



VICKERY COAL MINE

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Last Revision Date:	28 July 2022

VCM ANNUAL REHABILITATION REPORT AND FORWARD PROGRAM

WHITEHAVEN COAL

VICKERY COAL MINE ANNUAL REHABILITATION REPORT AND FORWARD PROGRAM



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Annual Rehabilitation Report and Forward Program Summary Table

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ANNUAL REHABILITATION REPORT AND FORWARD PROGRAM SUMMARY TABLE		
Name of Mine:	Vickery Coal Mine	
Name of Lease Holder(s):	Vickery Coal Pty Ltd (Mining Lease Applications 603 and 604) Whitehaven Coal Mining Limited (all other mining leases listed below)	
Name of Mine Operator:	Whitehaven Coal Limited	
Annual Rehabilitation Report Commencement Date:	N/A	
Annual Rehabilitation Report Revision Dates and Version Numbers:	N/A	
Forward Program Commencement Date:	1 August 2022	
Forward Program Revision Dates and Version Numbers:	Original	
Mining Lease(s) / Lease Numbers / Expiry Dates:	Coal Lease 316	Expiry: 15/06/2033
	Mining Lease 1464	Expiry: 21/12/2020
	Mining Lease 1471	Expiry: 07/09/2021
	Mining Lease 1718	Expiry: 15/09/2036
	Mining Lease Application 603	
	Mining Lease Application 604	
Date of Submission:	30 July 2022	



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1 ANNUAL REHABILITATION REPORT

In accordance with Part 1 of the NSW Resources Regulator Form and Way – *Annual Rehabilitation Report and Forward Program for Large Mines (2021a)* and clauses 9 and 13 of Schedule 8A of *Mining Regulation 2016*, the Annual Rehabilitation Report will be developed for the Vickery Coal Mine (VCM).

Requirements under the *Annual Rehabilitation Report and Forward Program for Large Mines (2021)* commenced in July 2021. Considering this is the first Annual Rehabilitation Report and Forward Program (ARRFP) prepared under the new policy, no current applicable ‘reporting period’ exists.

The Annual Rehabilitation Report will be submitted approximately 1 year following the submission of this Forward Program.

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2 FORWARD PROGRAM

This Forward Program for the VCM has been prepared, in accordance with Part 2 of the NSW Resources Regulator Form and Way – *Annual Rehabilitation Report and Forward Program for Large Mines (2021a)* and clauses 9 and 13 of Schedule 8A of the *Mining Regulation 2016*.

2.1 THREE-YEAR FORECAST – SURFACE DISTURBANCE ACTIVITIES

2.1.1 Project Description

The VCM is located in the Gunnedah Coal Basin, approximately 25 km north of Gunnedah in NSW (Figure 1). The VCM is operated by Whitehaven Coal Mining Limited, a wholly owned subsidiary of Whitehaven Coal Limited (Whitehaven).

Development of the VCM and Canyon Coal Mine closure activities are approved under ML 1464, ML 1471, ML 1718, Coal Lease 316, MLA 603, MLA 604, and the Development Consent (SSD-7480). Whitehaven are currently undertaking exploration and geotechnical activities at the VCM and operation of the approved open cut mine has not commenced.

Canyon Coal Mine is located adjacent to the VCM in the north-west, and is included within the scope of the VCM Rehabilitation Outcome Documents and VCM RMP.

