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## Environmental Management System

Rix's Creek North Mine

### EXPLORATION ACTIVITIES MANAGEMENT PLAN

Doc No:	Bushfire Management Plan
Doc Owner:	Environment Manager – Rix's Creek Pty Ltd

Approval: Group Environmental Manager – The Bloomfield Group

Signed: Chris Knight

Date: 12/03/2021

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## 1. BACKGROUND

### 1.1 INTRODUCTION

Rix's Creek North Mine is an existing open cut mining operation located about 7 kilometres north of the township of Singleton in the Upper Hunter Valley of New South Wales. (NSW)

Rix's Creek North Mine is owned and operated by Bloomfield Collieries Pty Limited, part of the Bloomfield Group of companies.

Rix's Creek North Mine is the northernmost portion of the Rix's Creek Mine and is held under a separate Development Consent.

Modification 9 of Project Approval PA 08\_0102 approves that exploration activities may be undertaken within the Project Area in accordance with an approved Exploration Activities Management Plan, this plan.

Exploration is undertaken to obtain specific geological information regarding coal seam quality and thickness, through logging and testing of cores and boreholes (geophysical logging, stress testing, packer testing etc.). Information obtained is used for the ongoing refinement of Rix's Creek Mine's existing geological model which allows for detailed mine planning. Following the drilling of exploration bores, the bores may also be used to install piezometers in the aquifers of interest for ongoing groundwater monitoring. Specific details regarding the drilling process have been provided in Section 2.3.

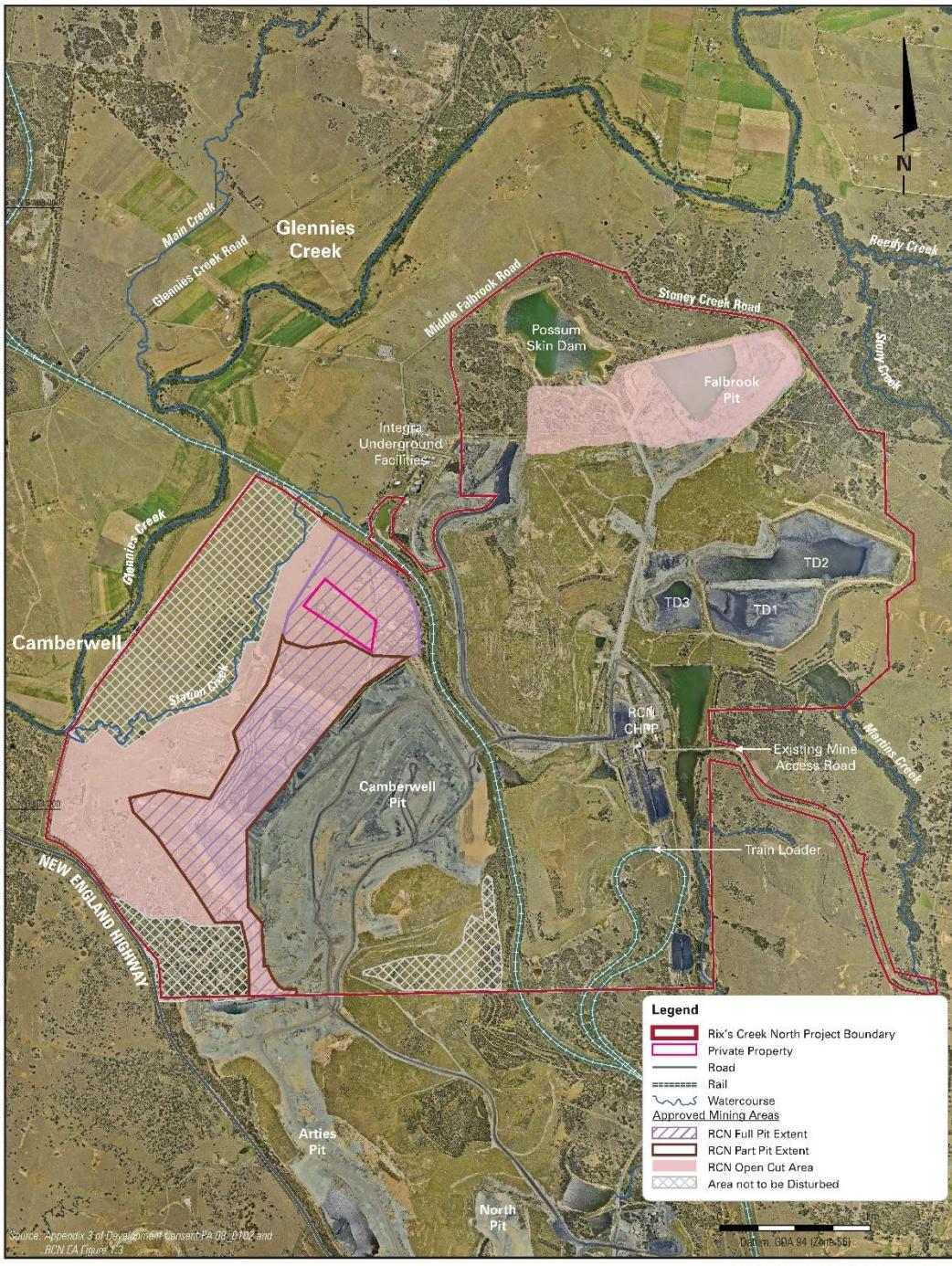
In accordance with the requirements of Schedule 3, Condition 49A of Project approval PA 08\_0102 this Exploration Activities Management Plan has been prepared to outline measures that will be implemented by Rix's Creek Mine to mitigate potential environmental impacts during exploration and/or groundwater monitoring activities. Rehabilitation of approved exploration and/or groundwater monitoring activities will be undertaken in accordance with the conditions imposed on the Mining Lease associated with the Project under the Mining Act in accordance with Sch3. Condition 54 of PA 08\_0102.

### 1.2 EXPLORATION ACTIVITIES

Surface exploration activities, predominately borehole drilling to refine the geological model will continue to be undertaken to obtain specific geological information to assist with detailed mine planning and assess further resource potential within the Area. The boreholes drilled in the exploration programmes will also allow the installation of piezometers in the aquifers of interest for ongoing groundwater monitoring.

All exploration activities conducted under this Plan will be located within the bounds of Project Approval PA 08\_0102 (refer Figure 1), or the Mining / Coal Leases as listed in section 1.4.2.

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**Figure 1 Rix's Creek North Approved Project Area**

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All exploration activities would be carried out in accordance with the requirements of the Mining Act 1992, relevant mineral authorities and this Exploration Activities Management Plan. Rix's Creek Mine will continue to utilise area-based assessment procedures for the management of exploration activities to ensure that they are conducted in an environmentally responsible manner and with due consideration to the community. This will include a risk-based process for the selection, assessment and environmental management of proposed drill pad sites and access tracks based on environmental, geological, logistical and other operational constraints.

Some minor surface clearing is likely to be required to establish drill sites and for the clearing/maintenance of access tracks required to reach drilling locations. Where possible and practicable, drill sites will be selected as close as possible to existing access tracks. This will reduce the requirement for new access tracks to be created and will minimise clearing requirements and surface disturbance for drill site establishment. The proposed drill site footprint will require a maximum disturbance area of approximately 35 metres (m) x 35 m or equivalent area (1225 m<sup>2</sup>).

Where possible, drill sites may also be selected within existing cleared areas. The drill site footprint will be required for the drill rig, two sumps (above-ground sumps), a rod skid or truck, a core handling/storage area and space for parking of light and heavy vehicles.

### **1.3 OBJECTIVES**

The objectives of this Exploration Activities Management Plan are to:

- Describe the measures that would be implemented to manage potential environmental impacts resulting from exploration activities and/or groundwater monitoring activities; and
- Satisfy the requirements of Project approval PA 08\_0102; and
- Satisfy the requirements of Rix's Creek North Mining Leases.

### **1.4 REGULATORY REQUIREMENTS**

This Plan has been prepared in accordance with the requirements of Schedule 3, Conditions of Project Approval PA-08\_0102 to manage exploration and/or groundwater monitoring activities within the limits of the PA-08\_0102 approved Project Area and relevant mining/ coal lease boundaries. These conditions allow for exploration activities to be undertaken for the assessment of coal resources and groundwater without the need for modifications to the Project Approval.

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### 1.4.1 Development Consent

Project Approval PA 08\_0102 conditions provide detail of the matters which should be included in this document. These matters are set out in **Table 1**, together with the notation of the section of this document in which each matter is addressed.

