



Environmental Management System

Rix’s Creek Mine

**ANNUAL REHABILITATION REPORT AND FORWARD PROGRAM FOR
LARGE MINES**

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Form and Way – Rix’s Creek Mine

SUMMARY TABLE	
Name of mine	<i>Rix’s Creek Mine</i>
Rehabilitation commencement date	<i>1 April 2023</i>
Revision number	<i>1.0</i>
Revision date	28/5/2023
Mining leases	<i>CL 352, ML 1432, CL357, ML 1630, ML 1648, ML 1649, ML 1650 and ML 1651, ML 1725, ML 1803.</i>
Name of lease holder	<i>Bloomfield Collieries Pty Ltd</i>
Submission date	30/5/2023

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1. Annual Rehabilitation Report

1.1 COMPLAINTS REGISTER

There were no complaints received during the reporting period relating to rehabilitation.

1.2 CURRENT DEVELOPMENT CONSENTS, LEASES AND LICENCES

The current approvals and tenements for RCM are summarised in Table 1.

Table 1 RCM approvals, tenements and MOP

Approval Number	Description	Issue Date	Expiry Date
Approvals			
NSW Department of Planning, Industry and Environment			
PA No. 08_0102	Development Consent for the construction and operation of surface coal mine extensions.	26 November 2010	31 December 2022 (now superseded to 31 December 2035 – Mod 5).
Modification 1	Modification to acquisition and mitigation properties, increase Falbrook Pit dump height, North crib huts, Implementation date for OLC extension, BOA extension	18 March 2012	-
Modification 3	Eliminate OLC, modify Falbrook Pit Operating hours (7a-10p x 7d), additional mitigation property, amend noise criteria at property 112, Further extension to BOA (2 years)	5 October 2012	-
Modification 2	OLC extension (6months), BOA extension (6 months)	1 February 2013	-
Modification 4	Application submitted April 2014 to revise BOA strategy	24 February 2016.	-
Modification 5	Transport and Processing of ROM coal from either Open Cut at either CHPP.	26 February 2016	
Modification 6	Application submitted Feb 2016 to separate consolidated approval into individual Underground and Open Cut approvals	23 August 2016.	31 December 2035
Modification 7	The exploration drilling activities as described in EA (Mod 7)	1 September 2017	
Modification 8	Previous mined area outside approved open cut limit.	3 April 2019	31 December 2035
Modification 9	Landform Amendment, Exploration and Blasting Frequency Modification	February 2021	31 December 2035

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Approval Number	Description	Issue Date	Expiry Date
DA No. 49/94	Development Consent for the construction and operation of surface coal mine extensions.	19 October 1995	24 March 2020
DA No. 49/94 MOD 8	Consent modification for Rix’s Creek Mine Satellite ROM Pads.	20 December 2016	24 March 2020
DA No. 49/94 MOD 9.	Consent modification for Rix’s Creek Mine. (Dried tailings refuse to be emplaced in overburden dumps at Rix’s Creek North (up to 500,000 m3) and overburden from Rix’s Creek South to be placed at Rix’s Creek North (up to 5,000,000 m3).	01 September 2017	24 March 2020
DA No. 49/94	Consent Order- 2017/211784- NSW Land and Environment Court.	12 July 2017	24 March 2020
DA 49/94 MOD 10	Consent Modification for Rix’s Creek Mine Extension of approval for coal extraction until 24 March 2020.		24 March 2020
SSD 6300	Rix’s Creek Continuation of Mining Project	12 October 2019	12 October 2040
SSD 6300 Modification 1	Correction of minor condition errors, enable receipt of remnant coalaceous material, and undertake ancillary activities (including exploration activities and piezometer installation).	July 2021	12 October 2040
Singleton Shire Council			
DC	Hydrocarbon Storage Shed	7 December 2005	-
DC	Control Room	12 September 2005	-
Approval to Demolish Existing Dwelling and Shed	Dwelling and shed located at Lot 93 DP 752442 Middle Falbrook Road	13 April 2005	-
DC 719/2003	For Glennies Creek to Ashton Water Pipeline	13 February 2004	-
DC 90/2001 (Mod)	Alteration / additions to transportable office building	13 June 2001	-
DC 90/2001	For new offices and bathhouse	5 April 2001	-
BA 2/99	Bathroom / office complex	26 March 1999	-
DA 51/90	Stockpile and Rail Loading Facility (RCS)	18 October 1990	-
18/00657	Consent for Permanent Road Closure- Disused Section of Middle Falbrook Road	18 September 2019	-
Lic. No 1427076	Road Occupancy Licence	1 July 2022	30 June 2023
CDC 110798	Complying Development Certificate Acoustic Wall RCS CHPP	26 October 2018	-
Tenements			
CL352	Coal Lease	13 September 2011	October 2031

