

FWP0001337

VICKERY COAL MINE FORWARD PROGRAM

Monday 1 January 2024 to Thursday 31 December 2026

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Summary

DETAIL	
Mine	Vickery Coal Mine
Reference	FWP0001337
Forward program commencement date	Monday 1 January 2024
Forward program end date	Thursday 31 December 2026
Forward program revision (if applicable)	
Contact	Daryl Robinson
Mining leases	ML 1718 (1992), ML 1471 (1992), ML 1464 (1992), ML 1838 (1992), CL 316 (1973)
Project location	Whitehaven Coal Mining Limited
Date of submission	Thursday 29 February 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

The Vickery Coal Mine (VCM) is an open cut coal mine located in the Gunnedah Coal Basin, approximately 25 kilometres (km) north of Gunnedah in New South Wales (NSW). The VCM is operated by Vickery Coal Pty Limited (VCPL) (a wholly owned subsidiary of Whitehaven Coal Limited [Whitehaven]). Development Consent (SSD-7480) was granted to VCPL on 12 August 2020 by the NSW Independent Planning Commission as a delegate of the NSW Minister for Planning under section 75J of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act). VCM encompasses the closed site, Canyon Coal Mine, for which a development consent is still active. A previous development consent for VCM, SSD-5000 is planned to be relinquished prior to 30 April 2024.

Description of surface disturbance activities

Exploration activities

Exploration activities would continue to be conducted in the Development Application area. These activities, within and external to the open cut footprint, would be used to investigate aspects such as geological features, seam structure and coal/overburden characteristics as input to detailed mine planning and feasibility studies.

Construction activities

Planned construction over the next three years (this Forward Program term) will include the following:

- completion of construction of the mine infrastructure area (MIA);
- completion of run-of-mine (ROM) pads;
- continued development of the box cut and associated infrastructure;
- continued establishment of western overburden emplacement area;
- closure of a portion of Braymont Road;
- construction of connection to the existing 66 kilovolt (kV) powerline and construction of substations and power supply;
- completion of additional sediment dams in the north of the mining disturbance area;
- construction of water supply bores and Namoi River pump station and pipelines;
- ongoing exploration activities; and
- other associated minor infrastructure construction, use of other plant and other activities.

Mining schedule

Mining development method and sequencing and general mine features.

Mining during this Forward Program term will be consistent with mining operations covered under Development Consent (SSD-7480). Development of the box cut will continue and waste rock will be placed in the Western Emplacement. Progressive soil stripping and stockpiling will be undertaken ahead of the advancing open cut mining operation. Drill and blast techniques would be used for the removal of competent overburden and interburden material for the open cut. Coal mining will involve loaders and excavators loading ROM coal into trucks for haulage to the ROM pad at the mine infrastructure area via internal haul roads. Haulage of coal to the Gunnedah CHPP occurs via road trucks along the approved haulage route. The VCM will operate 24 hours a day, 7 days a week.

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

Overburden removal within the open cut area will be undertaken using excavators/loaders and a supporting truck fleet and emplacement at the Western Emplacement and within the footprint of the open cut void. The Western Emplacement will be constructed to a height that would not exceed approximately 370 m Australian Height Datum (AHD). Waste rock emplacement areas would be progressively shaped for rehabilitation activities. Landform profiling and rehabilitation of waste rock emplacement areas would be undertaken progressively.

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

In accordance with Condition A12, Schedule 2 of Development Consent (SSD 7480), the VCM will transport up to 3.5 million tonnes per annum (Mtpa) of ROM coal to the Gunnedah CHPP for processing until the VCM CHPP, train load-out and rail spur infrastructure reach full operational capacity. Dewatered coal rejects from the Gunnedah CHPP will be transported to the VCM site and co-disposed with waste rock at the Western Emplacement.

Waste disposal and materials handling operations.

Waste streams at VCM will include general waste, hazardous waste and sewage. EPL 21283 requires Whitehaven to monitor, track and report waste on a regular basis. Waste data will be collected and recorded according to type in the Site Waste Register. General waste minimisation principles would be applied at the VCM to minimise the quantity of wastes that require off-site disposal.

