceased on 31 December 2021 and the DCM has accordingly commenced the mine closure phase. No further exploration activities are proposed at the DCM.

Construction activities

Mining operations at the DCM ceased on 31 December 2021 and the DCM has accordingly commenced the mine closure phase. Construction of permanent water management systems will commence following the completion of closure studies, including the reconstruction of Coal Shaft Creek.

Mining schedule

Mining development method and sequencing and general mine features.

In accordance with Condition 5, Schedule 2 of PA 08_0203, mining activities at the DCM have ceased. Accordingly, no mining schedule exists for the DCM.

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

Mining operations at the DCM ceased on 31 December 2021. Activities during Year 1 of the Forward Program period will include bulk earthworks on the Waste Rock Emplacement on the southern extent of the Clareval pit. Bulk material movement and rehandling of waste material will continue to occur in the forward program period, with 114,139 cubic metres of PAF material rehandle scheduled during Year 1. DCPL is in the process of refining and optimising final landform outcomes (preparing the Detailed Mine Closure Plan) for the DCM during 2024 and 2025. Accordingly, activities during the remainder of the Forward Program period are subject to change following the outcomes of the Detailed Mine Closure Plan. A revised FLRP will be prepared following the completion of Yancoal's Detailed Mine Closure Plan. Existing rehabilitation areas on the Waste Rock Emplacement will continue to be monitored throughout the 'Ecosystem and Land Use Establishment' and 'Ecosystem and Land Use Development' phases.

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

Historically, run-of-mine coal has been transported from the DCM to the Stratford Mining Complex (SMC) via the North Coast Railway for processing. Subsequently, no processing infrastructure activities or storage of tailings have occurred at the DCM. Further to this, the coal crusher and train loader infrastructure have been demolished at the DCM and subsequently removed from site. As mining operations at the DCM ceased on 31 December 2021, no processing infrastructure activities or tailings facilities are proposed.

Waste disposal and materials handling operations.

All waste streams generated at the DCM have historically been managed in accordance with the DCM Waste Management Plan (WMP). Key waste streams (apart from waste rock) generated at the DCM comprise: • Recyclable/non-recyclable general wastes. • Sewage and effluent. • Other wastes from mining and workshop activities (e.g. waste oils, scrap metal and used tyres). All general domestic waste and general recyclable products will continue to be collected by an appropriately licensed contractor. DCPL has maintained a register of regulated waste collected by the licensed waste contractor. tyres will continue to be stockpiled/disposed in the backfilled sections of pit voids. Tyres will be placed in discrete lots and buried with a minimum cover of 20m, and avoid other combustible material. Records of buried locations/depths will continue to be maintained. Scrap metal is collected by a licensed waste contractor for recycling. Sewage and wastewater from ablution facilities on-site is collected and transferred via a sewerage system to the existing on-site sewage treatment plant. Sewage is treated in the on-site sewage treatment plant (that consists of an aerobic treatment system) and is disposed of in a manner to the satisfaction of the Environmental Protection Authority (EPL11701) and MidCoast Council. Any waste generated from decommissioning activities will be re-used, recycled or disposed in accordance with the DCM WMP, including irrigation infrastructure and surplus equipment

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Key production milestones

MATERIAL	UNIT	YEAR 1	YEAR 2	YEAR 3
Stripped topsoil (if applicable)	(m³)	0	0	0
Rock/overburden	(m³)	0	0	0
Ore	(Mt)	0	0	0
Reject material ¹	(Mt)	0	0	0
Product	(Mt)	0	0	0

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 $^{^{\}rm 1}\,{\rm This}$ includes coarse rejects, tailings and any other wastes resulting from beneficiation.