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Approval Number	Description	Issue Date	Expiry Date
ML1432	Mining Lease	24 June 1998	July 2019
CL357	Coal Lease	27 March 1990	27 March 2032
ML1630	Mining Lease	16 March 2009	16 March 2030
ML1648	Mining Lease	4 January 2011	4 January 2032
ML 1649	Mining Lease	4 January 2011	4 January 2032
ML1650	Mining Lease	4 January 2011	4 January 2032
ML1651	Mining Lease	4 January 2011	4 January 2032
ML 1725	Mining Lease	6 March 2018	11 November 2033
ML 1803	Mining Lease	5 May 2020	5 May 2041
Roads and Maritime			
New England Highway Closure Approval		Lic No 1185380	Renewed until 30 June 2024 (12-monthly renewal)

1.3 LAND OWNERSHIP AND LAND USE

The update in land ownership is shown in Table 2.

Table 2 RCM approvals, tenements and MOP

Lot	DP	Owner	Land Use
66	752499	Bloomfield Collieries Pty Ltd	Residence and grazing area

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1.4 STAKEHOLDER CONSULTATION

The update in land ownership is shown in Table 3.

Table 3 RCM approvals, tenements and MOP

Stakeholder	Consultation activities	Matters subject to consultation	Outcomes
Community	Consultation during Reporting period included: -Issue of community newsletter -Website update -CCC meetings -Singleton Coal Festival site inspections -Bloomfield Family Day Rehabilitation inspections -Upper Hunter Mining Dialogue school tours	Rehabilitation progress which involved a site inspection, review of progress with rehabilitation requirements.	CCC and community inspected rehabilitation. Overall there were positive comments regarding the rehabilitation at Rix’s Creek Mine.
Department of Planning and Environment	Site inspection of operations which included a rehabilitation inspection	Site inspection undertaken on 21/10/2022	No written correspondence in regarding rehabilitation occurred.

1.5 SURFACE DISTURBANCE AND REHABILITATION ACTIVITIES DURING THE ANNUAL REPORTING PERIOD

During the reporting period Rix’s Creek Mine progressed with the disturbance of the Western out of Pit dump area (WOOPD) and WH11 near the high-wall. 29.54ha of land was disturbed as per the land disturbance procedure. The planned disturbance for the Year Ending March (YEM) 2023 reporting period was planned to be 69.87ha. The Dulwich pre-strip block in Camberwell Pit was delayed due to production impacts caused by rain events. Dulwich pre-strip area will be progressed in YEM24. Mining was also delayed in West pit operations, this was due to delays in production due to wet weather events.

During the reporting period, 7.45ha of rehabilitation occurred at the Old North Pit location and 9.03ha was completed in Arties Pit South. A total 16.48 ha of rehabilitation occurred during the reporting period. This was greater than the 14.9ha specified in the Year 1 forward program. A slightly larger area was completed in the Arties Pit South and Old North Pit Areas.

A Quality Assurance and Quality Control rehabilitation process was implemented during the reporting period. The QA/QC system provides an integrated process for the design, approval,

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construction and documentation to meet the requirements of the rehabilitation records guideline.

Further refinements to the QA/QA system will continue to improve the rehabilitation process.

Agronomist reports relating to topsoil and subsoil samples in pre-strip areas were completed to identify the quality of topsoil to be reclaimed.

Biosolid pre-application reports for Arties Pit South and Old North Pit rehabilitation were completed to determine rates of biosolid application. Rix’s Creek Mine applies biosolids to boost organic matter, soil nutrient levels and improve vegetation growth and groundcover.

No subsidence repairs were required during the reporting period.

From a rehabilitation inspection in August 2022, minor surface rilling was found after an intense rain event. A visual inspection was undertaken of the drainage lines and it was determined that the minor sheet riling occurred from the intense rainfall after a recently completed area of rehabilitation. Remediation of the minor rill erosion and re- seeding was undertaken at the Arties Pit south Rehab site.

Following recommendations from the 2021 rehabilitation monitoring report, it was recommended that periodic slashing be undertaken in areas of high biomass with tall abundant ground cover in order to improve yield quality. Five areas which were not currently grazed by cattle were identified and mulching of these areas was undertaken in September 2022.

In October 2022, 80ha of the West Pit South rehabilitation agistment area was reseeded via aerial seeding. Independent agronomist advice provided the required fertiliser rates as well as the seed rates of White Clover and Wolly Pod Vetch.

Weed management was undertaken during the period. Six priority weeds were identified in rehabilitation monitoring report in 2021. A weed action plan was undertaken with a land management service provider completing weed management focusing on Galenia, Acacia Saligna, Coolatai grass, African boxthorn prickly pear. Other common species of weeds were also targeted during the year.

Wild Dog and Fox baiting was undertaken during the reporting period. 92 baits were presented over 42 monitoring stations with 22 takes from foxes and 16 takes from wild dogs based on the animal sign left on the mound and surrounding areas.

