NSW GOVERNMENT

NSW Resources Regulator

ARR0001277

BLOOMFIELD MINE ANNUAL REHABILITATION REPORT

Saturday 1 April 2023 to Sunday 31 March 2024

Contents

Summary table

DETAIL	
Mine	Bloomfield Mine
Reference	ARR0001277
Annual report period commencement date	Saturday 1 April 2023
Annual report period end date	Sunday 31 March 2024
Forward program	
Mining leases	ML 1738 (1992), CCL 761 (1973)
Lease holder(s)	BLOOMFIELD COLLIERIES PTY LTD
Contact	Simon Grassby
Date of submission	Monday 27 May 2024

Important

The department may make the information in your report 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 report to be confidential, please communicate this to the department via the message function on this submission within the NSW Resources Regulator Portal.

Mine details

Project description

The Colliery operates in accordance with Project Approval (PA) 07_0087 with approved production levels of 1.3 Mtpa of Run of Mine (ROM) coal. Mining operations may take place until 31 December 2030. The Coal Handling and Processing Plant (CHPP), associated infrastructure and tailings dam are approved under the Abel Coal Project (PA 05_0136). The Colliery is a multi-seam, multi bench system, mining up to 13 seams or splits. Heavy earth moving equipment delivers the ROM coal to the onsite CHPP via internal haul roads. Processing includes size reduction, washing and screening. Product coal is stockpiled adjacent to the CHPP before being loaded into rail wagons at the rail loading facility and transported by rail to the Port of Newcastle. The Colliery has approval to operate 24 hours per day, seven days per week, and employs approximately 60 personnel across its operations. Areas have been progressively rehabilitated with approximately 505 hectares of disturbed land rehabilitated to date.

Life of mine

3 years

Current development consents, leases and licences

Development consents granted under the *Environmental Planning and Assessment Act 1979*

SSI-22338205SSI-2233
PA07-0087 (MOD4)
PA07-0087 (MOD4)
PA07-0087 (MOD4)
PA07-0087 (MOD4)
PA07-0087 (MOD4)
PA07-0087 (MOD4)
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PA07-0087 (MOD4)
PA07-0087 (MOD4)
PA05-0136 (MOD3)
PA05-0136 (MOD3)
PA05-0136 (MOD3)
PA05-0136 (MOD3)
PA05-0136 (MOD3)

PA05-0136 (MOD3)
PA05-0136 (MOD3)
PA05-0136 (MOD3)

Authorisations covering the mining area granted under the *Mining Act 1992*

ML 1738 (1992), CCL 761 (1973)

Any other approvals, licences, or authorities issued by government agencies that are relevant to the progress of mining operation and rehabilitation activities

Water Licence 20AL217062 WAL 41506
Ancillary Mining Activity AMA1001
EPL396

Summary of the scope and/or purpose of the new applications or modifications to existing approvals (if applicable)

NA

Changes to land ownership and land use

Ashtonfields Pty Ltd owns most of the land at the Colliery covered by ML1738 and CCL761. During the reporting period the Bloomfield Group purchased Ashtonfields Pty Ltd. There has been no changes to the land use related to the land.

Surface disturbance and rehabilitation activities during the reporting period

Surface disturbance and rehabilitation activities that were conducted and an analysis of the progress against the rehabilitation schedule

During the reporting period no land was disturbed for mining operations. In the previous Forward Program 5.9 Ha to the west of the current active pit was to be prepared for rehabilitation. During the 2023 reporting period the 5.9 Ha to the west of the current pit was prepared for rehabilitation however due to the proposed development consent modification rehabilitation in this area is on hold since under the proposed modification further mining may occur in the area. In the previous Forward Program 5.9 Ha to the south of the current active pit was to be progressed to ecosystem and land use establishment during this reporting period (ie Year 1). During this reporting period the 5.9 Ha to the south of the current pit was progressed to ecosystem and land use establishment. In addition, 4 Ha on the southern section of the U Cut Tailings Facility has been prepared for rehabilitation and will be progressed to ecosystem and land use establishment during the 2025 reporting period.

Rehabilitation planning activities that were conducted, including any specialist studies

Gaps in knowledge were identified as part of the detailed closure planning process and specialist studies were initiated in late 2021 to further inform the detailed closure plan. The following key deliverables were completed during the previous reporting period: • Completion of specialist closure studies; • Development of a detailed closure plan, based on the learnings from the specialist studies. Following completion of the specialist studies a forward works program has been developed. The works will involve studies / works in the following specialist areas that are to be carried out over the remaining mine life and final closure: • Contamination; • Erosion; • Geochemical; • Surface water; • Ground water; • Underground mining; • Ecological; • Final landform – Safety and Stability

Overview of subsidence repair and/or remediation works undertaken

None undertaken.