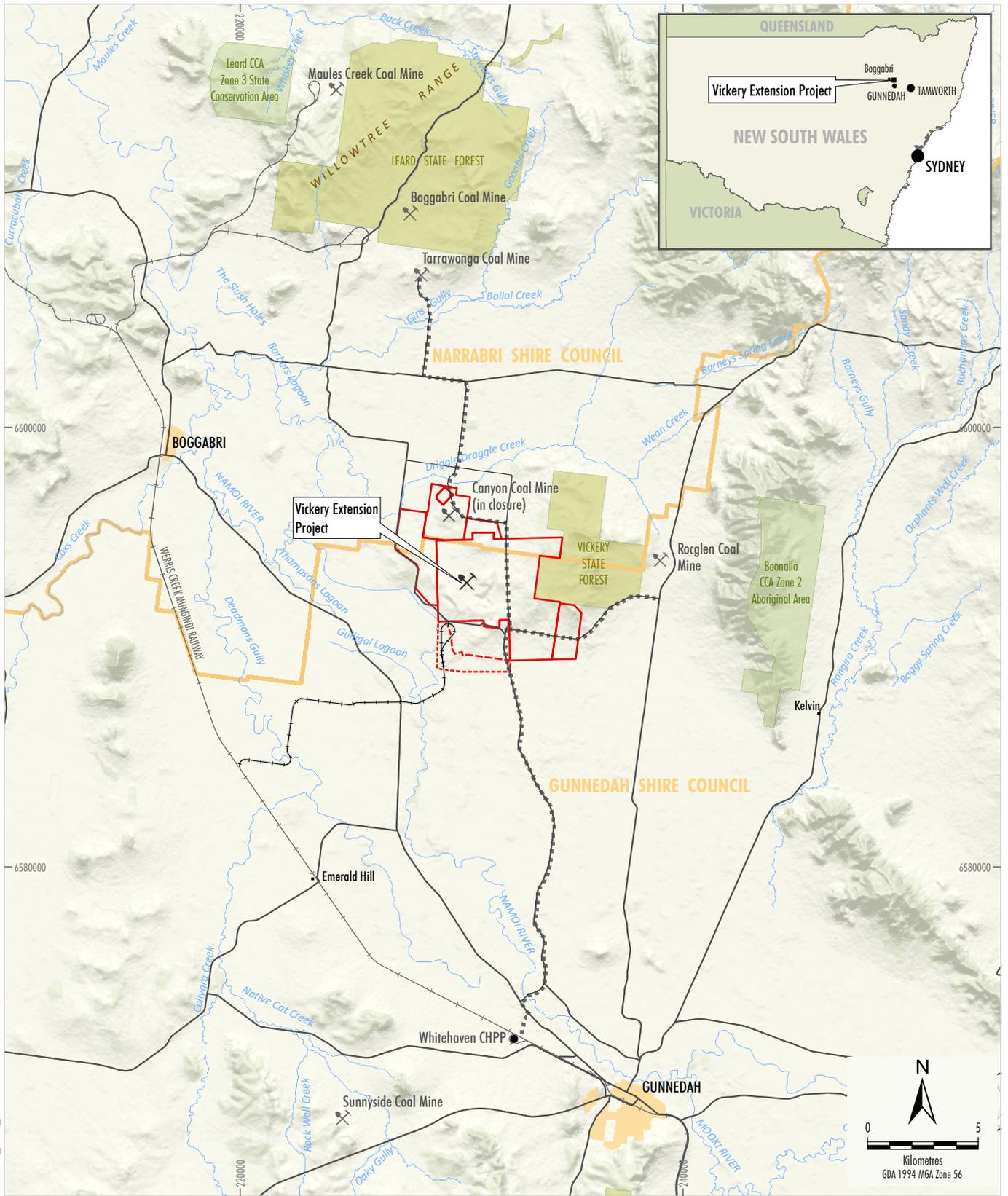
Canyon Coal Mine operated from September 2000 to July 2009 and is currently in closure, in accordance with Development Consent DA 8-1-2005. The mine lies within MLs 1464 and 1471.

The VCM and Canyon Coal Mine are collectively referred to as the VCM.

The general arrangement of the VCM is shown in Figure 2.

2.1.2 Description of Surface Disturbance Activities

Mining activities at the VCM currently include exploration and geotechnical activities as part of pre-construction works and ongoing closure of Canyon Coal Mine. This Forward Program describes the proposed surface disturbance activities over the next 3 years.