Table 1: Project Approval Requirements- Exploration Activities

Condition	Condition Requirement	Section Addressed
Schedule 3, Condition 49A	<p>Within three months of the determination of MOD 9, or other timing as agreed by the Secretary, the Applicant must prepare an Exploration Activities Management Plan for the project to the satisfaction of the Secretary. This Plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;</li> <li>(b) be prepared in consultation with BCD and Heritage NSW;</li> <li>(c) include a description of the measures to be implemented for: <ul style="list-style-type: none"> <li>(i) managing exploration activities associated with mining operations under this consent;</li> <li>(ii) consulting with and compensating affected landowners;</li> <li>(iii) assessing noise, air quality, traffic, biodiversity, heritage, public safety and other impacts;</li> <li>(iv) avoiding (where possible), or minimising environmental impacts;</li> <li>(v) avoiding (where possible), or minimising impacts on threatened species, populations or their habitats and EECs, including any measures required condition 42A of Schedule 3;</li> <li>(vi) minimising clearance and disturbance of native vegetation;</li> <li>(vii) minimising and managing erosion and sedimentation; and</li> <li>(viii) rehabilitating disturbed areas.</li> </ul> </li> </ul>	This Document  Appendix 1  Appendix 2  Section 2.4  Section 2.1  Section 2.5 Section 2.5.13  Section 2.5  Section 2.3, Section 2.5.4, 2.5.5.  Section 2.4, Section 2.5.4, 2.5.5.  Section 2.5  Section 2.6
Schedule 3, Condition 49B	The Applicant must not carry out exploration activities associated with the mining operations under this consent that cause temporary surface disturbance, except where authorised under the Mod 7 exploration drilling program shown in Appendix 3A, until the Exploration Activities Management Plan is approved by the Secretary.	Section 2.5
Schedule 3, Condition 49C	The Applicant must implement the Exploration Activities Management Plan as approved by the Secretary.	Section 2

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Schedule 3, Condition 53	Within 12 months of the completion of any exploration drilling works within the area identified as the 'area not to be disturbed' in Appendix 3, the Applicant must plant 2 trees for every established tree removed during exploration drilling. The replacement trees must be of like-for-like species, planted in the same area from which they were removed, and be maintained until established.  Note: An established tree is considered to be two metres or greater in height.	Section 2.6
Schedule 3, Condition 54	Rehabilitation of all areas disturbed by exploration drilling is to be undertaken in accordance with the conditions imposed on the mining lease(s) associated with the development under the Mining Act 1992.	Section 2.6
Schedule 3, Condition 42A.	Prior to the commencement of any exploration drilling activities within the area identified as the 'area not to be disturbed' in Appendix 3, the Applicant must:  a) conduct a targeted survey for Diuris tricolor during its known flowering time (mid-September to mid-October) within the area of disturbance of each proposed borehole, in consultation with BCD;	Section 2.3.2
Schedule 3, Condition 42B.	b) prepare a report, to the satisfaction of the Secretary, detailing: • the results of the survey; • whether the proposed exploration activities would harm Diuris tricolor; • what measures would be implemented to avoid impacts on Diuris tricolor and other threatened species, populations or their habitats; and • suitable offset arrangements in accordance with the NSW Biodiversity Offsets Policy for Major Projects, if the survey concludes that Diuris tricolor would be harmed by the proposed boreholes.	Section 2.3.2
	The Applicant must implement the findings of the report, to the satisfaction of the Secretary.	Noted.

#### **1.4.2 Mining and Exploration Authorities**

Rix's Creek Mine undertakes mining and prospecting operations in accordance with numerous mining authorities issued under the Mining Act 1992. Prospecting within the area is authorised by Part 5, Division 4, Section 73 of the Mining Act 1992, whereby the holder of a Mining Lease granted in respect of a mineral may, in accordance with the Conditions of the lease, prospect for that mineral within the land specified within the lease.

The areas covered by a Mining Lease or Exploration Licence within the Project Approval area are as follows;

- Coal Lease 357 (CL 357) (Mining Act 1973),
- Mining Lease 1630 (ML 1630) (Mining Act 1992)

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- Mining Lease 1648 (ML 1648) (Mining Act 1992)
- Mining Lease 1649 (ML 1649) (Mining Act 1992)
- Mining Lease 1650 (ML 1650) (Mining Act 1992)
- Mining Lease 1650 (ML 1650) (Mining Act 1992)
- Mining Lease 1725 (ML 1972) (Mining Act 1992)
- Authorisation 81 (A81) (Mining Act 1973),
- Authorisation 440 (A440) (Mining Act 1973),

The requirements of this Management Plan do not extend to the adjacent Exploration Authorities.

Section 81 of the Mining Act 1992 provides that the holder of a subsurface ML may (with the consent of the landholder and the holder of an authority or mineral claim in force over the surface) carry out certain activities on the surface of the land in connection with the ML. The activities are prescribed under clause 27 of the Mining Regulation 2016, which includes “prospecting operations”.

Table 2: Mining Lease Tenements- Rix's Creek North- Exploration Requirements.

Lease No.	Condition No.	Condition Date	Condition Requirement
CL357	Condition 25 NOTES	18/6/2013.	<p>Note: Exploration Reports (Geological and Geophysical/</p> <p>The lease holder must lodge reports to the satisfaction of the Director-General in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.</p> <p>Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Trade and Investment; Regional Infrastructure and Services 2010).</p>
ML1630	Condition 11	16/03/2009	<p>Reports</p> <p>The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:</p> <p>(a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;</p> <p>(b) Details of expenditure incurred in conducting that exploration;</p> <p>(c) A summary of all geological findings acquired through mining or development evaluation activities;</p> <p>(d) Particulars of exploration proposed to be conducted in the next twelve months period;</p> <p>(e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.</p>

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ML1630	Condition 17	16/03/2009	<p><b>Exploratory Drilling</b></p> <p>(a) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Water and Energy Regional Hydrologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.</p> <p>(b) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-</p> <ul style="list-style-type: none"> <li>(i) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;</li> <li>(ii) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;</li> <li>(iii) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwater;</li> <li>(iv) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;</li> <li>(v) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.</li> <li>(vi) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.</li> <li>(vii) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.</li> </ul>
ML1648	Condition 24 Notes	4/01/2011	<p><b>Note: Exploration Reports (Geological and Geophysical)</b></p> <p>The lease holder must lodge reports to the satisfaction of the Director-General in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.</p> <p>Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Industry and Investment, 2010).</p>
ML1649	Condition 24 Notes	4/01/2011	<p><b>Note: Exploration Reports (Geological and Geophysical)</b></p> <p>The lease holder must lodge reports to the satisfaction of the Director-General in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.</p> <p>Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Industry and Investment, 2010).</p>
ML1650	Condition 24 Notes	4/01/2011	<p><b>Note: Exploration Reports (Geological and Geophysical)</b></p> <p>The lease holder must lodge reports to the satisfaction of the Director-General in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.</p> <p>Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Industry and Investment, 2010).</p>

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ML1651	Condition 24 Notes	4/01/2011	<p>Note: Exploration Reports (Geological and Geophysical)  The lease holder must lodge reports to the satisfaction of the Director-General in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.</p> <p>Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Industry and Investment, 2010).</p>
ML1725	Condition 13	6/03/2018	<p>Exploration Reporting  Note: Exploration Reports (Geological and Geophysical)  The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the Mining Act 1992 and in accordance with clause 59 of the Mining Regulation 2016.</p> <p>Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales</p>

#### **1.4.3 Environmental Protection Licence**

Rix's Creek Mine operates under Environmental Protection Licence (EPL) 3391, issued under the Protection of the Environment Operations Act 1997 (POEO Act).

#### **1.4.4 Water Licences**

Rix's Creek Mine currently holds several groundwater extraction and monitoring licenses under the Water Act 1912 and the Water Management Act 2000.

Water access licences (WAL 41500, 41555 & 40777) are held by Bloomfield Collieries Pty Limited under the Water Management Act 2020 permitting the extraction of up to 505 megalitres (ML) per year of groundwater from the Sydney Basin- North Coast Groundwater Source.

#### **1.4.5 Relevant Guidelines and Standards**

This document has been prepared in accordance with the following guidelines and standards:

- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010);
- Guideline for community consultation requirements for exploration (DRE, 2012a);
- Guideline for Community Consultation Reporting – Coal and Petroleum Exploration (DRE 2012b);
- Managing Urban Stormwater; Soils and Construction Volume 2A, Installation of Services (DECC, 2008a);
- Managing Urban Stormwater; Soils and Construction Volume 2C, Unsealed Roads (DECC, 2008b);

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- Managing Urban Stormwater; Soils and Construction Volume 2E, Mines and Quarries (DECC, 2008c);
- Waste Classification Guidelines (DECCW, 2009);
- Exploration Code of Practice: Rehabilitation (DRE, 2017a);
- Exploration Code of Practice: Environmental Management (DRE, 2017b);
- Exploration Code of Practice: Community Consultation (DRE 2016a)
- Exploration Guideline: Annual activity reporting for prospecting titles (DRE 2016b);
- *Managing Urban Stormwater; Soils and Construction (The Blue Book) Volume 1* (Landcom, 2004); and
- *Minimum Construction Requirements for Water Bores in Australia* (National Uniform Drillers Licensing Committee [NUDLC] 2012).
- Rix's Creek North Aboriginal Heritage Management Plan
- Rix's Creek North Non-Aboriginal Heritage Management Plan
- Rix's Creek Mine Water Management Plan- Erosion and Sediment Control
- Rix's Creek Mine Noise Management Plan
- Rix's Creek Mine Air Quality and Greenhouse Gas Management Plan
- Rix's Creek Mine Environmental Management Strategy

## **2. IMPLEMENTATION**

### **2.1 CONSULTATION**

#### **2.1.1 Government Consultation**

This Exploration Activities Management Plan has been prepared by Bloomfield Collieries Pty Limited in accordance with the requirements of Schedule 3, Condition 49A (a) of Development Consent PA 08\_0102. Mr Chris Knight (MEM, BSc. (Geology) MAIG JP), an employee of Bloomfield Collieries Pty Limited, has been endorsed by the Department of Planning, Industry and Environment (DPIE) as a suitably qualified and suitable person. A copy of this endorsement has been provided as Appendix A.