Overview of rehabilitation management and maintenance activities

During the reporting period rehabilitation maintenance activities involved weed control activities. Contract weed-sprayers are employed in addition to mechanical support from a slasher when required. Weed control works included rehabilitation areas and remnant

vegetation within the Project Area as well as land outside the project area under the control of Bloomfield. No Class 1 or Class 2 declared weeds were identified onsite.

Details of any rehabilitation actions taken as required by any letters, notices or directions issued by government agencies, including the NSW Resources Regulator

None undertaken.

Details of any rehabilitation areas that have achieved the final land use

NA

Key production milestones

MATERIAL	UNIT	YEAR 1	THIS REPORT
Stripped topsoil (if applicable)	(m^3)	0	37,000
Rock/overburden	(m^3)	0	4,365,000
Ore	(Mt)	0	0.66
Reject material[1]	(Mt)	0	0.27
Product	(Mt)	0	0.39

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

Disturbance and rehabilitation statistics

Current disturbance and rehabilitation progression

	ELEMENT	UNIT	THIS REPORT
A	**Total surface disturbance footprint**	(ha)	934.73
B	**Total active disturbance**	(ha)	411.25
C	**Land prepared for rehabilitation**	(ha)	18.02
D	**Ecosystem and land use establishment**	(ha)	0
E	**Ecosystem and land use development**	(ha)	479.73
F	**Rehabilitation completion**	(ha)	25.73

Rehabilitation key performance indicators (KPIs)

	ELEMENT	UNIT	THIS REPORT
G	**Total new active disturbance area**	(ha)	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
H	**New rehabilitation commenced during annual reporting period**	(ha)	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
I	**Established rehabilitation**	(ha)	505.46
J	**Annual rehabilitation to disturbance ratio**	%	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
K	**Rehabilitated land to total mine footprint**	%	54.08

Progressive achievement of established rehabilitation

	ELEMENT	UNIT	THIS REPORT
L	**Established rehabilitation - agricultural final land uses**	%	97.75
M	**Established rehabilitation - native ecosystem final land uses**	%	0
N	**Established rehabilitation - other/non-vegetated final land uses**	%	2.25

Variation to the rehabilitation schedule

Identify the components of the most recent forward program that were not achieved

N/A

Key factors that delayed progressive rehabilitation

N/A

Outline actions that will be included in the forward program and carried out to minimise disturbance and undertake progressive rehabilitation as far as reasonably practical

N/A

Rehabilitation monitoring and research findings

Rehabilitation monitoring

The rehabilitation monitoring carried out in the annual reporting period

This 2023 rehabilitation monitoring event was conducted at Bloomfield Colliery by AECOM in December 2023. The monitoring program consisted of a total of 30 sites which included 2 analogues. The rehabilitation monitoring program was undertaken in accordance with the Bloomfield Group's monitoring protocol as specified in the RMP. The monitoring protocol included the assessment of a range of performance metrics relating to ground cover, landscape function, erosion, vegetation, weeds and soil properties. Based on the analysed and interpreted field collected data, an overall assessment of rehabilitation performance was undertaken against the relevant rehabilitation objectives and completion criteria defined in Bloomfield's RMP. The results of the 2023 monitoring program show an overall consistent and satisfactory performance at rehabilitation sites across Bloomfield Colliery. Generally, results were stable or improving over previous years, with exceptions of results that can be attributed to temporary drought conditions. Overall, the results of 2023 and previous combined indicate rehabilitation sites are on a trajectory leading to the rehabilitation objective of a safe and stable landforms compatible with the surrounding landscape and with a land capability suitable for grazing.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

The rehabilitation monitoring program was undertaken in accordance with the Bloomfield Group's monitoring protocol as specified in the RMP. The monitoring protocol included the assessment of a range of performance metrics relating to ground cover, landscape function, erosion, vegetation, weeds and soil properties. Based on the analysed and interpreted field collected data, an overall assessment of rehabilitation performance was undertaken against the relevant rehabilitation objectives and completion criteria defined in Bloomfield's RMP. The monitoring program is based on the Landscape Function Analysis (LFA) tool developed by the CSIRO. LFA is the core of the monitoring procedures and uses visually assessed indicators of soil surface processes that gauge how effectively a hillslope is operating as a biophysical system. It is mainly based on processes involved in surface hydrology: rainfall, infiltration, runoff, erosion, plant growth and nutrient cycling. In addition to LFA monitoring, the monitoring program also assesses the performance of rehabilitated lands in terms of ground cover protection, erosion, vegetation community composition and structure, soil properties and pasture productivity.