Three-year rehabilitation forecast

Rehabilitation planning schedule

Rehabilitation planning schedule

Mining operations at the DCM ceased on 31 December 2021. Following the cessation of mining activities, no new material has been produced at the DCM. DCPL is in the process of preparing a Detailed Mine Closure Plan for the DCM. The Detailed Mine Closure Plan will inform revisions to the Final Landform and Rehabilitation Plan (FLRP) and, accordingly, will inform activities that will occur during the Forward Program period. The revised FLRP is expected to be submitted to NSW Resources during Year 1 of the Forward Program. The Rehabilitation Planning aspects of Detailed Mine Closure Plan includes: management. • Mine Closure Risks. • Detailed final landform, land-use and features design. Final Voids strategy and water balances. • Decommissioning and Demolition. • Water Management. • Waste Management. Contamination review. • Rehabilitation materials. • Management of heritage sites. • Monitoring and Maintenance Program. The abovementioned closure components are considered key milestones for rehabilitation and closure of the DCM that would ensure rehabilitation and closure is undertaken to achieve a safe, stable and non polluting final landform as soon as practicable.

Stakeholder consultation

DCPL has undertaken consultation with various stakeholders throughout the mine life and during mine closure. Ongoing consultation will continue regarding the mine closure process, objectives and concepts via direct engagement with regulators and other stakeholders, the Community Consultative Committee, DCM website and community information line. notes that in August 2023, the then Resources Regulator has approved the DCM Rehabilitation Objectives Statements and Final Landform and Rehabilitation Plan (FLRP) with recognition that DCPL is in the process of refining and optimising final landform outcomes for the DCM. DCPL will seek validation and/or feedback from key regulators and stakeholders on relevant components of the Detailed Mine Closure Plan progressively throughout the Forward Program period, including: NSW Resources. NSW Department of Planning, Housing and Infrastructure. • NSW Department of Climate Change, Energy, the Environment and Water. • Broader stakeholders, including the community.

Rehabilitation studies, risk assessments and/or design work

The Duralie Coal Mine: Closure & Rehabilitation Risk Assessment (IEMA, 2022), was undertaken to review and update the DCM Environmental Risk Register for the mine closure and rehabilitation stage of operations and to provide guidance for the mine closure plan and

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schedule. For each of the key rehabilitation and mine closure risks identified, appropriate risk reduction strategies/actions were developed to adequately control the risk. Identified risks and control measures are detailed in the DCM RMP. The Risk Assessment will be reviewed throughout preparation of the Detailed Mine Closure Plan. Rehabilitation studies related to establishing the final landform, surface water management, groundwater management and final void management will be conducted over the Forward Program period to inform the detailed design of the final landform at the DCM. This would include further: •surface water modelling; • groundwater modelling; and •geotechnical evaluations. As acknowledged by Resources Regulator, DCPL is in the process of refining and optimising the final landform as a critical component to achieving a safe, stable and non-polluting landform for future lease relinquishment and sustainable post-mining beneficial land use. A revised FLRP and the required supporting documentation will be prepared and submitted following the completion of Yancoal's Detailed Mine Closure Plan and associated closure studies.



Rehabilitation research and trials

RRT	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE	STATUS
NUMBER	R			OF COMPLETION	

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Rehabilitation maintenance and corrective actions

Rehabilitation is monitored on a regular basis to ensure vegetation in rehabilitation areas is establishing and to determine the need for any maintenance and/or contingency measures. Monitoring also aims to demonstrate the effectiveness of rehabilitation techniques and track progression towards achieving rehabilitation performance and completion criteria. Rehabilitation monitoring reported within the 2024 ARR suggest that the denser wooded areas (2008, 2010-12 rehabilitation) are progressing well, with LFA indices stable or tracking to achieve analogue values. More open areas of revegetation have plateaued due to the density of exotic grasses hindering natural recruitment from seeding colonisation by other species (WPC, 2024). While further maturation of the existing canopy will occur with time, WPC (2024) suggests that some form of active management such as a controlled burn can be implemented to improve diversity and structure. For agricultural rehabilitation, WPC (2024) compared DCM transects to the Pasture Analogue transect situated at the SMC. WPC (2024) suggests that agricultural areas have exceeded all LFA indices when compared to the SMC analogue transect. Seeding of these areas has been successful with dense growth of grasses evident.