To satisfy the requirements of Development Consent PA 08\_0102 Bloomfield Collieries Pty Limited has consulted with relevant stakeholders during the preparation of this Plan. A draft copy of the Plan was provided to NSW Biodiversity Conservation Division (BCD) and Heritage NSW for consultation on 12 March 2021.

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### 2.1.2 Consultation with NSW Biodiversity Conservation Division (BCD)

Consultation was sought with NSW Biodiversity Conservation Division (BCD) on 12 March 2021 via the NSW Major Project Portal for a period of over 5 weeks during which no response was received.

### 2.1.3 Consultation with Heritage NSW

Consultation was sought with Heritage NSW on 12 March 2021 and feedback was provided on the 7/04/2021 noting the following items;

- *Figure 5, which shows Identified Non-Aboriginal Heritage Sites is at a resolution that makes the image unclear and uninformative.*
- *These management measures are considered appropriate. I also note that s146 of the Heritage Act, 1977 requires that such notifications occur and that s146 is not suspended by the Major Project Approval.*

Figure 5 has been modified and increased in size to aid clarity and the additional notifications required under s146 of the Heritage Act has been referenced in Section 2.5.6 (Changes have been noted in yellow.

A copy of Heritage NSW response is provided in Appendix 2 of this document.

### 2.1.4 Community Consultation

All exploration planned to be undertaken under this plan will be on mine owned land or land owned by R & D Hall by agreement. Prior to any exploration being undertaken on land owned by R&D Hall, an exploration agreement will be finalised.

All adjoining property owners where exploration works may be conducted will be contacted directly via phone, email or letter.

Rix's Creek Mine will consult with the Community Consultative Committee for each stage of exploration activities. Updates on exploration activities will be included in the CCC presentations which generally occur every six months. Where necessary, extraordinary meetings may be held with the CCC to provide details on exploration programs. The CCC and community newsletter will provide information in advance of drilling programmes to landowners within the local community and follow up consultation will be available on request from landowner.

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Agreement will also be sought with neighbouring landowners for exploration drilling within 200 m of a principle place of residence, or within 50 m of any garden or improvement. The site location and Access Agreements will be decided in consultation with landowners and any affected neighbouring landowner with sites located to minimise the impact on the environment and surrounding landowners.

Neighbouring landowners with a principle place of residence within 450 m of the drill site will also be notified of the exploration drilling (including timing, location and anticipated duration) and if requested will be further consulted regarding the works. Any landholders with an adjoining boundary to the property being drilled on will also be notified by letter.

### 2.2 CULTURAL HERITAGE

Rix's Creek Mine works closely with local Aboriginal people through professional engagement and consultation on cultural heritage management. Consultation between Rix's Creek North Mine and the fourteen (14) Registered Aboriginal Parties is undertaken in accordance with the approved Aboriginal Heritage Management Plan for Rix's Creek North.

The Aboriginal Registered Stakeholders for Rix's Creek North Mine are:

- Wanaruah Local Aboriginal Land Council Corporation
- Ugooroo Aboriginal Corporation Association
- Ugooroo Cultural & Community Services
- Barkuma Neighbourhood Centre trading as Gidawa Walang Association
- Wattaka Wonnaruwa Cultural Consultant Services
- Upper Hunter Wonnaruwa Council
- Hunter Valley Culture Consultants
- Aboriginal Native Title Elders Consultants
- Giwiir Consultants
- Wonnaruwa Custodians
- Nur-run-gee
- Wonnaruwa Culture Heritage
- Yarrawalk (Tocomwall Pty Ltd)
- Upper Hunter Heritage Consultants

The ACHMP was developed in consultation with the Aboriginal Registered Stakeholders and includes procedures for new ground impacts within the Project Approval Area and requirements for the recording of new archaeological sites if discovered.

Prior to each stage of exploration a due diligence survey by an archaeologist will be undertaken to identify any artefacts located within the proposed exploration sites.

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## 2.3

## EXISTING ENVIRONMENT

The Rix's Creek North Mine Project Area covers approximately 11,199 hectares of land within the Singleton LGA of NSW. The predominant land uses surrounding the Project Application Area include rural-residential within the village of Camberwell, rural landuse predominantly cattle grazing and coal mining.

The township of Singleton is located approximately 8 kilometres south of the Project Area.

### 2.3.1 Land Ownership

Landholders within the bounds of the Project Application Area are shown on **Figure 2**. The Project Application Area comprises both privately owned freehold land and land owned by the NSW Government, as listed below:

- New England Highway
- Middle Falbrook and Stony Creek Roads
- Main Northern Railway

The remaining properties are privately owned freehold land owned by The Bloomfield Group or subsidiary companies.

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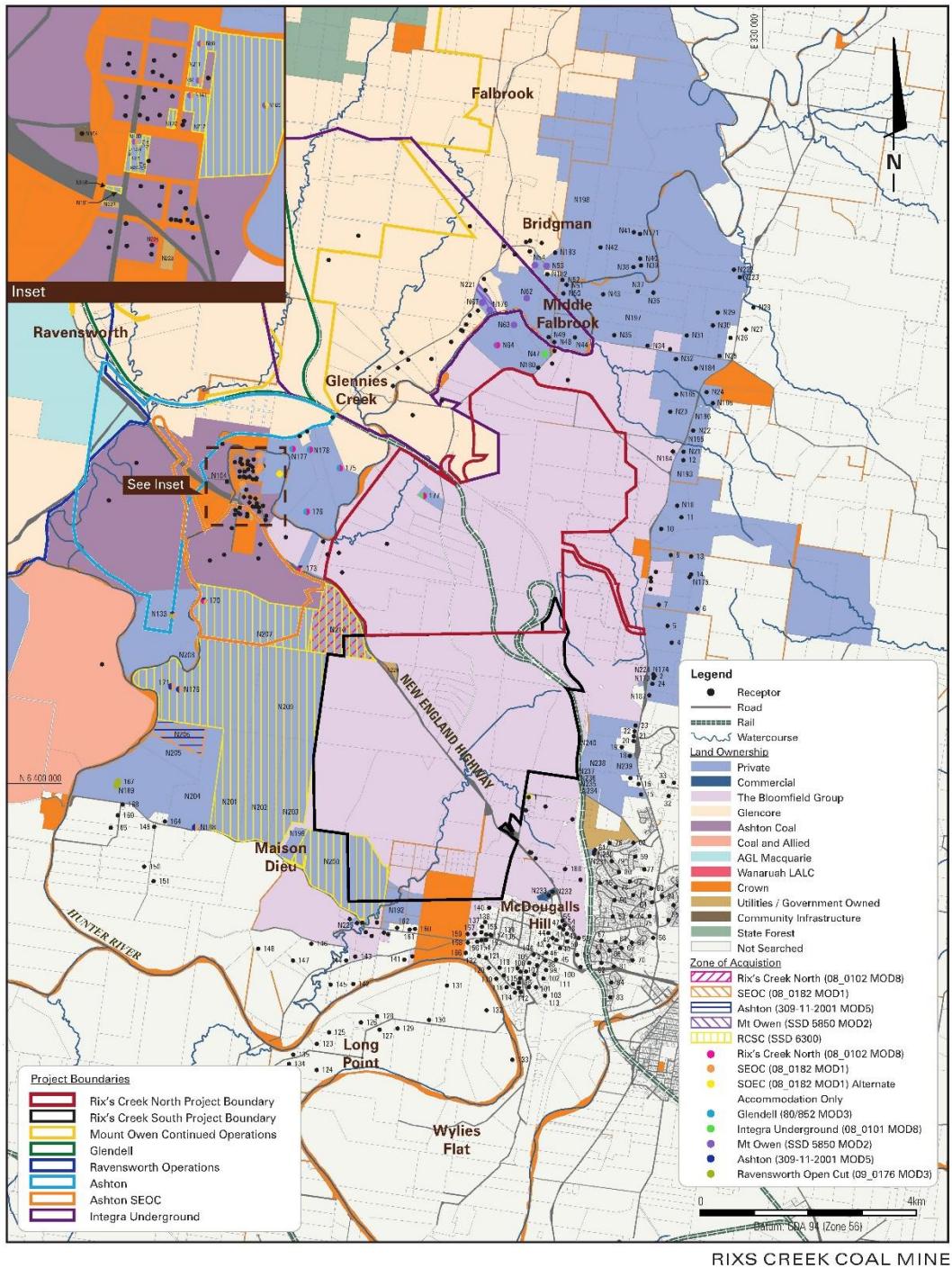


Figure 2 Rix's Creek Land Ownership

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### 2.3.2 Ecology

Previous vegetation mapping has been undertaken within the area during previous mining studies including the 2009 Integra Open Cut Project Environmental Assessment.