Key production milestones

MATERIAL	UNIT	YEAR 1	YEAR 2	YEAR 3
Stripped topsoil (if applicable)	(m ³)	1,400,000	1,200,000	1,200,000
Rock/overburden	(m ³)	13,000,000	13,000,000	14,000,000
Ore	(Mt)	0	0	0
Reject material¹	(Mt)	0.5	0.5	0.5
Product	(Mt)	2	2	2

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

Three-year rehabilitation forecast

Rehabilitation planning schedule

Rehabilitation planning schedule

The exact locations on the western emplacement area that will be available for rehabilitation in the next three years remain undefined. During the next FWP (specifically in FY2025) a rehabilitation schedule will be finalised based on progressively rehabilitating available landforms once it is complete. To facilitate this process detailed design of the landform is being completed in FY24.

Stakeholder consultation

Rehabilitation consultation will be carried out through engagement with our Community Consultative Committee scheduled to meet quarterly. Consultation will commence with stakeholders during the life of the mine to ensure rehabilitation outcomes satisfy both the local and state government requirements. In addition to community consultation through the CCC key stakeholders include, but are not limited to the following:

- NSW Department of Planning and Environment;
- NSW Resources Regulator;
- Biodiversity Conservation Division;
- North West Local Land Services;
- Registered Aboriginal Parties;
- Narrabri Shire Council; and
- Gunnedah Shire Council.

Rehabilitation studies, risk assessments and/or design work

A rehabilitation risk assessment was undertaken by Whitehaven on 3 May 2023. Key risks associated with proposed rehabilitation activities are described in Section 3 of the VCM Rehabilitation Management Plan.

Rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS
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Rehabilitation maintenance and corrective actions

Whitehaven will undertake and record annual rehabilitation inspections. To ensure effectiveness of rehabilitation techniques used at the VCM and track progression of rehabilitation, monitoring reports will document the annual spring monitoring results and provide a quantitative assessment of rehabilitation performance. Whitehaven will undertake ongoing rehabilitation maintenance works as required which will be instigated by the Trigger Action Response Plan (TARP). The TARP reflects the key risks to successful rehabilitation at the VCM identified by the risk assessments conducted to date. Maintenance action measures proposed at the VCM over the next three years are limited as only a small proportion of the Western Emplacement will be prepared for rehabilitation and these areas are yet to be defined and await detailed landform design. Maintenance action measures proposed would include the following:

- Weed/pest animal control of rehabilitation areas.
- Erosion control works.
- Monitoring and assessing of water quality.
- Revegetation surveys.

Results from the monitoring programs will be used to inform the ongoing rehabilitation maintenance requirements.

Rehabilitation schedule

The exact locations on the western emplacement area that will be available for rehabilitation in the next three years remain undefined. During the next FWP (specifically in FY2025) a rehabilitation schedule will be finalised based on progressively rehabilitating available landforms once it is complete. To facilitate this process detailed design of the landform is being completed in FY24.

Subsidence remediation for underground operations

The VCM 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
A Total surface disturbance footprint	(ha)	1,545.47	1,548.11	1,558.01
B Total active disturbance	(ha)	1,136.28	1,138.92	1,148.82
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 active disturbance area	(ha)	699.03	2.64	9.9
P Total new area of land proposed for active 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	<p>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.</p> <p>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).</p> <p>Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.</p>
B Total active disturbance	<p>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).</p>
C Rehabilitation – land preparation	<p>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.</p> <p>Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.</p>
D Ecosystem and land use establishment	<p>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/analogous sites.</p> <p>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.</p>

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	<p>An area that has been disturbed and that requires rehabilitation.</p> <p>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).</p>
Domain	<p>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.</p>
Ecosystem and Land Use Development	<p>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.</p> <p>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.</p> <p>This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.</p>
Ecosystem and Land Use Establishment	<p>This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform.</p> <p>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.</p>
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	<p>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).</p> <p>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.</p>
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	<p>This phase of rehabilitation consists of the processes and activities required to construct the final landform.</p> <p>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).</p>
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	<p>Means the NSW Resources Regulator’s online portal that lease holders must use (via a registered account) to:</p> <ul style="list-style-type: none"> ■ 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. <p>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.</p>
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 2013</i> .
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	<p>The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are:</p> <ul style="list-style-type: none"> ■ active mining ■ decommissioning ■ landform Establishment ■ growth medium development ■ ecosystem and land use establishment ■ ecosystem and land use development.
Progressive rehabilitation	<p>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.</p>
Rehabilitation Completion	<p>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.</p>
Rehabilitation Completion criteria	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation cost estimate	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation management plan	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation objectives	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation risk assessment	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation schedule	<p>The defined timeframes for progressive rehabilitation set out in the forward program.</p>

WORD	DEFINITION
Relevant stakeholders	<p>Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes:</p> <ul style="list-style-type: none"> ■ 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*.