There was no correspondence or direction issued by government agencies including Resources Regulator during the reporting period. The Department of Planning and

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Environment completed a site inspection of operations and rehabilitation on the 22 November 2022. No formal correspondence was received regarding rehabilitation.

As per Clause 6 Schedule *A to the Mining Regulation 2016, the Resource Regulator has not signed off on rehabilitation areas that have achieved final land use during the reporting period.

Table 4 Material Production Schedule.

Material	Unit	Scheduled YEM23	Actual YEM23
Stripped topsoil (if applicable)	m ³	94,500	31,168
Rock/overburden	m ³	14,365,000	10,340,714
Reject material	Mt	2.03	1.92
Product	Mt	1.50	1.24

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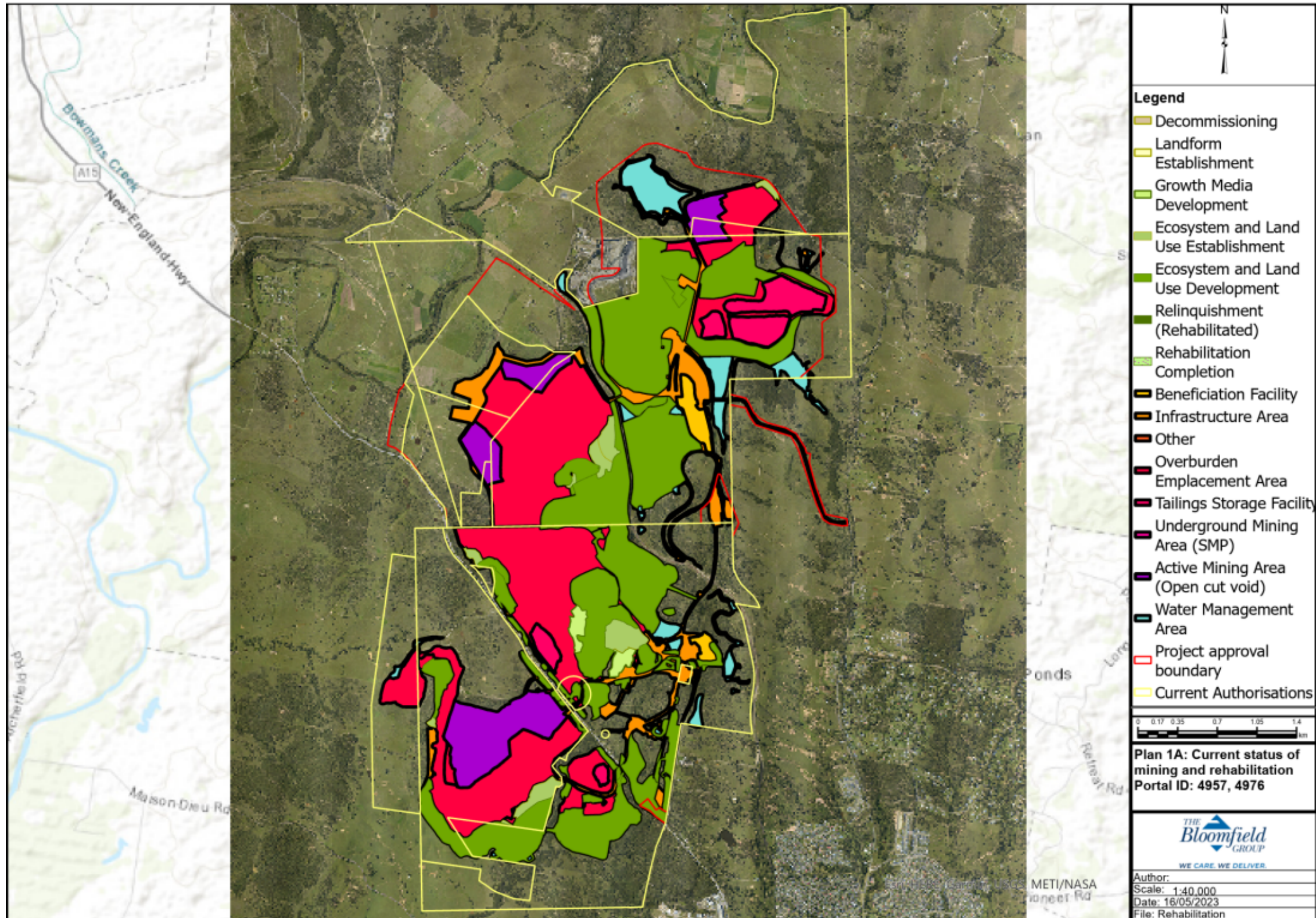
**1.6 PLAN 1 - STATUS OF MINING AND REHABILITATION AT
COMPLETION OF ANNUAL REPORTING PERIOD**

1.6.1 Submission of Plan 1 spatial data to mine rehabilitation portal

Spatial data was submitted onto the Rehabilitation Portal the plans of the spatial data submission are provided in section 1.6.2.