Are all rehabilitation areas in Landform Establishment phase or higher represented in the monitoring program to assess performance against the rehabilitation objectives and approved or, if not yet approved rehabilitation completion criteria and final landform and rehabilitation plan?

Yes

Year rehabilitation areas will be included as part of the monitoring program

An appraisal of whether rehabilitation is moving towards achieving the proposed rehabilitation objectives, approved or, if not yet approved, rehabilitation completion criteria and final landform and rehabilitation plan as soon as reasonably practicable.

Overall, the results of 2023 monitoring program and previous programs combined indicate rehabilitation sites are on a trajectory leading to the rehabilitation objective of a safe and stable landforms compatible with the surrounding landscape and with a land capability suitable for grazing. Based on the analysed and interpreted field collected data, an overall assessment of rehabilitation performance was undertaken against the relevant rehabilitation objectives and completion criteria defined in Bloomfield's RMP.

Appraisal description

Rehabilitation is moving towards achieving the final land use as soon as reasonably practicable.

Rehabilitation monitoring program findings

Rehabilitation monitoring at Bloomfield is undertaken in accordance with the Rehabilitation Management Plan, which was developed to satisfy the requirements of the Project Approval for the operation. The monitoring program is based on the Landscape Function Analysis (LFA) tool developed by the CSIRO. LFA is the core of the monitoring procedures and uses visually assessed indicators of soil surface processes that gauge how effectively a hillslope is operating as a biophysical system. It is mainly based on processes involved in surface hydrology: rainfall, infiltration, runoff, erosion, plant growth and nutrient cycling. In addition to LFA monitoring, the monitoring program also assesses the performance of rehabilitated lands in terms of ground cover protection, erosion, vegetation community composition and structure, soil properties and pasture productivity. Rehabilitation monitoring at Bloomfield is carried on a biennial basis (i.e. every 2 years) and did not commence until 2008, at the time where much of the existing rehabilitated areas were already established. Monitoring events were subsequently conducted in 2011, 2013, 2015, 2017, 2019, 2021 and 2023. The monitoring program currently includes a total of 30 monitoring sites, comprised of 28 sites within the rehabilitated areas plus two analogue sites. This 2023 rehabilitation monitoring event was conducted at Bloomfield Colliery by AECOM in December 2023. The next round of monitoring will be conducted in 2025-26 reporting period and the results will be presented in the 2025-26 Annual Rehabilitation Report.

Performance issues and their causes including identification of any knowledge gaps that must be addressed

Nil

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
RRT0001095	Grazing Land Monitoring Trial	Monitoring the productivity of rehabilitated pasture through grazing	Measurements of soil sustainability and productivity (and to determine soil amelioration and fertiliser requirements). Measurements and indicators of the health and productivity of vegetation/pasture growth on the land. Develop some key indicators of and best management practices for pastures on rehabilitated land. Provide recommendations for best management practices for future grazing. Provide a comparison of the grazing potential of the rehabilitated land and the adjacent analogue pastures.	31 Dec 2030	Ongoing	Yes

Outcomes of completed trials and research

N/A

Attachment 1 – Reporting Definitions

REPORTING CATEGORY		DEFINITION
A1	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.
A2	Underground Mining Area	Underground mining operations areas/subsidence management areas.
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. Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.

REPORTING CATEGORY		DEFINITION
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.
E	Ecosystem and Land Use Development	Rehabilitation has matured to a level where target revegetation outcomes are on a trajectory towards meeting the final rehabilitation objectives and rehabilitation completion criteria (as verified by monitoring). This phase includes infrastructure areas that are to be retained for an approved post mining land use, following completion of all necessary measures to render the infrastructure fit for this purpose (for example structural integrity).
F	Rehabilitation Completion	The NSW Resources Regulator has determined in writing that the mining area has achieved the approved rehabilitation objectives and approved rehabilitation completion criteria and final landform and rehabilitation plan following the submission of *Form: ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate and/or notification of mine or petroleum site closure.*
G	New active disturbance area	The area of any new active disturbance that has been created during the annual reporting period (definition A1 in Table 5).
H	New rehabilitation commenced during annual reporting period	The sum of any new rehabilitation commenced in the annual reporting period. These areas may be in the rehabilitation land preparation phase or the ecosystem & land use establishment phase (definitions C and D in Table 5).
I	Established rehabilitation (hectares)	The total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5).