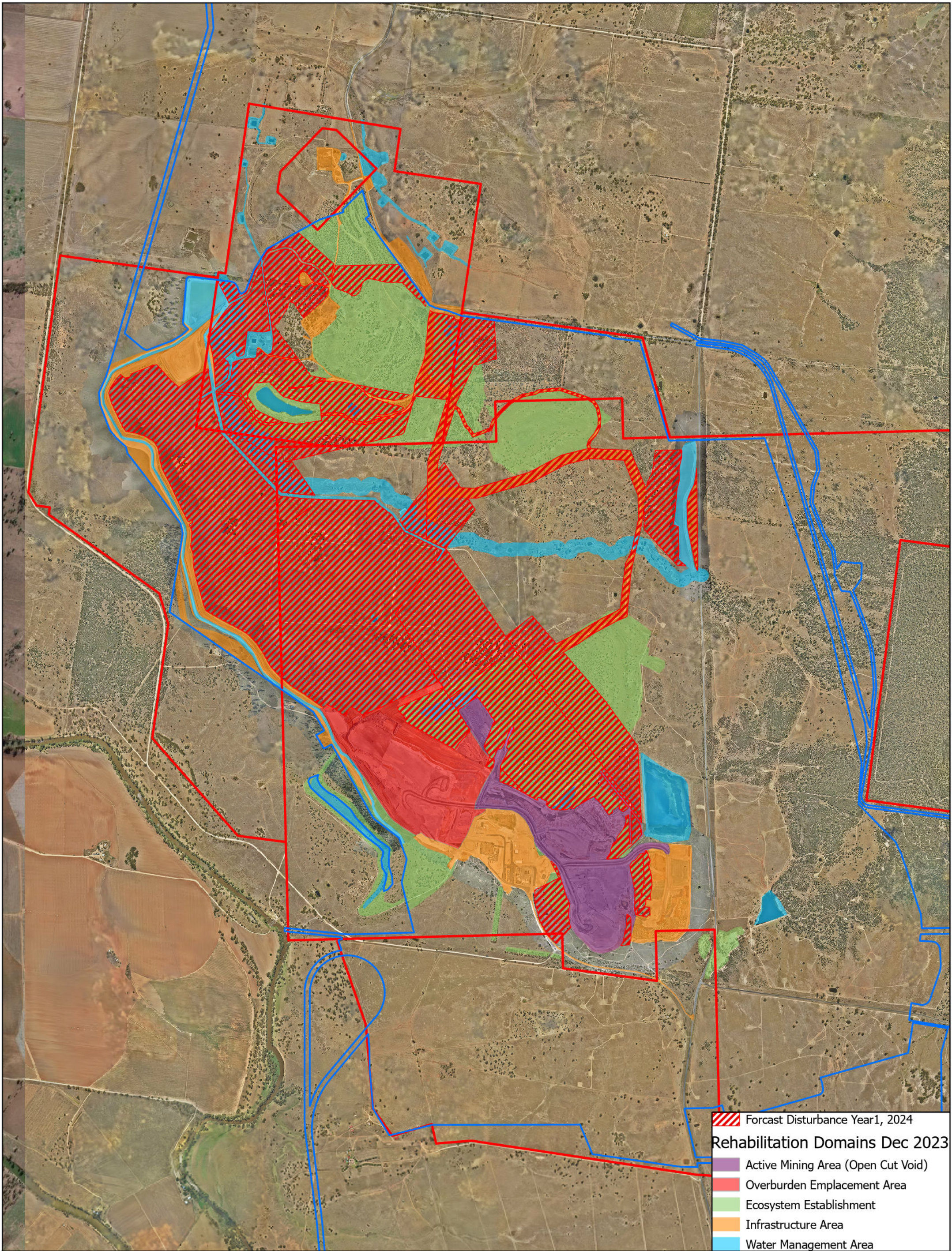
Attachment 3 – Plans

VEP_Plan2A_ForwardProgram_Year1_update.pdf


VEP_Plan2B_ForwardProgram_Year2_update.pdf

VEP_Plan2C_ForwardProgram_Year3_Updated.pdf

Forward Program (LARGE MINE) v2.1






-  Forecast Disturbance Year1, 2024
- Rehabilitation Domains Dec 2023**
-  Active Mining Area (Open Cut Void)
-  Overburden Emplacement Area
-  Ecosystem Establishment
-  Infrastructure Area
-  Water Management Area