Where impacts from Mining will occur offsets have been calculated and have been secured.

As shown on Figure 3, two Endangered Ecological Communities (EECs), now listed under the NSW Biodiversity Conservation Act (2016) have been recorded within the Rix's Creek North Project Area as follows:

- Central Hunter Ironbark—Spotted Gum—Grey Box Forest in the Sydney Basin Bioregion.
- Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the Sydney Basin Bioregion.

Condition 42 A of PA 08\_0102 requires that prior to the commencement of any exploration drilling activities that a targeted survey for *Diuris Tricolour* (Pine Donkey Orchid) will be undertaken during its known flowering time (mid-September to mid-October) within the area of disturbance of each proposed borehole.

This survey will be incorporated into the Flora and Fauna avoidance survey which will be undertaken for all exploration sites prior to conduction exploration activities.

A report will be prepared to the satisfaction of the Secretary noting the following for each survey where *Diuris Tricolor* is recorded;

- results of the survey,
- whether the proposed exploration activities would harm any observed *Diuris tricolor*,
- what measures would be further implemented to avoid impacts to *Diuris tricolor* of any other threatened species, populations of their habitats,
- suitable offset arrangements if the survey concludes that *Diuris tricolor* would be harmed, however this is not expected as avoidance will be the key management measure.

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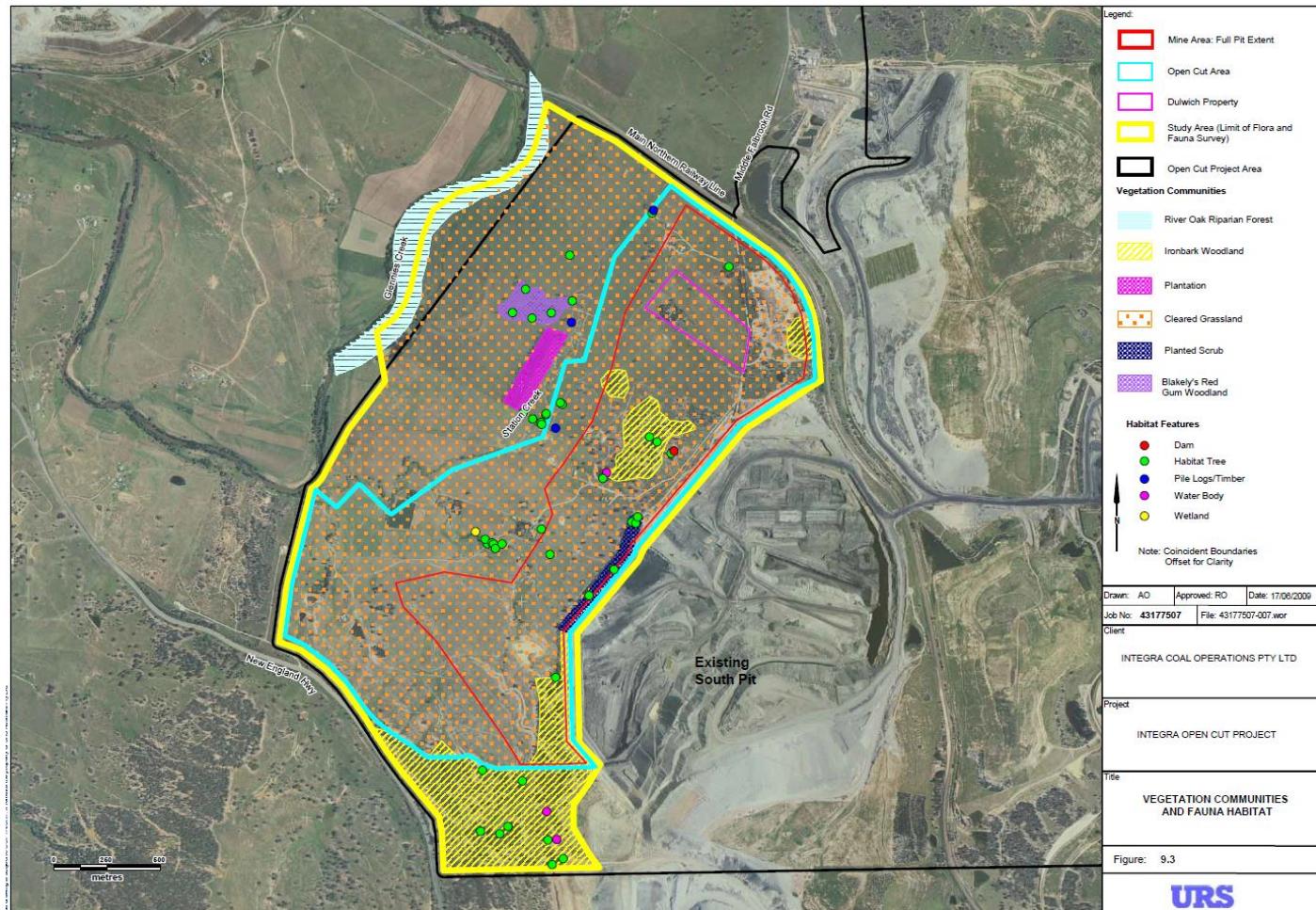


Figure 3 Rix's Creek North Vegetation Communities and Fauna Habitat

### 2.2.3 Aboriginal and Non-Aboriginal Heritage

The Heritage Management Plan for Rix's Creek North, originally prepared by RW Corkery & Co. 2010 and updated in 2016, contains the Aboriginal and Non-Aboriginal Heritage Management Plans for the site.

The location of identified Aboriginal heritage sites within the Project Application Area is shown on Figure 4.

The location of identified Non-Aboriginal heritage sites within the Project Application Area is shown on Figure 5.

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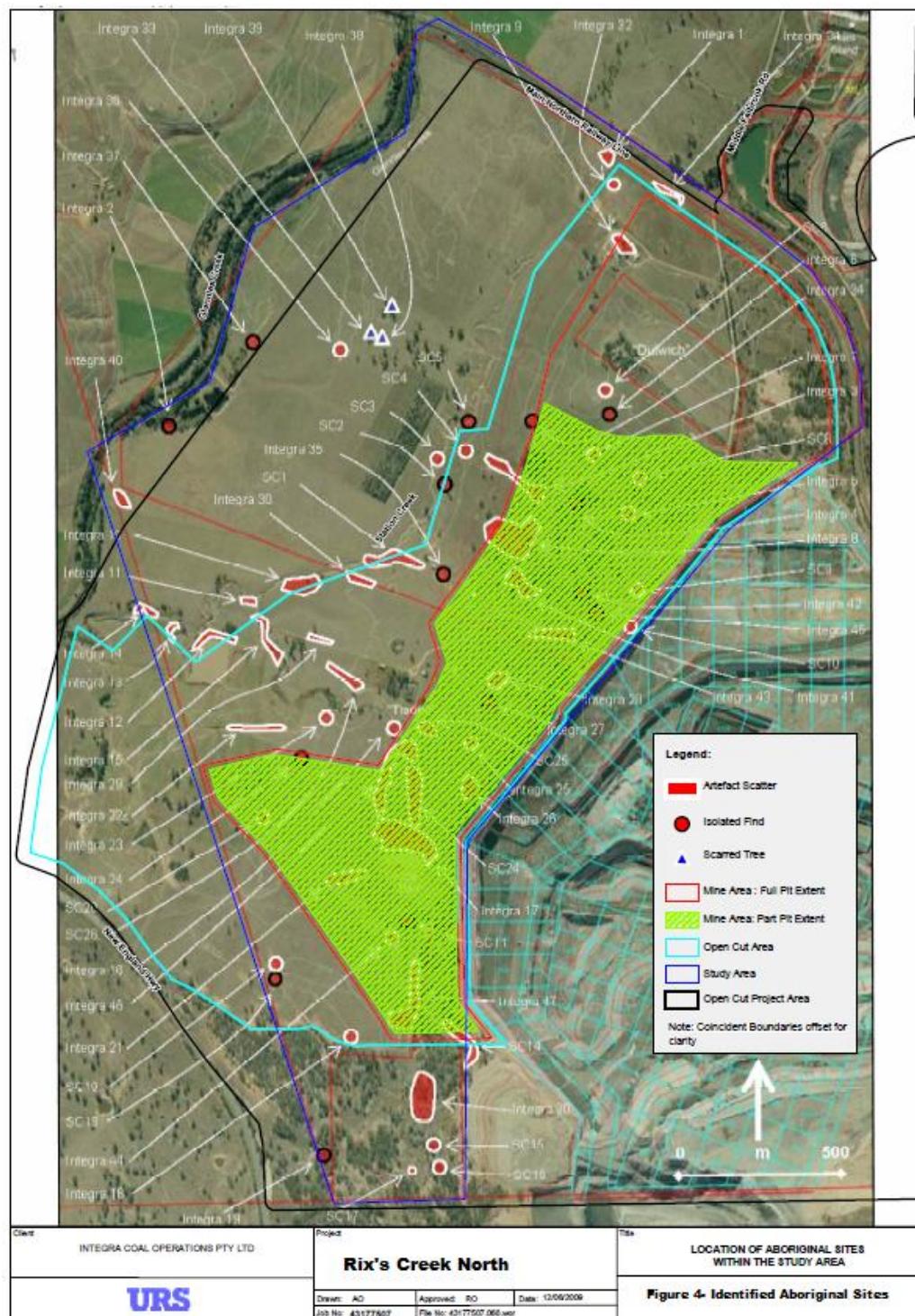