Rehabilitation schedule

DCPL is in the process of refining and optimising the final landform as a critical component to achieving a safe, stable and non-polluting landform for future lease relinquishment and sustainable post-mining land use. Completion of Yancoal's Detailed Mine Closure Plan will inform closure execution works and the rehabilitation schedule, and will be included in revised rehabilitation documents. Rehabilitation at the DCM has been undertaken progressively behind the advancing open cut and once areas have become available for rehabilitation. Key rehabilitation activities at the DCM include:

infrastructure decommissioning and demolition;
 bulk rehandle, shaping and rehabilitation earthworks (which may include final blasting to achieve final landform design);

growth medium establishment activities including topsoil spreading; • revegetation of the final landform in accordance with the DCM RMP; and • refinement of monitoring programs and environmental management plans to reflect the rehabilitated site. Rehabilitation is implemented in accordance with the methodologies described in Section 6.2 of the RMP. In areas intended for native ecosystem as the proposed final land use, ongoing activities will include habitat enhancement, controlling weeds and pests as required. The requirement of these activities will be based on the Rehabilitation Monitoring Program (Section 8 of the DCM RMP), opportunistic inspections and as required by the DCM Biodiversity Management Plan.

Completion of rehabilitation

Nil

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Subsidence remediation for underground operations

The DCM is an open cut mining operation and therefore has no areas affected by underground mining subsidence.



Progressive mining and rehabilitation statistics

Three-yearly forecast cumulative disturbance and rehabilitation progression

	FORECAST	UNIT	YEAR 1	YEAR 2	YEAR 3
Α	Total surface disturbance footprint	(ha)	400.7	400.7	400.7
В	Total active disturbance	(ha)	191.2	191.2	191.2
P	Total new area of land proposed for active rehabilitation	(ha)	12.64	12.64	12.64

Rehabilitation key performance indicators (KPIs)

FORECAST	UNIT	YEAR 1	YEAR 2	YEAR 3
O Total new active disturbance area	(ha)			
P Total new area of land proposed for active rehabilitation during the reporting period	(ha)	12.64		

Q Annual rehabilitation to disturbance ratio



Attachment 1 – Reporting Definitions

REP	ORTING CATEGORY	DEFINITION
Α	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.
		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).
		Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.
В	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).
С	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. 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.
		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
0	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. 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. 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. 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. 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.
	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 <i>Biodiversity Conservation Act 2016</i> and the <i>Fisheries Management Act 1994</i> (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 <i>Mining Act 1992</i> .
Landform Establishment	This phase of rehabilitation consists of the processes and activities required to construct the final landform. 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: upload rehabilitation geographical information system (GIS) spatial data develop rehabilitation GIS spatial data (using online tracing functions) generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities. 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 <i>Mining Act 1992</i> .	
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 <i>Mining Act 1992</i> .	
Native vegetation	Has the same meaning as that term under section 60B of the <i>Local Land Services Act</i> 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: active mining decommissioning landform Establishment growth medium development ecosystem and land use establishment 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 <i>Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate</i> 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: the relevant development consent authority the local council the relevant landholder(s) community consultative committee (if required under the development consent) or equivalent consultative group affected land holder(s) government agencies relevant to the final land use affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) local Aboriginal communities, and 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 <i>Protection of the Environment Operations Act 1997</i> .

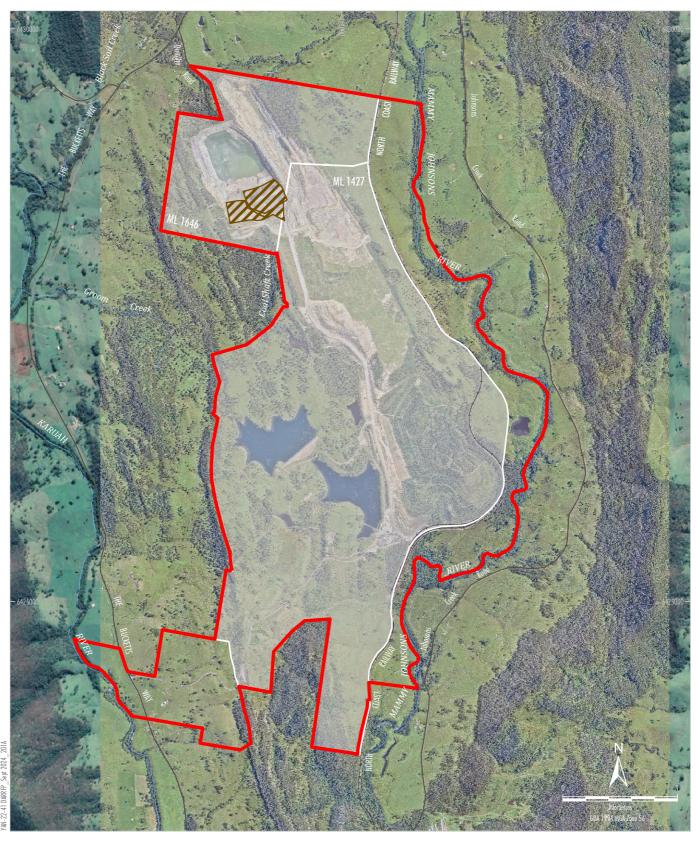
² Commonwealth of Australia (DITR), 2007. *Tailings Management*.