**WHITEHAVEN COAL**

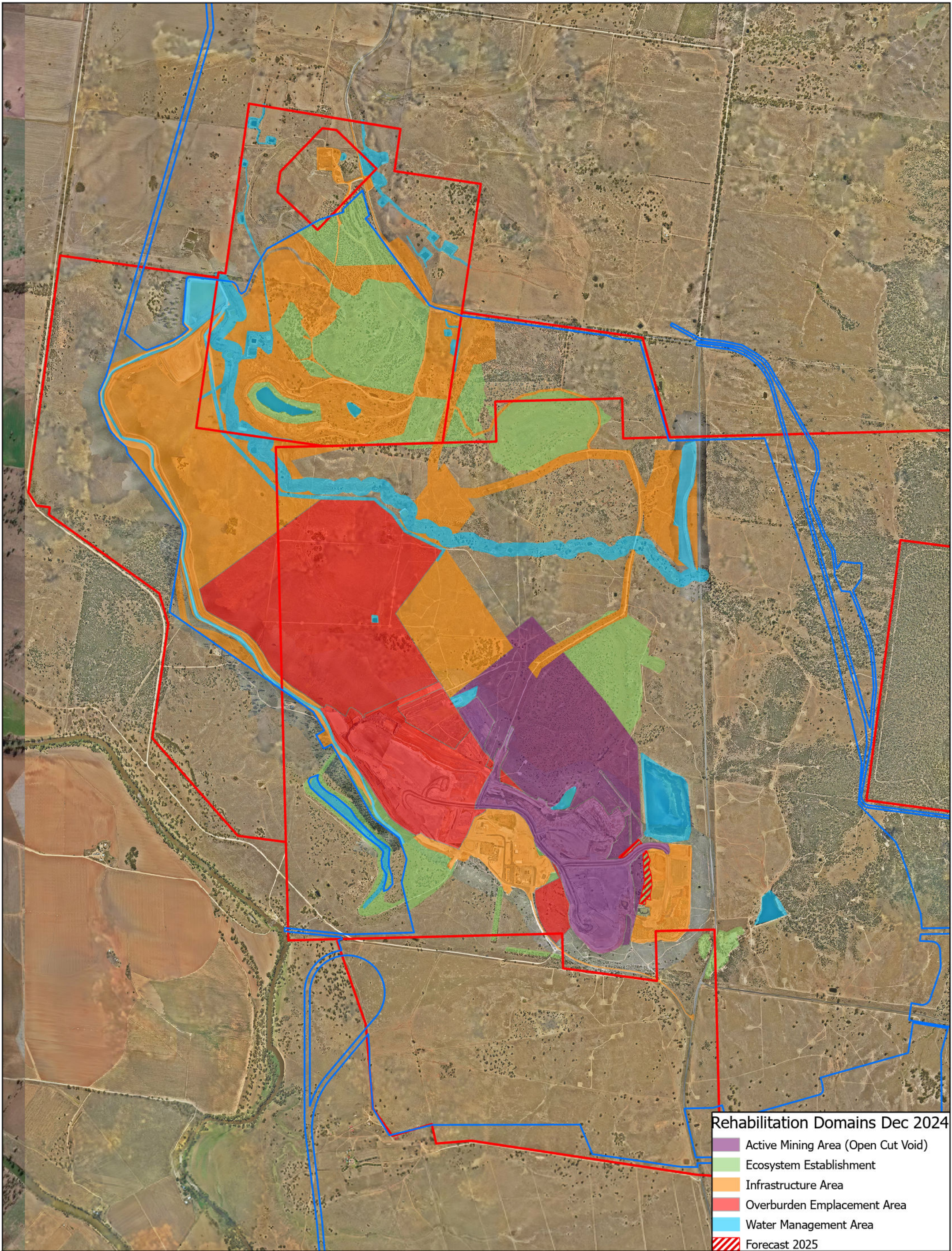
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Date: Feb 2023 **Author:** A.Raal **Scale:** 1:25,000 (A3)

**Vickery Coal Mine
Forward Program 2A, 2024**

Plan 2A Mining Rehabilitation
 PA Disturbance Boundary
 Mining Lease



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Rehabilitation Domains Dec 2024

- Active Mining Area (Open Cut Void)
- Ecosystem Establishment
- Infrastructure Area
- Overburden Emplacement Area
- Water Management Area
- Forecast 2025