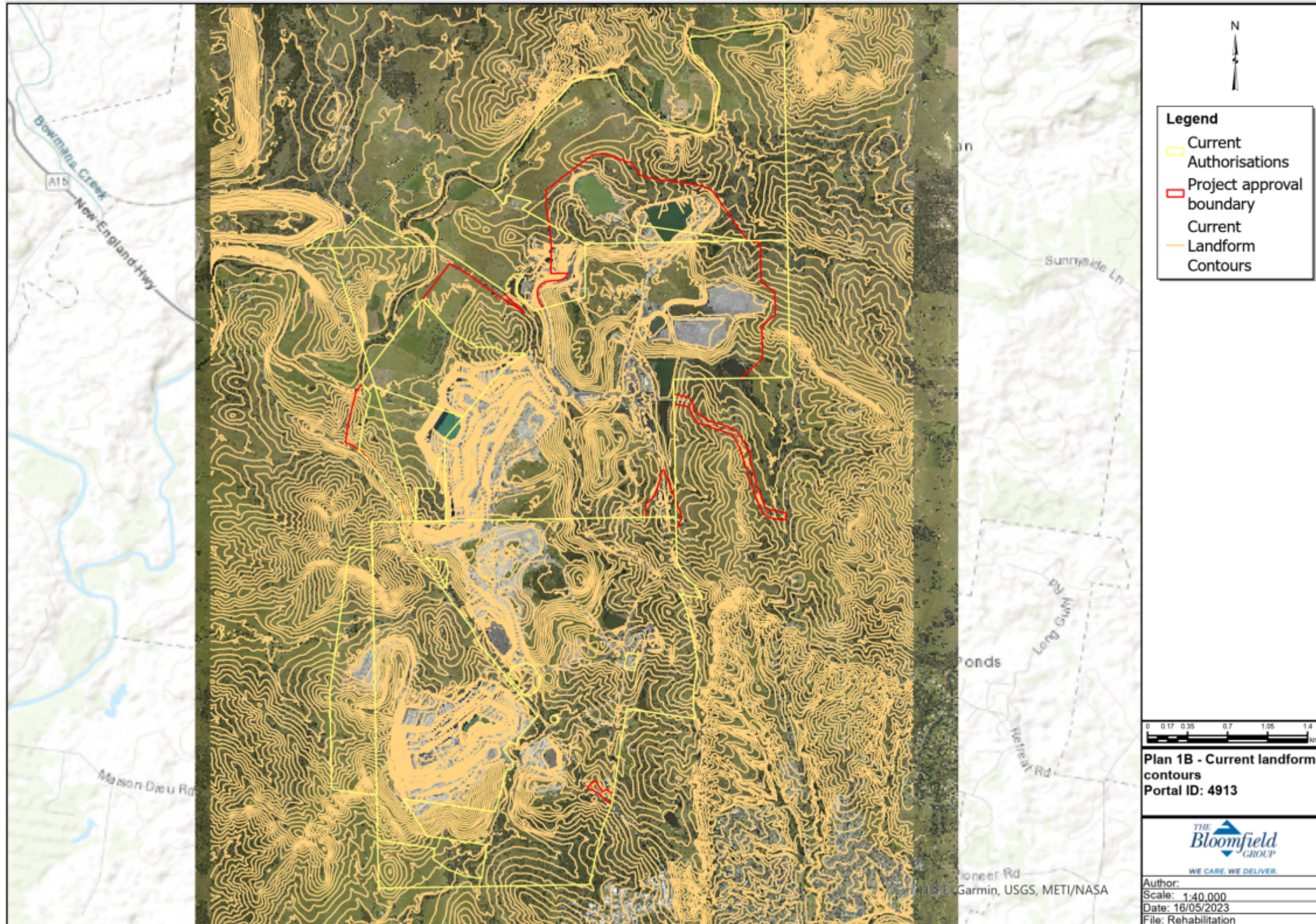
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Plan 1A – Current status of mining and rehabilitation



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Plan 1B – Current landform contours



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1.7 DISTURBANCE AND REHABILITATION STATISTICS

1.7.1 Current disturbance and rehabilitation progression

The current disturbance and rehabilitation for the reporting period is identified in Table 5. This data has been generated using the mine rehabilitation portal following submission of spatial data themes.

Table 5: Current disturbance and rehabilitation

	1 April 22 – 31 March 2023
TOTAL DISTURBANCE FOOTPRINT – SURFACE DISTURBANCE.	2185.7
UNDERGROUND MINING AREA (HECTARES)	0
TOTAL ACTIVE DISTURBANCE (ha).	1355.68
REHABILITATION – LAND PREPARATION (ha).	16.48
ECOSYSTEM AND LAND USE ESTABLISHMENT (ha).	50.57
ECOSYSTEM AND LAND USE DEVELOPMENT (HECTARES)	762.97
REHABILITATION COMPLETION (HECTARES)	0

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1.7.2 Rehabilitation key performance indicators (KPIs)

The current rehabilitation key performance indicators for the reporting period are identified in Table 6. This data has been generated using the mine rehabilitation portal following submission of spatial data themes.