WHC-15-33_RMP22_2014

LEGEND

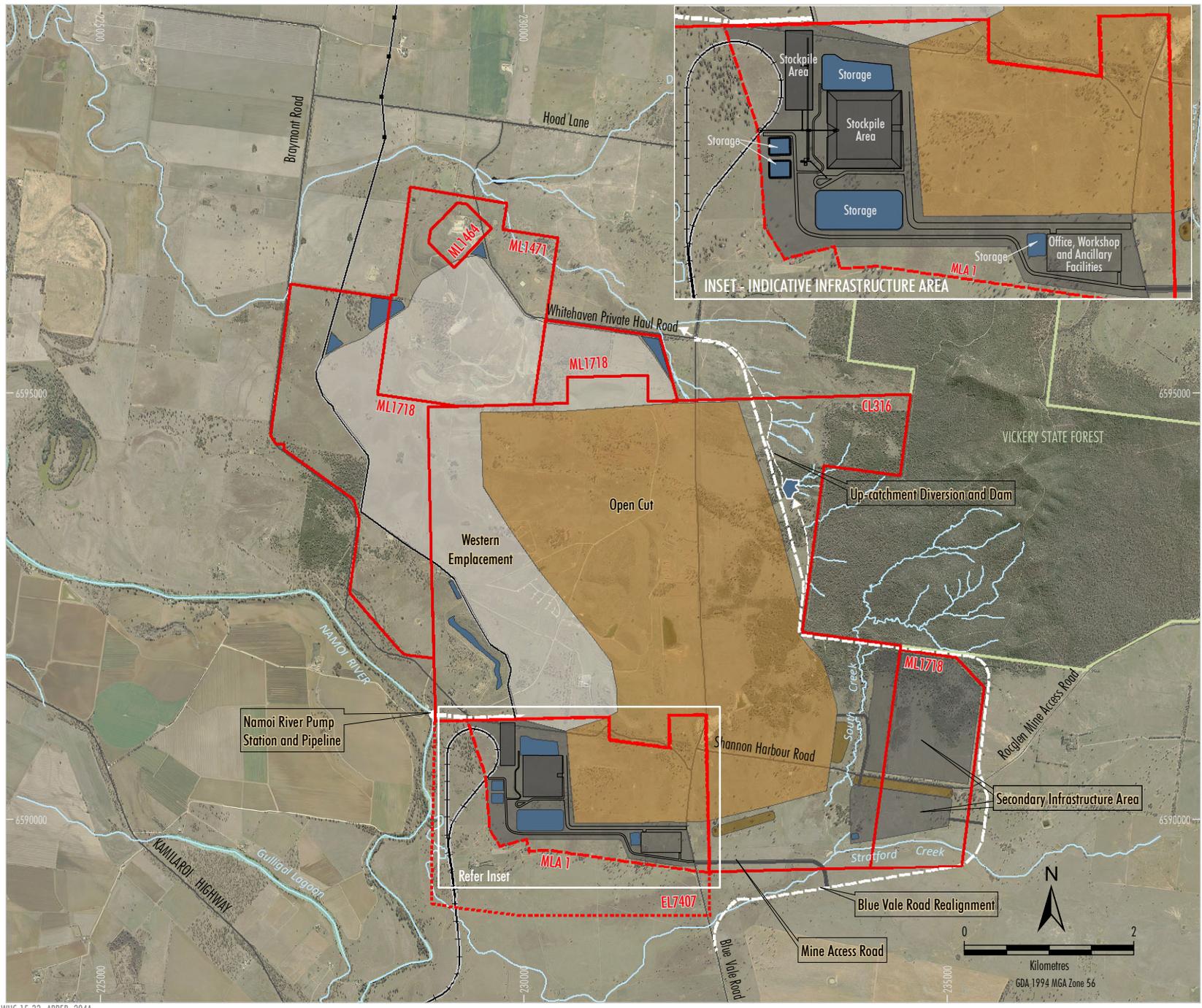
- Mining Tenement Boundary (ML and CL)
- Exploration Licence Boundary (EL)
- Mining Lease Application (MLA)
- Local Government Boundary
- State Forest
- State Conservation Area, Aboriginal Area
- Major Roads
- Railway
- Approved Road Transport Route
- Indicative Project Rail Spur

Source: LPMA - Topographic Base (2010); NSW Department of Industry (2015)



VICKERY COAL MINE
Project Location

Figure 1



- LEGEND**
- Mining Tenement Boundary (ML and CL)
 - Exploration Licence Boundary (EL)
 - Mining Lease Application (MLA)
 - State Forest
- Project Components**
- Indicative Extent of Open Cut
 - Indicative Extent of Out of Pit Waste Rock Emplacement
 - Indicative Extent of Infrastructure Area
 - Indicative Extent of Soil Stockpile
 - Indicative Extent of Water Storage
 - Indicative Extent of Coal Stockpile
 - Indicative Mine Access Road Alignment
 - Indicative Namoi River Pump Station and Pipeline
 - Indicative Road Realignment
 - Indicative Up-catchment Diversion and Dam Location
 - Indicative Rail Spur Alignment
 - Indicative Location of Groundwater Bores and Pipeline

Source: Orthophoto - Department of Land and Property Information, Aerial Photography (July 2011); Department of Industry (2015); Essential Energy (2015)



VICKERY COAL MINE
Project General Arrangement -
Project Mining Area

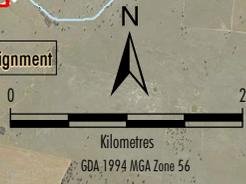


Figure 2



VICKERY COAL MINE

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a. Exploration Activities

Exploration activities will be conducted for resource definition purposes, to support the current coal reserves and the proposed plan for mining operations.