Figure 4 Rix's Creek North Identified Aboriginal Sites within Study Area- Source 2009 EIS.

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**Legend**

- Open Cut Project Area Boundary
- Limit of North Open Cut Mine Area
- Mine Area - Extended South Pit (western extension)
- Archaeological Investigation Area
- Open Cut Area
- Dulwich Property Boundary
- Approximate Location of 1830's Track
- Potential Location of 1820's Structure
- Approximate Location of 1830's Structure
- Potential Artefact Deposit
- ✖ Blacksmiths Site
- ✖ House Site

**FIGURE 3.2**  
**Detail of Integra Open Cut Project Area  
Showing Location of Identified and  
Additional Potential Archaeological Sites**

Figure 5 Rix's Creek North Identified Non-Aboriginal Sites

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## 2.4

## EXPLORATION METHODOLOGY

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All exploration and/or groundwater monitoring activities in CL 357, ML 1630, ML 1648, ML 1649, ML 1650, ML 1651, ML 1725, A81 and A440 will be undertaken in accordance with the requirements of the Mining Act 1992 and this Exploration Activities Management Plan.

Due diligence surveys of the proposed drill sites and associated access tracks will be undertaken by appropriately qualified ecology and heritage specialists prior to commencement of works. This is to ensure the potential for localised impacts and risks are minimised and, where necessary, appropriately managed. Noise assessments will be undertaken when proposed drill sites are in proximity to sensitive receptors. The combination of environmental sensitivity risk mapping and targeted due-diligence surveys of potential drill sites will provide greater flexibility in selecting the most suitable final drill site locations with minimal impact on the local environment. Copies of any due diligence assessments will be provided to DPIE, BCD and NSW Heritage upon request.

Following vegetation clearing, if required, at the drill site, appropriate erosion and sediment controls will be installed and maintained around disturbed areas in accordance with the Blue Book (Landcom, 2004). Trees will only be felled if absolutely required and will be avoided where possible. Any felled tree will be stockpiled for use in rehabilitation. Any topsoil required to be removed will be stockpiled for later use in rehabilitation of the site. The planning, design, construction and maintenance of all access tracks will be generally in accordance with Managing Urban Stormwater: Soils and Construction, Volume 2C, Unsealed Roads (DECC 2008b).

Bloomfield Collieries will use above-ground sumps to minimise the disturbance resulting from the prospecting operations. The sump used to store drilling fluid will generally comprise a mixture of water and mud or a biodegradable polymer. Water for the drilling process will be sourced from surrounding farm dams owned by Bloomfield Collieries, (where available) or supplied by a local contractor.

During drilling, fluid is continuously pumped to the drill head to facilitate the removal of cuttings, stabilise the borehole, cool the cutting head and lubricate the passage of the product pipe. When the drilling fluid returns to the surface it is generally sent into a reclaimer which removes the drill cuttings and maintains correct viscosity of the fluid. All drilling fluid recovered that cannot be recycled will be vacuum pumped and removed from site following EPA's Waste Classification Guidelines (DECCW, 2009) and the use of a licensed waste transporter to a receiving facility or other destination allowable under EPL 3391 including reuse through the mines dirty water system if applicable.

All holes will be surveyed and permanently marked in accordance with DRG guidelines so their location can be easily re-identified. Sealing of the drill holes will be undertaken in accordance with the Exploration Code of Practice: Rehabilitation (DRG, 2017, version 3.0).

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## 2.5

## ENVIRONMENTAL MANAGEMENT ACTIVITIES AND CONTROLS

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### 2.5.1 Erosion and Sediment Control

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Management of erosion and sedimentation at Rix's Creek North is achieved by implementing the following principles:

Separating undisturbed, 'clean water' runoff from disturbed, 'dirty water' runoff to minimise and isolate the amount of dirty water to be treated and either reused or removed off site;

Diverting 'clean water' runoff unaffected by the operations offsite; and

Maintaining sediment control structures to ensure that the designed capacities are maintained for optimum settling of sediments.

Measures that will be implemented to manage erosion and sedimentation resulting from exploration and/or groundwater monitoring activities and associated access roads include:

Undertaking works in accordance with:

- Managing Urban Stormwater: Soils and Construction, Volume 1 (The Blue Book) (Landcom, 2004);
- Managing Urban Stormwater: Soils and Construction Volume 2C, Unsealed Roads (DECC, 2008b); and
- Managing Urban Stormwater: Soils and Construction Volume 2E, Mines and Quarries (DECC, 2008c).
- Prior to commencement of construction works, waterways and drainage lines in close proximity to the site will be identified;
- Stormwater will be diverted away from disturbed areas by directing clean water around the site.
- Sediment build up will be regularly cleaned from behind controls to ensure they work efficiently;
- Sumps to be pumped down ahead of rain events to prevent overflow;
- All erosion and sediment controls will be checked regularly and before and after rainfall events, and maintained as required to ensure they are operating effectively; and
- Unless designed and constructed for wet weather use, Bloomfield Collieries will restrict the use of unsealed roads and access tracks during wet weather to prevent damage to that track or road.

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### **2.5.2 Topsoil Management**

Stripping and stockpiling of topsoils followed by re-spreading for revegetation is regarded as best practice rehabilitation in the mining industry. The use of topsoil in this regard has three main advantages: as a source of seeds (seed bank), soil microbial organisms, and as a physical covering for dispersive subsoils. Biologically, the value of stockpiled topsoil is largely determined by the length of time that soil will be stockpiled and the physical shape of the stockpile.

Where soil stripping is required, the following management techniques will be adopted to prevent excessive soil deterioration:

- Where possible, topsoil will be maintained in a slightly moist condition during stripping, and material will not be stripped in either an excessively dry or wet condition;
- Stripping will be timed to take place in unison with any vegetation clearing activity. If planning to mix groundcover/grass with the soil (i.e. not removing groundcover prior to soil stripping), a weed assessment will be undertaken prior to stripping;
- Where possible, grading or pushing soil into windrows for later collection or use will be undertaken as a preferential less aggressive soil handling system;
- The surface of soil stockpiles will be left coarsely structured (as much as possible) in order to promote infiltration and minimise erosion until vegetation is established, and to prevent anaerobic zones forming;
- Topsoil stockpiles will be no higher than 3 m;
- If long-term stockpiling is planned (i.e. greater than three months), the stockpiles will be seeded and fertilised as soon as possible. An annual cover crop species that produces sterile florets or seeds will be sown. A rapid growing and healthy annual pasture sward will provide sufficient competition to minimise the emergence of undesirable weed species. The annual pasture species will not persist in the rehabilitation areas, however will provide sufficient competition for emerging weed species and enhance the desirable micro-organism activity in the soil;
- Prior to re-spreading stockpiled topsoil, an assessment of weed infestation on stockpiles will be undertaken to determine if individual stockpiles require herbicide application and / or
- 'scalping' of weed species prior to topsoil spreading; and

Soil will be re-spread directly onto stripped areas where practical. Topsoil will be spread, treated with fertiliser and seeded in one consecutive operation, where possible, to reduce the potential for topsoil loss to wind and water erosion. Soil will be re-spread to the approximate depth from which it was stripped.

### **2.5.3 Water Management**

Bloomfield Collieries will undertake due diligence assessments to consider surface water and groundwater impacts. The general approach of the due diligence assessments will be to review

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baseline data and, if this review deems necessary, conduct site investigations to ensure that significant impacts are avoided.