Table 6: Rehabilitation key performance indicators.

ANNUAL REPORTING PERIOD	1 April 22 – 31 March 2023
NEW ACTIVE DISTURBANCE AREA (hectares)	29.54
NEW REHABILITATION COMMENCED DURING ANNUAL REPORTING PERIOD (hectares)	16.48
ESTABLISHED REHABILITATION (hectares)	762.97
ANNUAL REHABILITATION TO DISTURBANCE RATIO	0.56
% REHABILITATED LAND TO TOTAL MINE FOOTPRINT	34.91
ECOSYSTEM AND LAND USE DEVELOPMENT (HECTARES)	762.97
REHABILITATION COMPLETION (HECTARES)	0

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1.7.3 Progressive achievement of established rehabilitation

Table 7 details the proportion of the land that has progressed to the reporting category ‘established rehabilitation’ for agricultural, native ecosystem or other final land use(s) at the end of the reporting period. Data has been generated using the mine rehabilitation portal using spatial data.

Table 7: Categories of rehabilitation

ANNUAL REPORTING PERIOD	1 April 22 – 31 March 2023
ESTABLISHED REHABILITATION FOR AGRICULTURAL FINAL LAND USES (percent)	97.64
ESTABLISHED REHABILITATION FOR NATIVE ECOSYSTEM FINAL LAND USES (percent)	1.06
ESTABLISHED REHABILITATION FOR OTHER/NONVEGETATED FINAL LAND USES (percent)	1.31

1.7.4 Variation to the rehabilitation schedule

A total of 16.49ha of rehabilitation land preparation was achieved compared to the 14.9ha of rehabilitation planned for the YEM23 reporting period. This results in a 1.59 more rehabilitation that scheduled in YEM23.

Within the Old North Pit rehabilitation in Rix’s Creek South, delays from rainfall in March prevented a small section of the proposed YEM23 rehabilitation polygon on the eastern side from amelioration and seeding. This was completed in April 2023.

Within the Arties Pit South, a small section was not progressed to the North of proposed YEM23 Arties Pit South rehabilitation polygon. This is planned to be completed in YEM24.

Overall, more rehabilitation was established compared to rehabilitation scheduled within the reporting period.

During the reporting period Rix’s Creek Mine progressed with the disturbance of the Western out of Pit dump area (WOOPD) and WH11 near the high-wall. 29.54ha of land was disturbed as per the land disturbance procedure. The planned disturbance for the Year Ending March (YEM) 2023 reporting period was planned to be 69.87ha. The Dulwich pre-strip block in Camberwell Pit was delayed due to production impacts caused by rain events. At the end of

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YEM23 Rix’s Creek Mine was over 4 Million BCM behind overburden targets. Dulwich pre-strip area is planned for disturbance in YEM24. Mining is also planning to progress to the North of west pit operations in YEM24 opening up more mine areas. Even though Rix’s Creek Mine didn’t achieve its coal or production targets, the rehabilitation target was achieved.

Rix’s Creek Mine has approval to mine to 2040 at Rix’s Creek South and operations are in the process of opening up new mining areas in West Pit operations. As mining progresses north, there will be some years where disturbance will be larger than the proposed rehabilitation target. Overtime as the emplacement areas reach final landform, there will be more opportunity to increase the rehabilitation of final shaped areas and reduce the disturbance ratio compared to active disturbance areas.

1.8 REHABILITATION MONITORING AND RESEARCH FINDINGS

1.8.1 Rehabilitation monitoring

Rix’s Creek Mine undertake biennial rehabilitation monitoring. Detailed rehabilitation monitoring will be completed in 2023 and reported on in the next Annual Rehabilitation Report.

1.8.2 Status of performance against rehabilitation objectives and rehabilitation completion criteria

Rehabilitation monitoring was conducted by an independent Consultant in November 2021. Rehabilitation monitoring is planned to be completed in 2023. Key findings of the rehabilitation monitoring program include the following:

- Landscape function yielded excellent results in terms of stability, and moderately good results for nutrient cycling indices, however infiltration results remain low. Analogue sites experienced a trajectory similar to the rehabilitated sites, which indicates a trend towards slow landscape scale recovery after the prolonged period of drought.
- Land and soil capability were generally quite good across all rehabilitated areas. Rehabilitated sites performed similar to, or better than Analogue Sites and generally within acceptable completion criteria.
- Stability remains high and erosion issues remain minor.