The VCM exploration program will consist of the drilling of approximately 101 boreholes and approximately 50 geotechnical holes over the Forward Program Term. Works associated with exploration and geotechnical activities will be undertaken within 54 ha of land within the approved surface disturbance area at the VCM (see Plan 1 of the VCM RMP). No works are proposed within the extent of the former Canyon Coal Mine site.

Drilling activities will be conducted in accordance with the Whitehaven Coal Exploration Management Plan, and generally in accordance with the objectives of *Guideline for mineral exploration drilling; drilling and integrity of petroleum exploration and production wells* (Department of Industry, 2016). As far as is practicable, exploration activities will follow the requirements of *Exploration Code of Practice: Environmental Management* (Resources Regulator, 2021b) and *Exploration Code of Practice: Rehabilitation* (Resources Regulator, 2021c).

b. Construction Activities

Construction activities at the VCM are associated with exploration and geotechnical works for the development of the approved open cut mine. These works are limited to the construction of:

- drill pads;
- boreholes;
- geotechnical holes; and
- ancillary infrastructure (e.g. access tracks and electricity supply).

c. Mining Sequence

**Table 1:
Material Production Schedule During the Next Three Years**

Material	Unit	Year 1	Year 2	Year 3
Stripped topsoil	Cubic metres (m ³)	0	0	0
Rock/overburden	m ³	0	0	0
Ore	Mega tonne (Mt)	0	0	0
Reject material	Mt	0	0	0
Product	Mt	0	0	0

* Mining operations at the VCM have not commenced and no mining is scheduled.

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Describe the method of mining development and sequencing and general mine features

The open cut mining operations at the VCM have not commenced. As such, mining development is associated with exploration and construction activities described in Section 2.1.2b.

Describe areas identified for emplacement, the sequencing of emplacements, construction and management

The open cut mining operations at the VCM have not commenced. As such, there is no emplacement sequencing or management proposed.

Identify processing infrastructure activities and the location of tailings facilities and schedule for emplacement

The open cut mining operations at the VCM have not yet commenced. As such, there is no processing infrastructure activities or tailings facilities proposed during this Forward Program term.

Describe waste disposal and materials handling operations over the next three years. This should include a discussion of disposal of putrescible waste, hydrocarbons and management of contaminated soils

The type of waste materials produced by the exploration activities are as follows:

- liquid waste consisting of drill cuttings and drilling fluids – stored in skip bins/above ground bins or sumps for removal by a hydro-vac truck; and
- general solid waste (non-putrescible) – small quantities removed from the drill sites on a regular basis.

All waste material will be removed from site to authorised and licenced waste facilities as part of the rehabilitation of the exploration drill pads.

2.2 THREE-YEAR REHABILITATION FORECAST

2.2.1 Rehabilitation Planning Schedule

Rehabilitation Planning Schedule

Rehabilitation activities at the VCM are limited to the drill pads, boreholes and geotechnical holes required for exploration and geotechnical activities. Surface disturbance required for drill pads, boreholes and geotechnical holes is not proposed to exceed a 30 m x 30 m extent for the purpose of rehabilitation. Rehabilitation of access tracks is also not proposed to exceed the 3 m width required for vehicles.

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Rehabilitation of exploration activities will occur progressively, approximately one month following completion of prospecting activities relating to a drill hole and six months relating to an access track.

Provide an overview of relevant stakeholder consultation that will be carried out over the next three years

Ongoing consultation regarding the VCM will continue during this Forward Program term. This will include discussions with the community, relevant stakeholders and government agencies. Whitehaven stakeholder consultation occurs via the VCM Community Consultative Committee, Whitehaven’s website, and the VCM community hotline.

Provide an overview of rehabilitation studies, risk assessments, and/or design work associated with finalising the rehabilitation methodologies relating to establishment of the final landform, surface water management, final void management, and tailings dam decommissioning that will be carried out over the next three years

Historic rehabilitation activities at the Canyon Coal Mine were successful and subsequently, the site is in closure. As part of preparing the VCM RMP, a rehabilitation risk assessment was conducted by Whitehaven for current activities associated with the VCM.