Vickery Coal Mine
Forward Program 2B, 2025

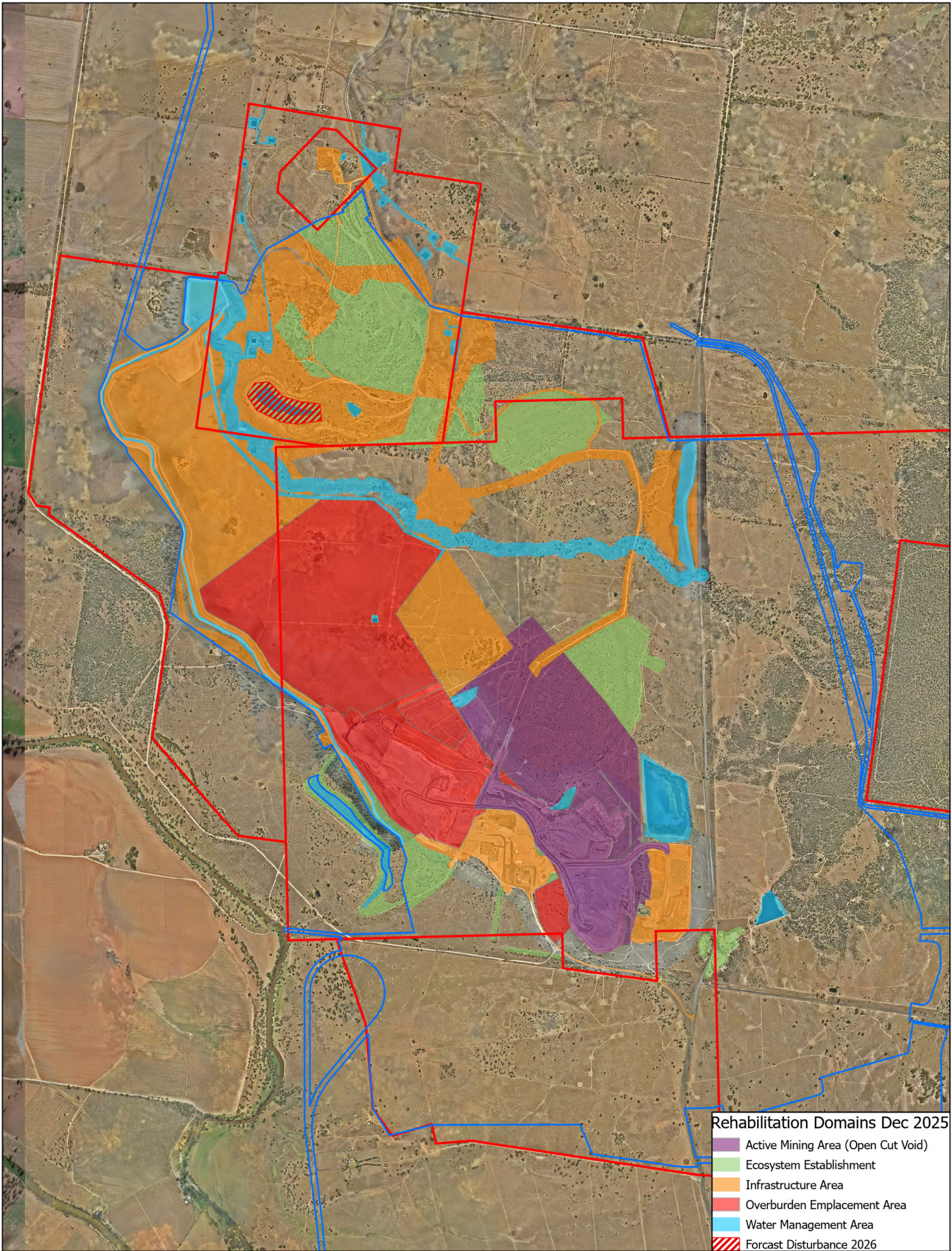
Plan 2B Mining Rehabilitation

- PA Disturbance Boundary
- Mining Lease



Datum: MGA Zone 56 Image: Dec 23
Date: Feb 2023 Author: A.Raal Scale: 1:25,000 (A3)

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- Rehabilitation Domains Dec 2025
- Active Mining Area (Open Cut Void)
 - Ecosystem Establishment
 - Infrastructure Area
 - Overburden Emplacement Area
 - Water Management Area
 - Forecast Disturbance 2026