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- Ground cover percentage has increased overall dramatically since 2019, and indicates a trend towards recovery. Recolonisation is slower at Tree Sites than Pasture Sites.
- Species diversity has increased greatly since the 2019 monitoring event, and now remains on an upward trajectory. However, it is likely that the bulk of this diversity is made up of annual weeds.
- The majority of sites with mid and upper storeys appeared to be in good health and condition however did not exhibit obvious signs of natural regeneration.
- Topsoil cover was limited at some older rehabilitated sites; however, their vegetative performance did not appear to be adversely affected, and topsoil re-spreading is not recommended at any of the rehabilitated sites.
- All sites displayed excellent soil characteristics in terms of soil acidity, salinity and sodicity. Soil dispersion benchmarks were not achieved at all sites however this does not appear to have had an impact on vegetative performance.

Weed cover scores increased overall this year. Particular areas of infestation warranting management. Rix’s Creek Mine has prepared a weed management plan to reduce weeds onsite.

Pasture performance was improved in 2021, however pasture could benefit from slashing excess material to improve yield quality. Six of 28 sites exceeded the upper limit of pasture yield quality, with excess green dry matter above 2500 kgDM/ha. The sites that exceeded the acceptable ranges tended to be located in areas that cattle are either not able to graze, or are on exposed slopes, and so do not experience any grazing pressure other than light grazing from macropods. Rix’s Creek Mine conducted a targeted mulching campaign of the six areas that exceeded the upper limit pasture yield quality. The sites that have been regularly exposed to grazing have yielded results that fall within the acceptable ranges of pasture yield.

1.8.3 Outcomes of rehabilitation research and trials

A rehabilitation grazing program was undertaken at Rix’s Creek Mine during the reporting period to assess the capability and suitability of pastures for a long-term sustainable grazing. The grazing program will continue for the life of mine

A summary progress monitoring report from December 2021 to January 2023 provides the following summary:

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- Pasture feed quality has been maintained at a higher level for rehabilitated pasture than the native pastures on the analogue site. The feed quality of the rehabilitated pastures can support good livestock growth and production.
- Protective ground cover levels in Rehabilitated and Analogue pastures were maintained above the minimum 70% required to minimize erosion risk and maintain a stable soil cover. On average the rehabilitated pastures had a ground cover of 91% and the analogue pasture 92% across the twelve month monitoring period. These high levels indicate the stability of the pastures on both rehabilitation and native areas was remarkably good.
- Pasture Herbage Biomass levels have been maintained above livestock threshold levels. Pasture Biomass levels have reached higher levels in the rehabilitated pastures than the native pasture paddocks. The high Biomass levels have allowed a buildup of litter on the soil surface. This is beneficial for ground cover as well building up organic carbon levels.
- Soil fertility should be maintained or enhanced by fertiliser applications determined by soil analysis
- Control of weeds such as Coolatai and African Lovegrass should be a priority before they spread from existing colonies.

Weed management continues to be the focus after large rain events. An action plan will be prepared for the Y1 reporting period to target areas of noxious weeds.

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2. FORWARD PROGRAM

2.1 THREE-YEAR FORECAST - SURFACE DISTURBANCE ACTIVITIES

2.1.1 Project Description

Rix’s Creek Mine is wholly owned and operated by Bloomfield Collieries Pty Limited (BCL) an Australian owned company. The mine consists of Rix’s Creek North (RCN) and Rix’s Creek South (RCN) which are formally two separate mines. Each includes an approved open cut operation and CHPP facilities, with a rail loop located at RCN.

2.1.2 Description of surface disturbance activities

Detail the surface disturbance activities proposed for the next three years are shown in Plan 2 in section 2.3.2.

2.1.2.1 Exploration activities

RCM will undertake exploration activities in line with the Exploration Activities Management Plan for RCM. This plan details the actions to be completed pre and post exploration drilling to mitigate potential environmental impacts during exploration and/or groundwater monitoring activities.

An exploration program has been underway at RCM since June 2021. The program was targeted to fill in identified gaps in information in all areas of RCM with each hole fulfilling specific requirements, including geological structure, seam quality, piezometer holes for groundwater monitoring, dewatering holes and holes for installations of borehole inclinometers to measure horizontal displacements. A total of 29 open holes and 4 cored holes was proposed.

The exploration program was completed in April 2023.

No further exploration is planned during the three year forecast.

2.1.2.2 Construction activities

Construction activities to be undertaken at Rix’s Creek Mine include:

- Rix’s Creek North light vehicle washbay facility

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- Rix’s Creek South Bathhouse facility upgrade
- Recommissioning the RCN administration office
- Engineering studies are currently progressing to integrate solid bowl centrifuges (SBC’s) into the existing RCN CHPP infrastructure. If construction is scheduled it will be updated in the next revision of the forward program.
- Water catchment system located at the Western out of pit dump (WOOPD) area to separate mine water, sediment laden runoff and divert clean water catchment. Design and construction of Dam 3 of water management to be undertaken in during the reporting period.
- Establishment of minor access tracks and laydown areas, where necessary, associated with construction work areas located within the Approved Disturbance Boundary. Existing access tracks at Rix’s Creek will be used but new tracks may require development.

Completion of repairs and maintenance with existing critical mining infrastructure such as Coal Handling Preparation Plants, bridges, culverts, electrical substations etc. are likely to be completed within the period.