Should the approved mining operations at the VCM commence, a subsequent rehabilitation risk assessment will be prepared to identify key rehabilitation and mine closure risks, and appropriate risk reduction strategies/actions to adequately control the risk. At this stage, the VCM RMP will be revised to incorporate identified risks and control measures.

2.2.2 Rehabilitation Research and Trials

No rehabilitation research and trials are currently being undertaken or proposed. Notwithstanding, the successful rehabilitation at the Canyon Coal Mine, and Whitehaven’s other operations in the Gunnedah Coalfield, will inform rehabilitation activities at the VCM.

2.2.3 Rehabilitation Maintenance and Corrective Actions

Rehabilitation of exploration and geotechnical activities at the VCM will be monitored on a regular basis to ensure revegetation in the rehabilitation areas is establishing, and to determine the need for any maintenance and/or contingency measures (e.g. supplementary plantings, weed or erosion control). Rehabilitation monitoring will also aim to demonstrate the effectiveness of rehabilitation techniques, and track the progression towards achieving the rehabilitation performance and completion criteria, as per Section 4.1 of the VCM’s RMP.

Maintenance of rehabilitation activities undertaken may include:

- visual monitoring; and
- agricultural rehabilitation monitoring.

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Should rehabilitation performance issues or knowledge gaps be identified as part of the VCM Annual Rehabilitation Report, amendments to the rehabilitation monitoring program will be undertaken. Any amendments will also be reflected within environmental management plan revisions and future iterations of the VCM ARRF.

2.2.4 Rehabilitation Schedule

Rehabilitation proposed to be implemented over the Forward Program term consists of any land disturbed as part of exploration and geotechnical activities, and associated tracks. Rehabilitation of the disturbed areas will be consistent with the historic land use and associated vegetation (i.e. Domain B: Agricultural – Grazing).

The rehabilitation activities will occur as soon as practicable following the completion of drilling activities. Rehabilitation activities include the demobilisation of equipment and resources from drilling areas.

The Canyon Coal Mine is currently in closure. As such, no rehabilitation activities are required within the historic site.