Measures that will be implemented to manage surface water quality during exploration and/or groundwater monitoring activities include:

When exploration activities at a borehole site are complete, boreholes will be grouted to prevent shallow aquifers from draining into deeper aquifers or underground and/or cross contamination of aquifers;

Machinery, plant, equipment, and chemical storage containers will be checked as part of the drilling contractor's regular mechanical and site inspections for leaks and defects.

Equipment will not be used if there are signs of leaks and defects;

All exploration drilling personnel will be trained in incident response and spill management; Safety Data Sheets (SDS) will be available via the Rix's Creek Office through the Chem Alert system. Prior to any chemical being used onsite an approval must be gained from the Group Safety and Group Environment Manager.

A Hazardous Substances Chemical Register will be available onsite at Rix's Creek Mine where chemicals are stored or used, and will be kept up to date at all times;

Exploration drilling personnel shall be advised of the location and contents of the emergency procedures; Chemicals, fuels and oils will not be stored in or on structures built over water, on bare ground or unsealed surfaces, in areas with no secondary containment (i.e. no bunding), or immediately adjacent to stormwater inlets, drains, and creeks;

Chemicals, fuels and oils will be securely stored inside a bunded area or impermeable plastic container, on a flat and level surface and covered from rain;

Areas for handling or storage of flammable and combustible liquids will be:

- Maintained in a clean condition;
- Free from potential ignition sources or heating;
- Appropriately signed;
- Have appropriate fire protection; and
- Not stored with products that are incompatible e.g. fuel and pool chlorine.

Bunded areas or containers will be sized to contain 110% of the largest chemical container stored within;

When decanting from a smaller container, a temporary bund or collection tray will be used to control any accidental spills;

Incident reports will be completed for any adverse impacts to water quality (e.g. chemical spill);

An equipped, labelled, and appropriately sized spill kit will be readily available onsite at all times.

## 2.5.4 Vegetation Clearing

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In accordance with the requirements of the Mining Lease and Exploration Licence conditions vegetation clearing and vegetation disturbance will be limited to the minimum extent necessary to facilitate the conduct of drilling operations.

Due-diligence field inspections and targeted surveys of proposed drill sites and associated access tracks will be undertaken by appropriately qualified ecologists prior to commencement of works to ensure the potential for localised impacts and risks are minimised and, where necessary, appropriately managed.

Bloomfield Collieries will use all reasonable and feasible efforts to avoid impacting threatened species, populations or their habitats and EECs (including through the relocation of access tracks and exploration/groundwater monitoring sites). The combination of environmental sensitivity risk mapping and targeted due-diligence surveys of potential drill sites will provide greater flexibility in selecting the most suitable final drill site locations with minimal impact on the local environment.

Additionally, a range of management measures will be implemented to minimise impacts from vegetation clearing, including:

- Impacts on vegetation will be minimised as much as possible;
- Prior to clearing the disturbance footprint will be clearly demarcated;
- For those areas which are required to be cleared or levelled to provide access, undertake stockpiling of soil to enable re-establishment of visible habitat following infrastructure decommissioning;
- During clearing, and where it would not interfere with operations, the removal of vegetation will be limited to above ground parts as much as possible. This will enable any vegetation that is able to re-sprout once works are completed to do so;
- Where possible, clearing activities will avoid hollow-bearing trees. Where this cannot be avoided clearing will be timed where possible to avoid removal of hollow-bearing trees during breeding season of threatened species. Any clearing undertaken will be in accordance with the approved RCN Biodiversity Management Plan;
- Employment of best practice methods for felling of hollow-bearing trees;
- Placement of hollow logs and felled hollow-bearing trees within adjacent uncleared vegetation to provide additional habitat resources for terrestrial fauna; and
- Any native animals found within the drilling footprint will be allowed to leave the area without undue harassment or duress. If relocation is required, appropriate expert assistance will be employed (e.g. Wildlife Information Rescue and Education Service, National Parks and Wildlife Service, specialist consultants, etc.).

### **2.5.5      Weed Management**

Management of weeds associated with exploration include:

- Any vehicles from outside of the general Hunter Valley will be thoroughly cleaned and inspected prior to entrance onto site.
- All vehicles will be clean and free of mud or accumulated plant material before entering site.
- During the flora / fauna due diligence survey, any proposed exploration sites found to be infested with weeds will be treated to remove weeds or avoided where possible.

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- Listed noxious weeds infestations identified will be treated. This will include any that are deemed to be deleterious to the revegetation effort, or are likely to spread during the course of the rehabilitation work. Herbicides will be used with due consideration to downstream environmental effects;
- Ongoing weed monitoring will be undertaken to identify potential weed infestations appropriately managed to ensure surrounding communities are protected from invasive species, until the rehabilitation has been completed and where applicable signed off by the landholder;
- Any weeds that germinate from the seed bank in the topsoil stockpile will also be treated to prevent outbreaks that pose an ongoing liability;
- Any noxious weeds removed from site will be transported in sealed bags and disposed into the general waste stream.

Rix's Creek Mine has a Weed Management Plan which is updated annually and used to determine weed management priorities both onsite and within surrounding buffer lands. Any weeds identified onsite will be included in the register and managed in accordance with the plan. Annual weed management efforts are reported within the Annual Review.

### 2.5.6 Aboriginal and Non-Aboriginal Heritage

All exploration activities will continue to be undertaken in accordance with the requirements of the Mining Act 1992 and this Exploration Activities Management Plan. Management of Aboriginal heritage at Rix's Creek North is undertaken in accordance with the approved ACHMP.

Prior to the commencement of any exploration and/or groundwater drilling activities, due-diligence surveys will be undertaken. Due diligence surveys will be undertaken by appropriately qualified heritage specialists to ensure the potential for localised impacts and risks are minimised and where necessary, appropriately managed. In the event that Aboriginal heritage sites are identified, access tracks and exploration/groundwater monitoring sites will be relocated to avoid impacts. The combination of environmental sensitivity risk mapping and targeted due diligence surveys of potential drill sites will provide greater flexibility in selecting the most suitable final drill site locations with minimal impact on the local environment.

If, during the course of exploration and/or groundwater monitoring drilling activities, cultural heritage sites not previously identified are uncovered, onsite works must stop immediately in the vicinity of the site and the area must be cordoned off as appropriate with high-visibility flagging tape. Notification and further actions will be undertaken in accordance with the approved ACHMP.

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If any skeletal remains are identified all work must halt in the immediate area to prevent any further harm to the remains. Bloomfield Collieries must contact the NSW Police immediately. No action is to be undertaken until police provide written notification to Bloomfield Collieries. If the skeletal remains are identified as Aboriginal, Bloomfield Collieries must contact EPA's Enviroline (131 555) and representatives of the local Aboriginal community. No works are to continue until Heritage NSW provides written notification to Bloomfield Collieries about the action plan for the management of the skeletal remains and formulated management plan, if required.

As outlined in Section 2.2.3, a number of non-Indigenous heritage sites have been identified within the Project Area. Exploration/groundwater monitoring sites and access tracks will be located to avoid impacts on these sites.

If, during the course of development works, significant European cultural heritage material is uncovered, work will cease in that area immediately. NSW Heritage will be contacted in accordance with Section 146 of the Heritage Act and works only recommence when an appropriate and approved management strategy has been instigated.

### 2.5.7 Noise

Bloomfield Collieries will manage operational noise generated by exploration drilling and/or groundwater monitoring in accordance with the approved Rix's Creek Mine Noise Management Plan.

In addition to the requirements of the Rix's Creek Mine Noise Management Plan further noise monitoring will be undertaken when proposed drill sites are in proximity to sensitive receivers. Where drilling is to be undertaken in close proximity to residents the noise mitigation measures will be implemented as necessary and may include the following:

- Drilling undertaken during daylight working hours (generally 7:00 am and 6:00 pm, Monday to Saturdays and 8 am to 6 pm on Sundays and public holidays) No drilling outside these hours will be undertaken only by exception if an emergency;
- If noise criteria cannot be achieved at a nearby residence, establish and maintain temporary noise barriers;
- Drilling undertaken adopting rotary methods with water circulation (PCD rather than hammer);
- Avoiding the unnecessary use of radios and stereos;
- Stakeholders being notified of the work, in accordance with Bloomfield Collieries procedures, prior to exploration drilling and/or groundwater monitoring activities;
- All contractors being required to ensure that only vehicles and machinery in good working condition are used;
- Machinery and vehicles being suitably maintained during the works;

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- Onsite noise mitigation measures and plant operating procedures being refined where practical (e.g. orient machinery so that noise emitting sources are facing away from receptors);  
Community complaints relating to noise will be addressed in accordance with the Rix's Creek Mine complaints process.

### 2.5.8 Visual Amenity

The exploration drilling and/or groundwater monitoring activities are considered unlikely to have a significant restrictive impact on existing land uses within the area or on the surrounding community due to the nature of works, the short duration at each site and the proposed controls to be implemented.