2.1.2.3 Mining schedule

Mining is to continue within the West Pit open cut and Camberwell open cut area over the duration of the forward plan. The mining technique at RCM is a multi-seam bench system which mines up to six seams and numerous splits, mining down to the Hebden seam. The mine plan is designed to maximise resource recovery of the whole suite of seams within the lease.

The Western out of pit dump (WOOPD) was established during YEM23 and will continue to be used during Y1 YEM24 – YEM26. Overburden and interburden from West Pit operations will be emplaced at WOOPD.

For Y1 YEM24 it is anticipated that another 12ha will be disturbed at WOOPD to continue to out of pit dumping.

In pit dumping within West pit operations will continue as coal is mined down to the Hebden seams. The in pit dump will move in a northerly direction away from the Singleton Township. As the in pit dump reaches final landform, topsoil and subsoil material from the WOOPD will be used to rehabilitate west pit south operations.

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Material will continue to be dumped in South pit Tailings Emplacement Area 3. Emplacement Area 3 is currently being capped under a high risk activity. Material from west pit operations will be used to continue dumping in the former south pit area.

In the Camberwell Pit operations, mining will progress in the southern section down to the Upper Barrett seam. The Dulwich block at the North of the Camberwell Operations will continue to be mined and a second block will be cleared in Year1 YEM24 with 12.9 ha being cleared in this area. In pit dumping will continue to backfill the Camberwell Pit as the mining progresses.

Coal that is extracted from both the Rix’s Creek North and Rix’s Creek South open cut areas is planned to be processed at the Rix’s Creek South CHPP. Solid bowl centrifuges (SBCs) will be primarily used to process tailings, which is co-disposed in Rix’s Creek South open cut area. Tailings not treated via the SBC’s was stored in Rix’s Creek South’s Emplacement Area 4, which is referred to as MB19.

Coarse reject produced at the RCS CHPP is to be disposed within the Rix’s Creek South open cut area.

The Rix’s Creek North CHPP will continue to wash Glencore’s Integra Underground ROM Coal, with fine tailings from the coal washing process being deposited in Rix’s Creek North declared emplacement facility Tailings Dam 2, which is located North of Camberwell Pit operations. Coarse reject from the processing of Integra UG’s coal is to be disposed within the Rix’s Creek North open cut area. A sloping decant structure allows the tailings return water to be transported to D1 Dam so the water can be reused for coal washing and dust suppression at Rix’s Creek North.

Rix’s Creek Mine has the ability to use Rix’s Creek North CHPP for washing coal produced by Open Cut Mining Operations at RCM.

Engineering studies are currently progressing to integrate SBC’s into the existing RCN CHPP infrastructure. These studies will progress into Y1 YEM24.

A total of 10,000t of coalaceous material is scheduled to be transported via road-registered trucks from the historic Preston Colliery site at Curlewis NSW to Rix’s Creek South Mine in Year 1 YEM24.

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General waste minimisation principles (i.e., reduce, re-use and recycling) are currently implemented at the Mine to minimise the quantity of wastes that require off-site disposal.

Key waste streams currently being produced at the Mine 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: Heavy vehicle equipment tyres are approved under DA 49/94 and EPL 3391 to 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 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 waste and recyclable products will continue to be collected by an appropriately licensed contractor. Records are maintained of waste streams collected by the licensed waste contractor for disposal.

Contaminated soil from unplanned spills is contained, cleaned up and is removed from site as required by a licensed contractor to an appropriate waste management facility or transported to the bioremediation cells located at RCN and RCS. Material taken to the bioremediation cell is managed as per the sites Bioremediation Procedure.

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2.1.2.4 Key production milestones

Key production milestones that underpin the proposed rehabilitation schedule.

Material	Unit	Year 1	Year 2	Year 3
Stripped topsoil (if applicable)	m ³	72,200	0	0
Rock/overburden	m ³	17,238,510	16,520,405	18,476,864
Ore	Mt	4.77	4.69	4.82
Reject material	Mt	2.51	2.88	2.83
Product	Mt	2.05	2.13	2.02

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2.2 THREE-YEAR REHABILITATION FORECAST

2.2.1 Rehabilitation Planning Schedule

Rehabilitation Schedule Year 1:

- Clearing Dulwich 300 block, Camberwell Pit mining area in Year 1. Following the land disturbance management procedure for clearing of biological resources salvage such as topsoil, subsoil and habitat resources.
- Disturbance of additional road in WOOPD west pit of operations.
- West Pit pre-strip area continuation of mining north of West pit operations.
- Arties Pit rehabilitation continued
- West Pit South rehabilitation when in pit dumping reaches final landform.
- Western out of pit dump (WOOPD) initial rehabilitation to commence

Rehabilitation Schedule Year 2

- WOOPD additional pre-strip for continuation of emplacement area to the North of West pit operations.
- Arties Pit rehabilitation
- West Pit south continued rehabilitation
- Western out of pit dump rehabilitation.