2.2.5 Subsidence Remediation for Underground Operations

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

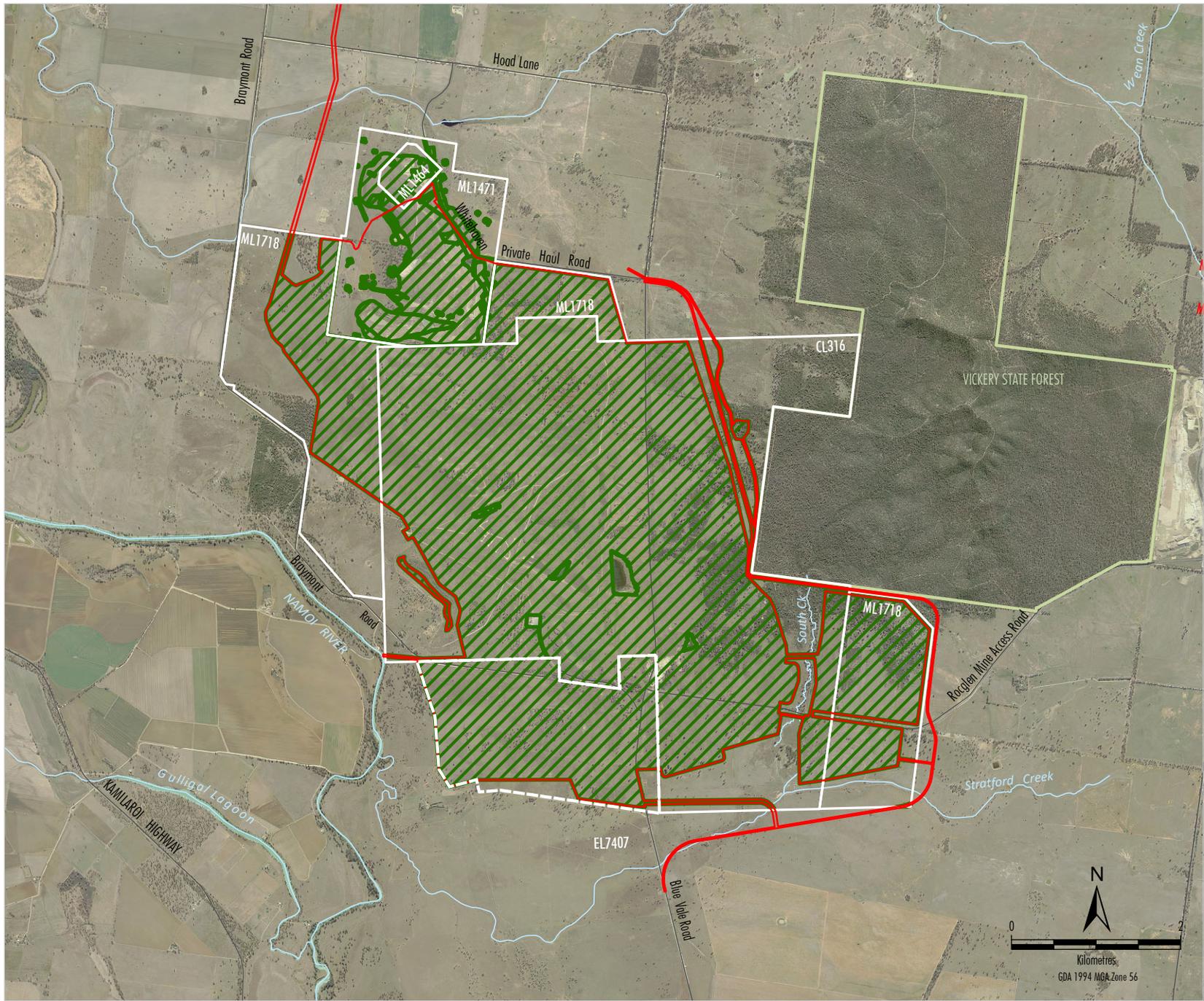
2.3 PLAN 2 – MINING AND REHABILITATION THREE-YEAR FORECAST

2.3.1 Submission of Plan 2 Spatial Data to the Mine Rehabilitation Portal

In accordance with the NSW Resources Regulator Form and Way – *Annual Rehabilitation Report and Forward Program for Large Mines (2021a)*, Whitehaven has submitted spatial theme data to the NSW Resources Regulator through the Mine Rehabilitation Portal. Plan 2 is provided in Section 2.3.2.

2.3.2 Submission of Plan 2 Electronic Copy

In line with the spatial data submitted to the NSW Resources Regulator through the Mine Rehabilitation Portal, Plan 2 is provided in a series of subplans (i.e. Plans 2A, 2B and 2C). Plans 2A, 2B and 2C represent Year 1, Year 2 and Year 3 of this Forward Program term, respectively.



- LEGEND**
- Project Development Area
 - Coal - Current Title
 - Forecast Area
 - Ecosystem and Land Use Establishment