REPORTING CATEGORY		DEFINITION
J	Annual rehabilitation to disturbance ratio	The rehabilitation to disturbance ratio (H/G) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the year. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that year are the same.
K	% Rehabilitated land to total mine footprint	The proportion of the total mine footprint (area of land that has been disturbed by past or present surface disturbance activities) that has established rehabilitation (I/A1 x 100). For open cut mining, the proportion of the total mine footprint verified to be “established rehabilitation” should substantially increase as an operation progresses towards mine closure.
L	Established rehabilitation for agricultural final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to an agricultural final land use.
M	Established rehabilitation for native ecosystem final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or rehabilitation completion phase (definitions E & F in Table 5) that have been returned to native ecosystem final land use.
N	Established rehabilitation for other/non-vegetated final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to other/non-vegetated final land use.

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 *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. 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 *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: ■ 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 *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: ■ 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 *Protection of the Environment Operations Act 1997*.

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

Attachment 3 – Rehabilitation Complaints

DATE	COMPLAINANT	COMPLAINT DETAILS	RESPONSE DETAILS	STATUS OF RESPONSE	DATE RESPONSE COMPLETED (IF APPLICABLE)

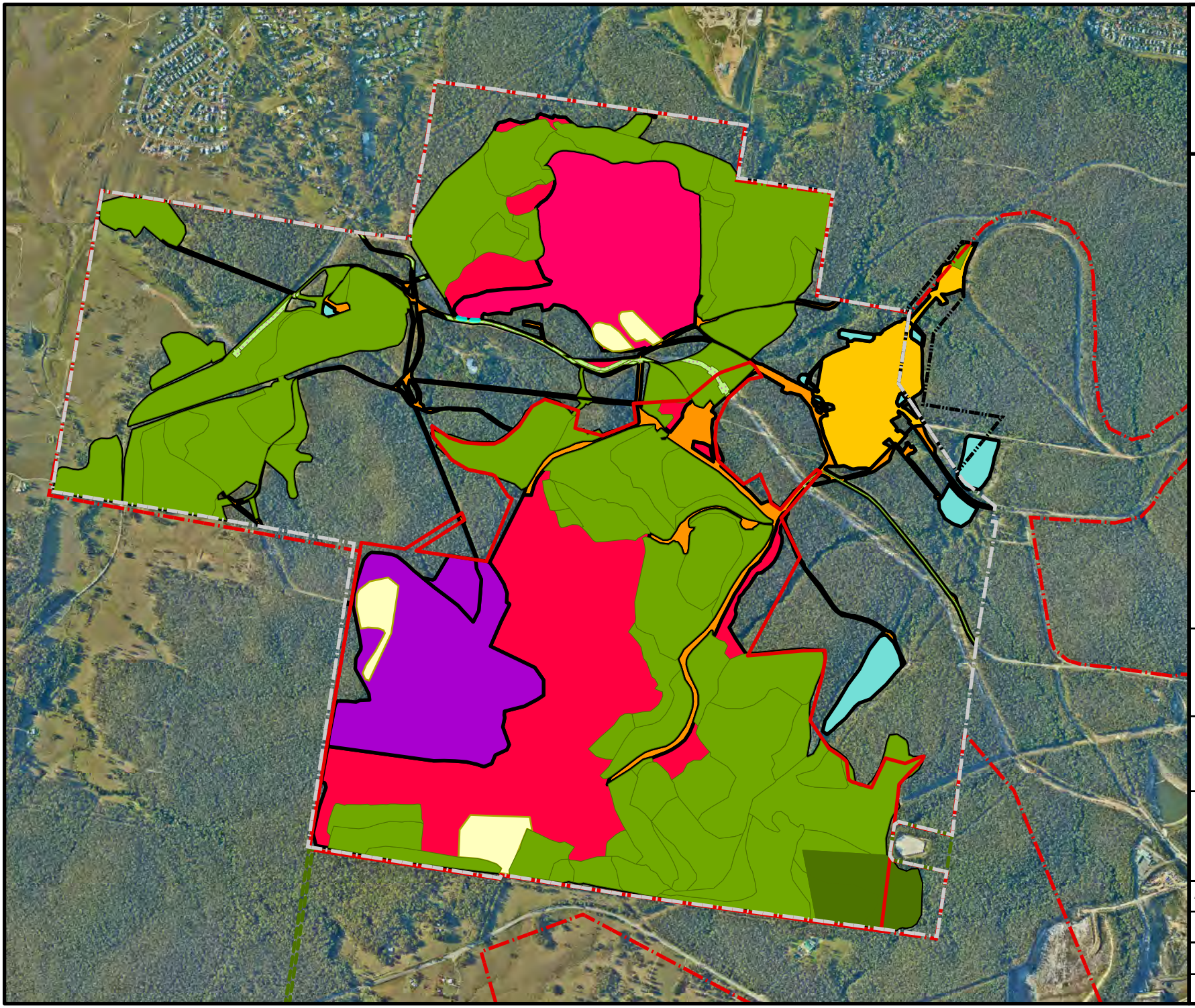
Attachment 4 – Stakeholder consultation

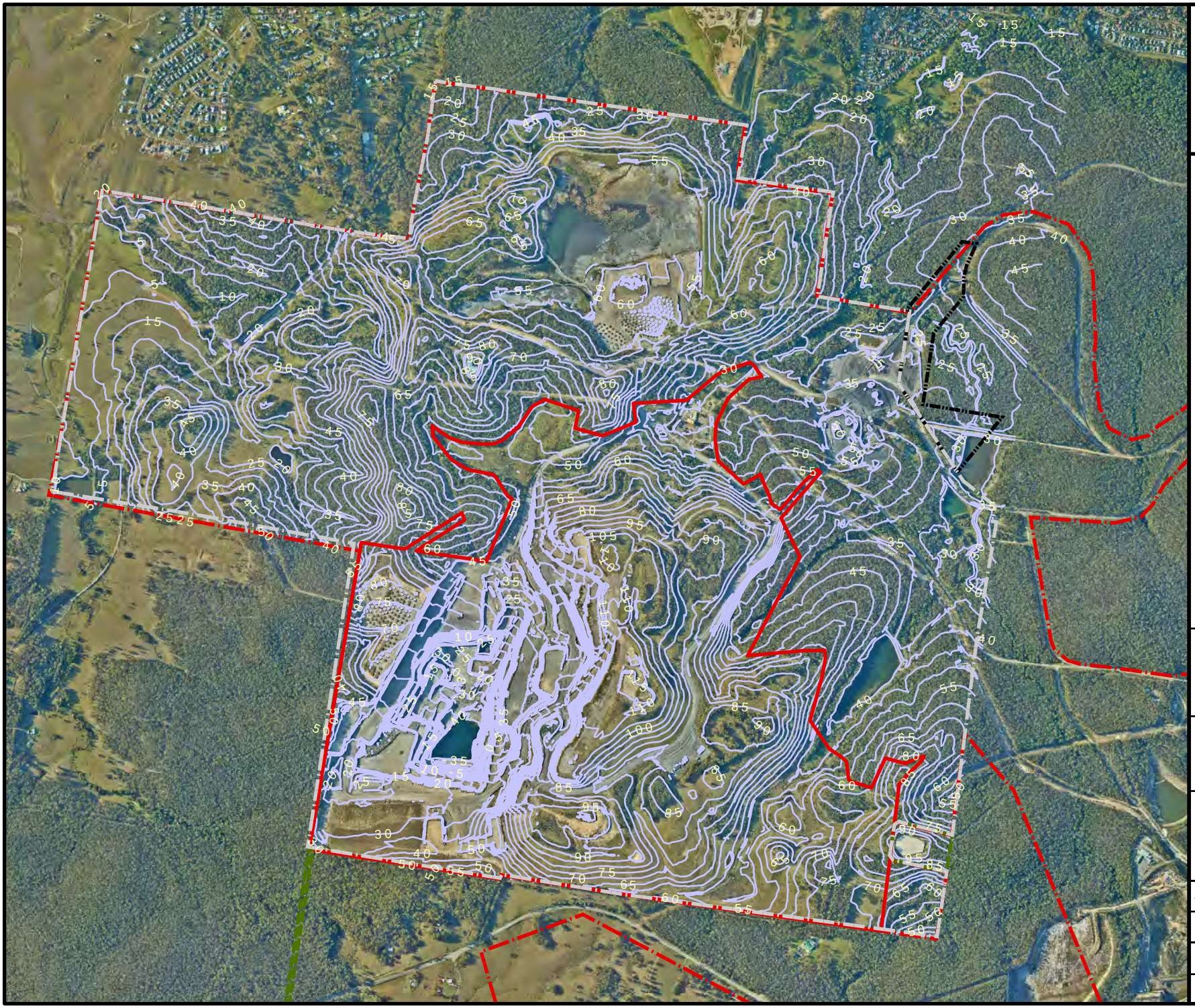
DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
22 Jan 2024	Community	Letter box drop	Progress on development consent modification and online link to community survey.	No actions required