Attachment 3 – Plans

2024 DCM Forward Program Plan 2A - Mining and Rehabilitation Year 1.pdf 2024 DCM Forward Program Plan 2B - Mining and Rehabilitation Year 2.pdf 2024 DCM Forward Program Plan 2C - Mining and Rehabilitation Year 3.pdf

Forward Program (LARGE MINE) v2.1



LEGEND
Project Approval Boundary*
Coal - Current Title
Forecast Area

Forecast Land Prepared for Rehabilitation

* Note: Appendix 1 Schedule of Land in Project Approval (08_0203) includes some part lots. For simplicity, whole lots are included in the graphical representation shown on this figure.

Source: © NSW Spatial Services (2019) Orthophoto: Google Earth CENS/Airbus (2020)



DURALIE COAL MINE

Mining and Rehabilitation — Year 1 (June 2024 to July 2025)



LEGEND
Project Approval Boundary*

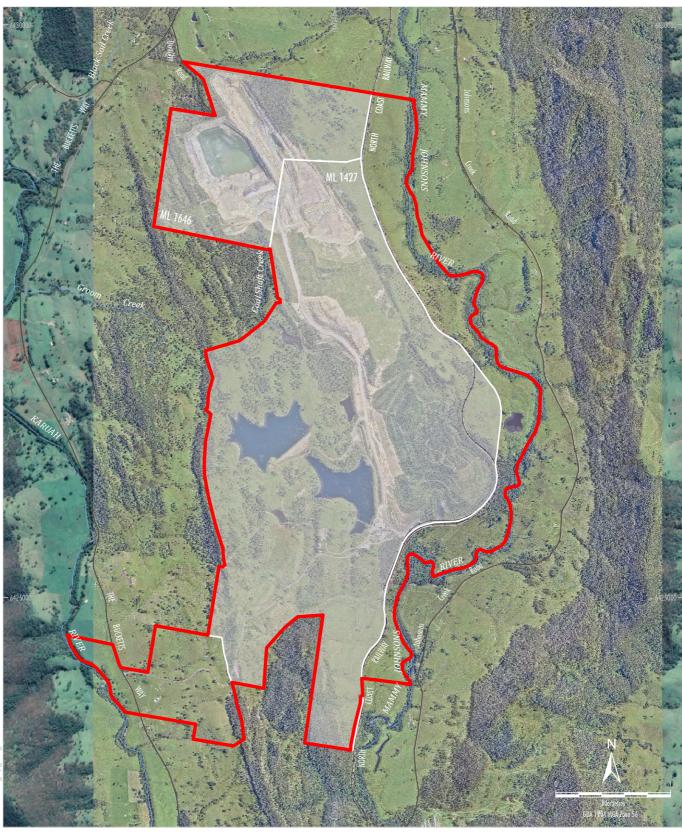
Coal - Current Title

Source: © NSW Spatial Services (2019) Orthophoto: Google Earth CENS/Airbus (2020)



DURALIE COAL MINE

Mining and Rehabilitation — Year 2 (June 2025 to July 2026)



LEGEND
Project Approval Boundary*

Coal - Current Title

Source: © NSW Spatial Services (2019) Orthophoto: Google Earth CENS/Airbus (2020)



DURALIE COAL MINE

Mining and Rehabilitation — Year 3 (June 2026 to July 2027)