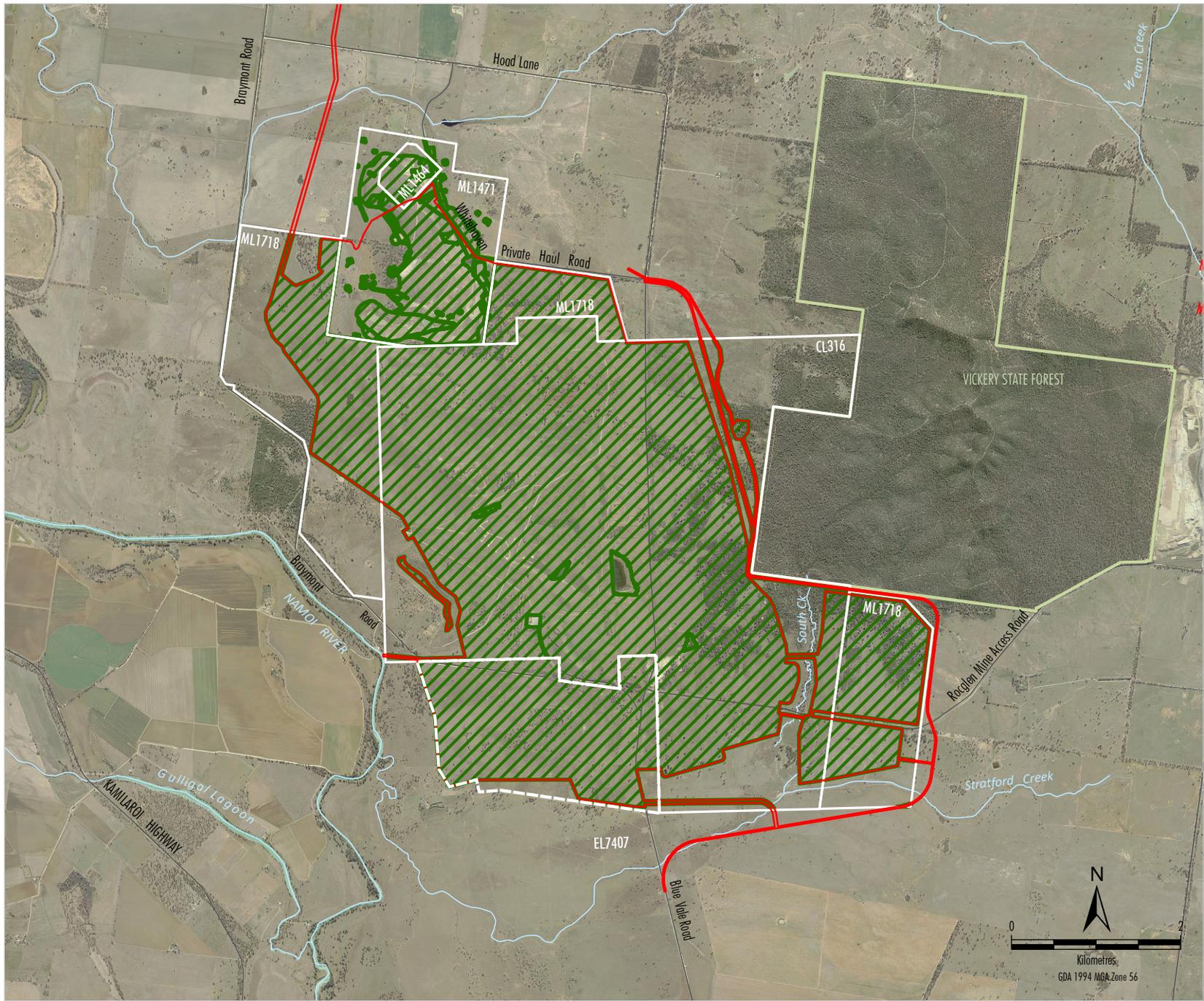
Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



VICKERY EXTENSION PROJECT

Mining and Rehabilitation -
Year 1 (July 2023)





- LEGEND**
- Project Development Area
 - Coal - Current Title
 - Forecast Area
 - Ecosystem and Land Use Establishment

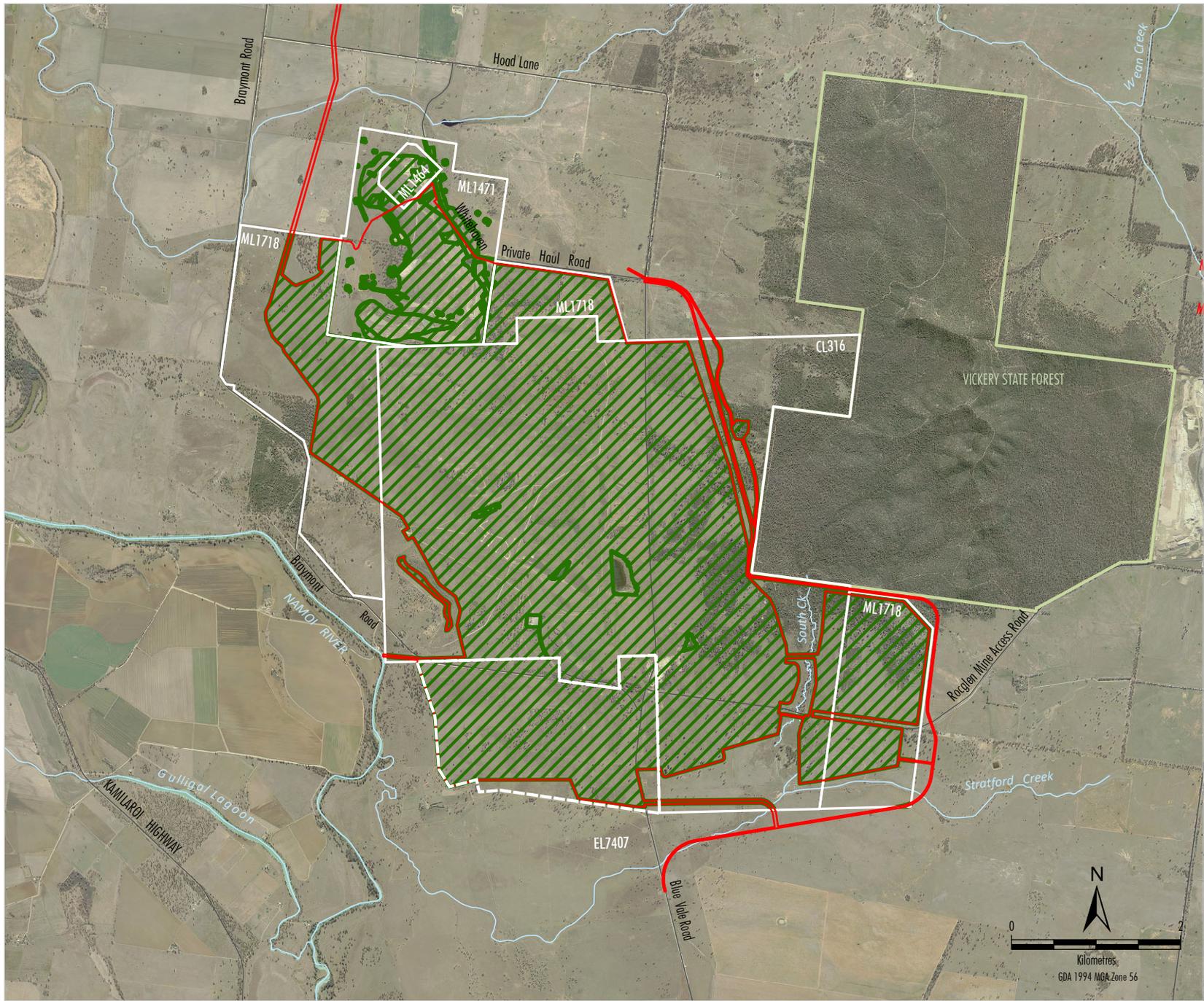
Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