Notwithstanding, the following mitigation measures will be implemented:

- Natural vegetation screening will be maintained where possible during drilling;
- Drilling will be undertaken during daylight hours only eliminating the need for artificial lighting at the site; and
- Exploration sites will be progressively decommissioned and rehabilitated commensurate with adjacent remnant vegetation.

### 2.5.9 Air Quality

Air quality impacts associated with the exploration drilling and/or groundwater monitoring activities will be managed in accordance with the approved Rix's Creek Mine Air Quality and Greenhouse Gas Management Plan which includes the use of a number of emission controls to minimise the impact of the operations on nearby sensitive receivers.

The main dust impact from exploration and/or groundwater monitoring activities will be from traffic on unsealed roads. The following measures will be implemented by Bloomfield Collieries to mitigate dust impacts from approved exploration activities and/or groundwater monitoring:

- Restricting the number of vehicles and vehicle movements to the sites;
- vehicles will adhere to a 40 km/hr speed limit on dirt tracks;
- Regular maintenance of plant and equipment to minimise fuel consumption and exhaust emissions;
- Plant will not be left running when not in use; and
- Minimise the generation of dust by stabilising ground progressively, implementing dust suppression as required and consider not working during windy conditions.
- During open-hole hammer drilling, a cyclone or water will be used to assist in dust suppression.

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## 2.5.10 Public Safety

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Public safety is a priority management aspect at Rix's Creek Mine. Bloomfield Collieries will implement controls measures including providing, where practical, fencing and warning signage. Caution will also be advised to road users via signage for when access tracks will be used by increased numbers of heavy vehicles.

Public safety mitigation measures that will be undertaken for the exploration and/or groundwater monitoring activities are as follows:

- Signage will be installed to warn unauthorised access is prohibited at each site whilst drilling;
- Existing relevant plans will be checked and 'Dial Before You Dig' searches will be undertaken to avoid interception with utilities, including underground pipelines and power cables;
- Following the completion of drilling and associated activities, all exploration drill holes that are not required for future groundwater monitoring activities will be sealed in accordance with relevant guidelines;
- All groundwater holes which are maintained in an open or partially grouted condition will be cased to prevent collapse and will be fitted with a locked cap to prevent public access.
- Upon mine closure all groundwater holes will be decommissioned and sealed in accordance with relevant guidelines as required.

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## 2.5.11 Bushfire Management

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Exploration drilling has the potential to expose contractors to bushfire risk within the project approval area. While the risk is considered low, Rix's Creek Mine operates in accordance with the Rix's Creek Mine Bushfire Management Plan which includes a number of preventative management actions including the following:

- Managing potential sources of ignition via a "Hot Works Permit";
- Maintaining firebreaks surrounding Rix's Creek Mine operations;
- Providing firefighting equipment at Rix's Creek Mine operations;
- Trained and competent personnel on the mine site who can conduct fire-fighting if required; and
- Regular dialogue with the local Rural Fire Service (RFS) in relation to Bushfire Management Practices.

Specific risk management actions which will be implemented for exploration drilling and/or groundwater monitoring activities include:

- Firefighting equipment will be kept on all active and manned sites;
- Hot work at the drill site will follow the Rix's Creek Mine hot work management system.

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- Fire trails and access tracks will be maintained to a suitable standard to allow water tanker access;
- Operational procedures and evacuation planning will be prepared prior to the commencement of site preparation works to identify site specific emergency access/egress.

#### **2.5.12 Waste and Hazardous Materials**

Measures that will be implemented to manage waste from approved exploration and/or groundwater monitoring activities include the following:

- There will be appropriate bins on site for general waste;
- General waste will be disposed of in the general waste bins at Rix's Creek Mine;
- Suitably sized sumps with appropriate erosion and sediment controls will be used/constructed to capture drilling fluid from borehole drilling activities. The drilling fluid will be reused and on completion of drilling activities will be pumped out by a licensed contractor for disposal at an appropriate facility or other destination;
- All chemicals including oils and drilling muds will be on self bunded storage pallets. Disposal will follow the appropriate guidelines for the disposal of such wastes; and
- Spill kits will be provided by the Contractor at the drill site.

Rix's Creek Mine maintains records of all waste generated and the means of disposal of that waste by a licenced waste contractor. Where possible, all quantities of waste will be quantified and reported in the Rix's Creek Mine Annual Review report.

#### **2.5.13 Traffic Management**

During exploration equipment will access areas from the Rix's Creek South and Rix's Creek North Mine entrances. Access to Bloomfield owned properties via the New England Highway and Middle Falbrook Road will be undertaken using existing property access.

Rix's Creek Mine maintain a Road Occupancy Licence with trained and competent traffic controllers. If determined by risk assessment, Rix's Creek personnel will install a 60km/hr speed limit to assist in reducing speed during times of increased traffic to allow safe turning of trucks into exploration areas along the New England Highway.

Where access is required along the New England Highway, temporary "Truck Turning Signs" may be installed during times where the drilling rig or associated trucks are required to enter or leave site if

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deemed necessary by Risk Assessment. More than sufficient access is provided at gateways for the safe entrance by trucks up to 12 metres.

Exploration access via Middle Falbrook Road is not expected to impact traffic given the one remaining resident within the area. An email will be sent to the resident when exploration commences to inform of any potential traffic impact.

## 2.6 REHABILITATION

Following the completion of drilling and associated activities, all exploration drill holes will be sealed in accordance with relevant guidelines. Records will be kept to demonstrate the method used to seal each drill hole, volume and types of materials used and information on the drillhole such as depth, diameter and casing string(s) left in the hole. Where non-grouted casing cannot be removed, grouting methods will be undertaken in accordance with guidelines. All records relating to the sealing of drill holes will be kept with a declaration confirming that the work was carried out according to the guidelines.

Following installation of some exploration drill holes it may be determined that the hole may be useful to provide information for the groundwater plan/model. These exploration boreholes may be approved to remain open or be partially grouted to allow installation of groundwater monitoring equipment.

Following grouting or the installation of piezometers, all boreholes will be surveyed in accordance with requirements to determine their horizontal and vertical positions and a permanent metal identification plate or reference mark will be placed at the location of each borehole for re-identification purposes.

Rehabilitation of the drill site will commence as soon as practical after completion of drilling activities and follows on from demobilisation of equipment and removal of waste materials. In accordance with Condition 53 of PA 08\_0102 rehabilitation will be completed in accordance with the *"Exploration Code of Practice – Rehabilitation"* (NSW Department of Industry) and in accordance with the conditions of the associated Mining Lease.

In accordance with Condition 53 of PA 08\_0102 Bloomfield Collieries will plant two trees for every established tree removed during exploration drilling within the "Area not be Disturbed" as shown on Figure 1. (Source PA 08-0102- Appendix 3). The replacement trees will be of like-for-like species, planted in the same area from which they were removed, and be maintained until established.

Following re-profiling to near the original landform within the disturbed areas, the stockpiled topsoil will be re-spread onto areas requiring rehabilitation. The disturbed areas will be seeded using species consistent with the surrounding vegetation.

Exploration bore sites which have groundwater piezometers installed will have surrounding surface disturbance rehabilitated, where practical. The groundwater monitoring equipment may be used for the remaining Life of Mine (LOM). When the groundwater monitoring equipment is no longer required, the infrastructure will be cut off below ground level, grouted and sealed in accordance with requirements.

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The remaining area will be rehabilitated. The success of rehabilitation will be checked within 12 months of drilling being completed.

## 3. MONITORING AND RESPONSE

### 3.1 ENVIRONMENTAL MONITORING

This Plan will be implemented in conjunction with the Rix's Creek Mine Environmental Management Strategy. The Environmental Management Strategy provides an overall structure for environmental management at Rix's Creek Mine including the strategic context, statutory requirements and roles and responsibilities of key personnel.

Annual inspections of rehabilitated drill sites are to be conducted until the site has been rehabilitated satisfactorily.

### 3.2 ENVIRONMENTAL INSPECTIONS

#### 3.2.1 Weekly Inspections and Site Meetings

The Exploration Technical Manager (or their delegate) will undertake weekly inspections of all active exploration sites being occupied in that week. Inspections will be recorded and any actions documented.

#### 3.2.2 Non-Conformance and Corrective and Preventative Action

Bloomfield Collieries will document in a report any case of non-conformance with this Plan. The Exploration Technical Manager (or their delegate) will investigate any such non-conformance.

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### 3.3

## CONTACTS, COMPLAINTS AND INCIDENTS

### 3.3.1 Complaints Management

The Rix's Creek Mine Community and Blasting Information Line (**02 4930 2665**) is made available on The Bloomfield Group website. All complaints will be maintained in a register and reported internally to the Environmental Advisor for appropriate action. Any complaints will be reported externally in the Annual Review and made available on The Bloomfield Group website. All names and contact details of complainants will remain anonymous.

### 3.3.2 Incident Reporting

Environmental Incidents will be reported in accordance with the approved Rix's Creek Mine Environmental Management Strategy to all relevant agencies as required under the Mining Lease, Development Approval and Environmental Protection Licence Conditions.