Attachment 5 – Plans

2024 Plan 1A .pdf

2024 Plan 1B.pdf


N
Legend
ML1738
CCL761
AMA1001
Bloomfield PA 07-0087
Abel Coal PA 05-0136
Rehabilitation Phase
Decommissioning
Landform Establishment
Growth Media Development
Ecosystem and Land Use Establishment
Ecosystem and Land Use Development
Relinquishment (Rehabilitated)
Rehabilitation Completion
Mining Domain Type
Beneficiation Facility
Infrastructure Area
Other
Overburden Emplacement Area
Tailings Storage Facility
Underground Mining Area (SMP)
Active Mining Area (Open cut void)
Water Management Area
0 0.1 0.2 0.4 0.6 0.8 1
km
Mine: Bloomfield Mine
Plan 1A
Disturbance (ID 7938)
Rehabilitation (ID 7947)
THE Bloomfield GROUP
WE CARE. WE DELIVER.
Author: Simon Grassby
Scale: 1:20,000
Date: 24/05/2024
File: Bloomfield_Enviro



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Legend

- ML1738
- CCL761
- AMA1001
- Bloomfield PA 07-0087
- Abel Coal PA 05-0136
- Current Landform Contours

0 0.1 0.2 0.4 0.6 0.8 1 km

Mine: Bloomfield Mine
Plan 1B
Current Landform Contours
(ID 7944)

THE Bloomfield GROUP
WE CARE. WE DELIVER.

Author: Simon Grassby

Scale: 1:20,000

Date: 24/05/2024

File: Bloomfield_Enviro

NSW GOVERNMENT

NSW Resources Regulator

FWP0001420

BLOOMFIELD MINE FORWARD PROGRAM

Monday 1 April 2024 to Wednesday 31 March 2027

Contents

Summary

DETAIL	
Mine	Bloomfield Mine
Reference	FWP0001420
Forward program commencement date	Monday 1 April 2024
Forward program end date	Wednesday 31 March 2027
Forward program revision (if applicable)	
Contact	Simon Grassby
Mining leases	ML 1738 (1992), CCL 761 (1973)
Project location	BLOOMFIELD COLLIERIES PTY LTD
Date of submission	Monday 27 May 2024

Important

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Three-year forecast – surface disturbance activities

Project description

The Colliery operates in accordance with Project Approval (PA) 07_0087 with approved production levels of 1.3 Mtpa of Run of Mine (ROM) coal. Mining operations may take place until 31 December 2030. The Coal Handling and Processing Plant (CHPP), associated infrastructure and tailings dam are approved under the Abel Coal Project (PA 05_0136). The Colliery is a multi-seam, multi bench system, mining up to 13 seams or splits. Heavy earth moving equipment delivers the ROM coal to the onsite CHPP via internal haul roads. Processing includes size reduction, washing and screening. Product coal is stockpiled adjacent to the CHPP before being loaded into rail wagons at the rail loading facility and transported by rail to the Port of Newcastle. The Colliery has approval to operate 24 hours per day, seven days per week, and employs approximately 60 personnel across its operations. Areas have been progressively rehabilitated with approximately 505 hectares of disturbed land rehabilitated to date.

Description of surface disturbance activities

Exploration activities

There are currently no proposed exploration activities for the next 3 years. While there are no currently proposed exploration activities, there is a possibility that exploration could begin during the next 3 years. The reasons for exploration activities could be: - fugitive gas modelling - geological modelling

Construction activities

No further construction activities are planned for the Colliery.

Mining schedule

Mining development method and sequencing and general mine features.

The remaining area to be mined is located in the south-western section of ML1738. Mining is to continue within the combined Creek Cut and S Cut pit area over the duration of the forward plan. Mining will advance to the west and north and will cease with the completion of mining. The mining technique at Bloomfield Colliery is a multi-seam bench system which mines numerous seams and splits, mining down to the Big Ben seam.

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

Waste rock mined in the combined S Cut and Creek Cut pits will continue to be placed in pit behind active mining. Following blasting the overburden materials will be loaded by excavator into 180t and 220t capacity haul trucks and transported to the nominated in-pit emplacement area. Load and haul placement of the overburden material will be supplemented by throw blasting and dozer push wherever possible. Backfilled areas are shaped for rehabilitation when filling reaches final landform design.