VICKERY EXTENSION PROJECT

Mining and Rehabilitation -
Year 2 (July 2024)





- LEGEND**
- Project Development Area
 - Coal - Current Title
 - Forecast Area
 - Ecosystem and Land Use Establishment

Source: Orthophoto - Department of Land and Property Information, Aerial Photography Flown (July 2011); Department of Industry (2015); Whitehaven (2013)



VICKERY EXTENSION PROJECT

Mining and Rehabilitation -
Year 3 (July 2025)



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2.4 PROGRESSIVE MINING AND REHABILITATION STATISTICS

2.4.1 Three-yearly Forecast Cumulative Disturbance and Rehabilitation Progression

As part of preparing the VCM Forward Program, the spatial data presented in Section 2.3 was submitted to NSW Resources Regulator through the NSW Resources Regulator's Mine Rehabilitation Portal. The Mine Rehabilitation Portal has subsequently generated the predicted cumulative disturbance and rehabilitation progression to be undertaken over the next three years at the VCM (Table 2).

**Table 2:
Predicted Cumulative Disturbance and Rehabilitation Progression
During the Next Three Year Term**

YEAR	1	2	3
Total disturbance footprint – surface disturbance (ha)			
Underground mining area (ha)			
Total active disturbance (ha)			
Rehabilitation – land preparation (ha)			
Ecosystem and land use establishment (ha)			

Note: ha = hectares.

2.4.2 Rehabilitation Key Performance Indicators (KPIs)

In addition to the data generated as part of Section 2.4.1, the NSW Resources Regulator's Mine Rehabilitation Portal has generated the progressive rehabilitation key performance indicators for the next three years of activity at the VCM (Table 3).

**Table 3:
Progressive Rehabilitation Key Performance Indicators During the Next Three Year Term**

YEAR	1	2	3
Total new active disturbance area during reporting period (ha)			
Area of land proposed for active rehabilitation during reporting period (ha)			
Annual rehabilitation to disturbance ratio			

2.5 REHABILITATION COST ESTIMATE

A Rehabilitation Cost Estimate (RCE), as defined in the *Mining Regulation 2016*, has been developed for the VCM in accordance with the NSW Resources Regulator's Cost Estimate Tool.



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3 REFERENCES

New South Wales Department of Industry (2016). *Guideline for mineral exploration drilling; drilling and integrity of petroleum exploration and production wells.*

New South Wales Resources Regulator (2021a). *Form and Way – Annual Rehabilitation Report and Forward Program for Large Mines.*

New South Wales Resources Regulator (2021b). *Exploration Code of Practice: Environmental Management.*

New South Wales Resources Regulator (2021c). *Exploration Code of Practice: Rehabilitation.*