Rehabilitation Year 3

- Arties Pit North rehabilitation.

Gaps in knowledge were identified as part of the detailed rehabilitation risk assessment process.

The following key deliverables are to be carried out over the next three years:

- Undertake geochemical analysis of the tailings to determine suitability of material by 31.12.2023
- Material characterisation study to be undertaken by 31.3.2024.
- Landform evolution modelling to be undertaken on final landform design by 31.12.2024

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2.2.2 Rehabilitation research and trials

The Grazing program will continue to be conducted during Y1 – Y3 of the forward program. An ACARP landform evolution trial is continuing with Rix’s Creek Mine a participant of the trial. This is planned to be completed by February 2025.

2.2.3 Rehabilitation Maintenance and Corrective Actions

Rehab Maintenance & Corrective actions

Rix’s Creek Mine undertakes biennial rehabilitation monitoring program to assess the progression of rehabilitation and as a method to identify maintenance and corrective actions.

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 an annual basis. Results from the monitoring are used to assess the effectiveness of cattle grazing on rehabilitated land.

The following actions may need to be taken as per the recommendations from the biennial rehabilitation monitoring program:

- weed control;
- feral animal control;
- erosion control works;
- re-seeding/planting of rehabilitation areas that may have failed to meet criteria;
- repair of fence lines, access tracks and other general related land management activities.

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.

2.2.4 Rehabilitation schedule

Overburden and interburden material will continue to be emplaced at Arties Pit North operation within year 1 as mining from West pit operations continues. Year 1 see the

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continued progression of South East Arties Pit rehabilitation. The western out of pit dump (woopd) will continue to be emplaced within year 1 of operations. An area of rehabilitation on the first lift of woopd will be available in Y1.

In year 1, the Arties Pit South rehabilitation will continue to be progressed. A Northern section of rehabilitation of the Arties Pit is planned as the emplacement area reaches final height and is shaped to final landform. As West Pit in pit dumping reaches final landform in the South West section, an area of rehabilitation will be completed as soon as practicable to reduce the visual amenity impact on the residents south of West pit operations.

In year 2 and year 3, Arties Pit dump will continue to be rehabilitated, West Pit south rehabilitation will continue to be progressed and a section of the Western out of pit dump will continued to be rehabilitated as the batter is shaped to final landform.

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2.3 PLAN 2 – MINING AND REHABILITATION THREE YEAR FORECAST

2.3.1 Submission of Plan 2 spatial data to the mine rehabilitation portal

Spatial data was submitted to the Resources Regulators Rehabilitation Portal. The plans area shown in section 2.3.2.

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2.3.2 Submission of Plan 2 electronic copy (PDF)

Plan 2A Mining and Rehabilitation – Year 1



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2. Plan 2B Mining and Rehabilitation – Year 2



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3. Plan 2C Mining and Rehabilitation – Year 3



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2.4 PROGRESSIVE MINING AND REHABILITATION STATISTICS

2.4.1 Three-yearly forecast cumulative disturbance and rehabilitation progression

Refer below for summary of the forecast cumulative disturbance and rehabilitation progression during the next three years.

	Year 1	Year 2	Year 3
A TOTAL DISTURBANCE FOOTPRINT – SURFACE DISTURBANCE.	2255.58 ha	2255.58 ha	2255.58 ha
B TOTAL ACTIVE DISTURBANCE (ha).	1412.15 ha	1389.1 ha	1376.35 ha
C REHABILITATION – LAND PREPARATION (ha).	13.4ha	36.45 ha	49.2 ha
D ECOSYSTEM AND LAND USE ESTABLISHMENT (ha).	0	13.4ha	36.45ha

2.4.2 Rehabilitation key performance indicators (KPIs)

	Year 1	Year 2	Year 3
O TOTAL NEW ACTIVE DISTURBANCE AREA DURING REPORTING PERIOD (ha)	69.87 ha	0	0
P AREA OF LAND PROPOSED FOR ACTIVE REHABILITATION DURING REPORTING PERIOD (ha)	13.4	23.05	12.75
Q ANNUAL REHABILITATION TO DISTURBANCE RATIO	0.19	0	0

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2.5 REHABILITATION COST ESTIMATE

Latest assessed deposit determination for is \$.94, 958,000.00. which was determined by the Resources Regulator on 31/3/2023.

All authority holders are required to lodge a security deposit with the department to cover the government's full costs in undertaking rehabilitation in the event of default by the authority holder.

The Rehabilitation Cost Estimate is used by the department to help determine the amount of the security. Refer to [Rehabilitation cost estimate guidelines](#) for more information.

The Rehabilitation Cost Estimate must include the cost of fulfilling all rehabilitation liabilities, including liabilities associated with previous and on-going surface disturbance activities.

The Rehabilitation Cost Estimate must be email separately to nswresourcesregulator@service-now.com

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