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

The Bloomfield Coal Handling and Preparation Plant (CHPP) will continue to operate as installed. Heavy earth moving equipment delivers the ROM coal to the onsite CHPP via internal haul roads. ROM coal is processed at the CHPP. Processing includes size reduction, washing and screening. Product coal is stockpiled adjacent to the CHPP before being loaded into rail wagons at the Bloomfield rail loading facility and transported by rail to the Port Waratah Coal Services terminal at the Port of Newcastle. The CHPP coarse reject is currently mixed with overburden material and placed back into open cut pits. This process will continue throughout the forward program which assists in filling voids in preparation for surface rehabilitation. Fine tailings emplacement will continue at the U cut tailings facility, which has sufficient capacity for the forward program. Tailings deposition lines will continue to be repositioned to suit the progressive tailings capping and rehabilitation program, with secondary flocculation continued to be used as required.

Waste disposal and materials handling operations.

General waste minimisation principles (i.e., reduce, re-use and recycling) are currently implemented at the Colliery to minimise the quantity of wastes that require off-site disposal. Key waste streams currently being produced at the Colliery include: • Waste Oil and oil filters: Stored in specific receptacles and collected periodically by licensed waste contractors. • Waste metal: The Colliery has a scrap metal program which has a high rate of onsite re-use of steel. If steel is deemed not suitable for re-use, scrap metal is stored in specific receptacles and sold for recycling. • Waste tyres: up to 50 tonnes of used tyres can be disposed in the mine void. In accordance with EPL requirements, waste tyres will be covered by at least 20 m of inert material beneath rehabilitated surfaces. Disposal volumes reported annually to the EPA. • Hydrocarbon contaminated soils: Hydrocarbon contaminated soils will be treated on-site and tested in a land farm facility as per the Rehabilitation Action Plan (RAP) before disposal in open cut pit. • General waste: General waste is placed in 1.5m3 and 3m3 bins and collected by licensed waste contractor for disposal. • Wastepaper and cardboard: Recycling bins are provided for wastepaper and cardboard. These are regularly serviced by a licensed waste contractor. All general domestic waste and general recyclable products will continue to be collected by an appropriately licensed contractor.

Key production milestones

MATERIAL	UNIT	YEAR 1	YEAR 2	YEAR 3
Stripped topsoil (if applicable)	(m^3)	0	0	0
Rock/overburden	(m^3)	4,000,000	4,000,000	4,000,000
Ore	(Mt)	0.6	0.6	0.3
Reject material[1]	(Mt)	0.2	0.2	0.1
Product	(Mt)	0.4	0.4	0.2

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

Three-year rehabilitation forecast

Rehabilitation planning schedule

Rehabilitation planning schedule

In Year 1, mining will continue within the combined Creek Cut and S Cut area. An area of 5.9 Ha to the west of the current active pit will remain prepared for rehabilitation with the landform established pending outcome of Development Consent (PA07_0087) Modification. An area of 3.9 Ha on the southern section of the U Cut Tailings Storage Facility will progress to ecosystem and land use establishment with the application of ameliorants and seeding. An area of 8.0 Ha of land on the southern section of S Cut and mining lease will be shaped in preparation for rehabilitation. In Year 2, mining will continue within the combined Creek cut and S Cut area. The 8.0 Ha of land on the southern section of the S cut and mining lease will progress to ecosystem and land use establishment with the application of ameliorants and seeding. An area of 3.0 Ha on the southern section of the U Cut Tailings Storage Facility will be shaped in preparation for rehabilitation. A further area of 5.9 Ha on the western section of the U Cut Tailings Storage Facility will be shaped in preparation for rehabilitation. In Year 3, mining will continue within the combined Creek cut and S Cut area. An area of 2.6 Ha on the southern section of the U Cut Tailings Storage Facility will be shaped in preparation for rehabilitation. The 5.9 Ha on the western section of the U Cut Tailings Storage Facility will progress to ecosystem and land use establishment with the application of ameliorants and seeding.

Stakeholder consultation

• Community Consultative Committee – 4 monthly meetings. • Workforce consultation – in particular regarding mine life. • Government departments (Resource Regulator, Department of Planning and Environment, EPA, other) – DA Modification and closure planning, as required.

Rehabilitation studies, risk assessments and/or design work

Detailed closure studies were undertaken to fill in knowledge gaps identified as part of the detailed rehabilitation risk assessment process. Some recommendations require further studies to be carried out over the Forward Program: • To assist finalising final landform design of the U Cut Tailings Storage Facility undertake investigation of permeability of the capping material in the capping design process by the end of Year 1. • Legacy areas such as existing dam walls require further closure studies with carrying out of an ecological assessment and the preparation of biodiversity assessment report during Year 1. • To assist in removal of large dams as part of mine closure works a detailed design for the removal of the dams to be prepared during Year 1. • Consultation with Resource Regulator regarding completed risk assessment reports for old underground entries and recommendations for sealing to continue during Year 1.

Rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS
FWP0001420					

Rehabilitation maintenance and corrective actions

Rehabilitation monitoring is undertaken in accordance with the Rehabilitation Management Plan. The monitoring program is based on the Landscape Function Analysis (LFA) tool developed by the CSIRO and is carried out on a biennial basis. The next program is scheduled for late 2025 (Year 2). In addition, a monitoring program is undertaken to assess progress in achieving a long term sustainable agricultural land use of the rehabilitated land. These areas of rehabilitated mined lands have been grazed with beef cattle. The program is carried out on a biennial basis and is run over a full year on a quarterly basis to provide data covering summer, autumn, winter and spring conditions. Maintenance activities to be conducted during the forward program includes ongoing weed treatment across disturbed and undisturbed areas of the Mining Lease. Also, the annual feral dog baiting program will continue in consultation with large land holders in the area and Local Land Services. It is envisaged that this monitoring / inspection program will be continued as required until it can be demonstrated that the rehabilitation has satisfied the closure criteria. Specific maintenance and corrective actions to be progressed in the next three years and progress of current actions will be included in Annual Rehabilitation Reports.

Rehabilitation schedule

Under current approvals, mining activities at the Colliery are expected to continue until late 2026, with progressive rehabilitation undertaken during the active mining phase. Following cessation of production, priority will be given to the completion of rehabilitation along the southern boundary of the site and the U Cut Tailings Storage Facility. The timing of key activities associated with the rehabilitation schedule are provided in the Rehabilitation Management Plan.

Subsidence remediation for underground operations

Sink holes associated with shallow workings occur infrequently in the rehabilitated areas on the western side of the Mining Lease. Operations currently being undertaken at the Colliery do not include underground mining, and therefore risk of subsidence is not increased. If subsidence potholes are identified, the standard management procedure is to flag off and isolate the depression from access, back fill and monitor the area for further subsidence. Once deemed stable, the area will then be rehabilitated, and periodic inspections will continue. Waste emplacement areas are monitored for signs of uneven or excessive displacement that may alter drainage patterns or present a safety risk. If excessive displacement is identified, then repair works will be carried out.

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)	934.73	934.73	934.73
B	**Total active disturbance**	(ha)	393.29	384.34	381.71
P	**Total new area of land proposed for active rehabilitation**	(ha)	17.96	26.9	29.53

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)	17.96	8.94	2.63
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. 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.
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. 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
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. 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 *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. 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 *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: ■ 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 *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: ■ 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 *Protection of the Environment Operations Act 1997*.

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

Attachment 3 – Plans

2024 Plan 2A Year 1.pdf

2024 Plan 2B Year 2.pdf

2024 Plan 2C Year 3.pdf

N

Legend

- ML1738
- CCL761
- AMA1001
- Bloomfield PA 07-0087
- Abel Coal PA 05-0136

Forcast Area

- Forecast Disturbance
- Forecast Land Prepared for Rehabilitation
- Ecosystem and Land Use Establishment

0 0.1 0.2 0.4 0.6 0.8 1 km

Mine: Bloomfield Mine
Plan 2A
Year 1 (YEM25)
(ID 7941)

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Author: Simon Grassby

Scale: 1:20,000

Date: 24/05/2024

File: Bloomfield_Enviro

N

Legend

- ML1738
- CCL761
- AMA1001
- Bloomfield PA 07-0087
- Abel Coal PA 05-0136

Forcast Area

- Forecast Disturbance
- Forecast Land Prepared for Rehabilitation
- Ecosystem and Land Use Establishment

0 0.1 0.2 0.4 0.6 0.8 1 km

Mine: Bloomfield Mine
Plan 2B
Year 2 (YEM26)
(ID 7942)

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Scale: 1:20,000

Date: 24/05/2024

File: Bloomfield_Enviro

N

Legend

- ML1738
- CCL761
- AMA1001
- Bloomfield PA 07-0087
- Abel Coal PA 05-0136

Forcast Area

- Forecast Disturbance
- Forecast Land Prepared for Rehabilitation
- Ecosystem and Land Use Establishment

0 0.1 0.2 0.4 0.6 0.8 1 km

Mine: Bloomfield Mine
Plan 2C
Year 3 (YEM27)
(ID 7943)

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Scale: 1:20,000

Date: 24/05/2024

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