As required the Rix's Creek Mine Environmental Management Strategy and Pollution Incident Response Management Plan will be consulted for any additional notification requirements.

### 3.3.3 Contingency Planning

Potential environmental impacts resulting from exploration activities will be assessed in accordance with the requirements of this Exploration Activities Management Plan, including due diligence surveys involving specialist consultants.

The Exploration Technical Manager and Environment Manager will be contacted in the event of unpredicted environmental impacts being identified to provide guidance on an appropriate course of action, including assessing whether the Rix's Creek Mine incident procedure should be implemented.

Unpredicted impacts will be dealt with on a case by case basis. After appropriate action has been implemented, the need for review of this Plan, based on the unpredicted impact, will be assessed by the Exploration Technical Manager.

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## 4. ENVIRONMENTAL MANAGEMENT

### 4.1 ROLES AND RESPONSIBILITIES

Each employee and contactor is responsible for adhering to the Rix's Creek Mine Environmental Policy. Whilst the obligation of complying with the Environmental Policy lies with the entire workforce, further environmental management responsibilities that are considered as a part of the normal functioning of some positions relevant to this Plan are described as follows:-

#### **Exploration Technical Manager**

The Exploration Technical Manager (or their delegate) is responsible for overseeing the implementation of this Plan, consulting with the relevant government and public stakeholders as required and providing the relevant information to stakeholders as necessary. The Exploration Technical Manager (or their delegate) will be responsible for:

- The overall implementation of this document;
- Maintaining accountability for the management of the exploration sites and all employees and contractors entering the sites for the purposes of exploration;
- The conveyance of this Plan and its objectives to all contractors entering the exploration sites;
- Maintaining accountability for the implementation, maintenance and monitoring of compliance with this Plan;
- Advising the Environment Manager and Advisor regarding potential environmental issues;
- Ensuring the Mine Manager is informed of all incidents and non-compliance and the corrective actions taken to mitigate any such incidents;
- Ensuring the correct signage is appropriately located, where required.
- Development and implementation of environmental work procedures;
- Development and implementation of environmental training and inductions;
- Coordinating training to employees and contractors regarding the requirements of this document; and
- Coordinating all reporting (both internally and externally) in relation to this document.

#### **Mine Manager**

- Authorisation of this Plan;
- Reporting of significant environmental incidents to external stakeholders as required;
- Delegation of resources to ensure environmental risk mitigation strategies are implemented;

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- 
- Delegation of duties during the absence of the Environment Manager or Advisor; and
  - Providing adequate resources to implement this Plan.

### **Environment Manager or Advisor**

- Compliance with the Rix's Creek Mine Environmental Policy;
- Reporting of environmental incidents as required to external stakeholders;
- Maintenance of the complaints register, investigating complaints, and taking appropriate action to alleviate the impact of any complaints;
- Regulatory and community consultation;
- Registration of community complaints and regulatory liaison in the Environment and Community Database;
- Auditing the effectiveness of the document;
- Providing advice on environmental pollution issues;
- Investigating environmental incidents, exceedances, complaints and/or enquiries;
- Coordinating the required monitoring activities and undertaking additional monitoring as required; and
- Assist the Exploration Technical Manager to undertake inspections and audits on a regular basis to monitor the environmental performance of the drilling programme.

### **Employees and Contractors**

- Compliance with the Rix's Creek Mine Environmental Policy, standards and procedures;
- Immediately reporting environmental incidents and community complaints or enquiries to the Environment Manager or Environmental Advisor.
- Conducting operations in compliance with the Rix's Creek Mine environmental management plans and procedures; and
- Identifying and implementing appropriate controls for environmental risks from any risk assessments and job safety analysis and communicating these with responsible staff.
- Undertake training in the content of this Plan during a site induction program; and
- During the exploration programme all contractors and employees will be responsible for carrying out actions as directed to ensure compliance with this document.

Delegation of roles or responsibilities may be determined by the Mine Manager at any time.

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## 4.2

## REPORTING

### 4.2.1 Annual Review

A summary of exploration and/or groundwater monitoring activities will be provided in the Annual Review for all relevant activities undertaken by Bloomfield Collieries at Rix's Creek North.

The Annual Review will include a summary of relevant environmental performance, rehabilitation, environmental monitoring results and complaints records. Environmental monitoring results will be compared against relevant statutory requirements and the requirements of any relevant management plans.

The Annual Review will include information on the monitoring conducted during the reporting year, any non-conformances and complaints received. This report is made available on The Bloomfield Group website. [www.bloomcoll.com.au](http://www.bloomcoll.com.au)

### 4.2.2 Website

In accordance with the Project Approval and EPL requirements, The Bloomfield Group have developed a website for reporting of;

- Newsletter and Project updates
- Annual Reports,
- Management Plans,
- Project Approvals, Mining Lease, EPL and other regulatory documents,
- Environmental Assessments,
- Environmental Monitoring Data,
- Mining Operations Plan,
- Community Complaints, and
- Community Consultation Information and Minutes

This website will be used to provide updates on the project to the wider Community.

### 4.2.3 Community Consultative Committee

The Rix's Creek Mine Community Consultative Committee (CCC) generally meets every 6 months. Some of the information reported at the CCC includes:

- Progress at the mine — operational issues;
- Monitoring and environmental performance; and
- Community complaints and the response to complaints.

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A summary of environmental performance from all exploration drilling and/or groundwater monitoring activities will be presented at the CCC meetings. Minutes from the CCC meetings are available on The Bloomfield website.

#### **4.3 ENVIRONMENTAL TRAINING**

Rix's Creek Mine will continue to implement the Environmental Management System (EMS) and the Environmental Policy by training employees and contractors in relevant areas on the EMS.

Environmental and community training may include, but need not be limited to:

- Induction training;
- Environmental and community awareness training;
- Toolbox training; and
- Other specific training as required (for example environment spill control and management).

### **5. REVIEW**

#### **5.1 DOCUMENT REVIEW**

In accordance with the requirements of Schedule 5, Condition 5 of Project Approval PA 08\_0102, Rix's Creek Mine will review and if necessary revise this Plan within three months of the following:

- Submission of an incident report;
- Submission of an Annual Review;
- Submission of an Independent Environmental Audit; or
- Any modification to the conditions of PA 08\_0102.

Any changes to the Plan will then be communicated to the relevant exploration and or relevant site personnel via the daily "toolbox talk" system.

This management plan is a controlled document and may also be reviewed on an as needs basis. Following amendments, a copy of the revised Plan will be provided to the DPIE for approval.

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## 6. BIBLIOGRAPHY

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- Rix's Creek North- PA 08\_0102 Project Approval. (MOD 9) dated February 2021.
- Rix's Creek North Mine Landform Amendment, Exploration and Blasting Frequency Modification Statement of Environmental Effects, prepared by Bloomfield Collieries Pty Limited and dated June 2020
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010);
- Guideline for community consultation requirements for exploration (DRE, 2012a);
- Guideline for Community Consultation Reporting – Coal and Petroleum Exploration (DRE 2012b);
- Managing Urban Stormwater; Soils and Construction Volume 2A, Installation of Services DECC, 2008a);
- Managing Urban Stormwater; Soils and Construction Volume 2C, Unsealed Roads (DECC, 2008b);
- Managing Urban Stormwater; Soils and Construction Volume 2E, Mines and Quarries (DECC, 2008c);
- Waste Classification Guidelines (DECCW, 2009);
- Exploration Code of Practice: Rehabilitation (DRE, 2017a);
- Exploration Code of Practice: Environmental Management (DRE, 2017b);
- Exploration Code of Practice: Community Consultation (DRE 2016a)
- Exploration Guideline: Annual activity reporting for prospecting titles (DRE 2016b);
- *Managing Urban Stormwater; Soils and Construction (The Blue Book) Volume 1* (Landcom, 2004); and
- *Minimum Construction Requirements for Water Bores in Australia* (National Uniform Drillers Licensing Committee [NUDLC] 2012).
- Rix's Creek North Aboriginal Heritage Management Plan
- Rix's Creek North Non-Aboriginal Heritage Management Plan
- Rix's Creek Mine Water Management Plan- Erosion and Sediment Control
- Rix's Creek Mine Noise Management Plan
- Rix's Creek Mine Air Quality and Greenhouse Gas Management Plan
- Rix's Creek Mine Environmental Management Strategy

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7. **Appendix 1**

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Christopher Knight  
Environment Manager  
Four Mile Creek Road  
Ashtonfield, NSW 2323

26/02/2021

Dear Mr Christopher

**Rix's Creek North Open Cut (MPO8\_0102-PA-12)  
Exploration Management Plan**

I refer to your request (MPO) for the Planning Secretary's approval of suitably qualified persons to prepare the Water Management Plan for the Rix's Creek North Open Cut (MPO8\_0102-PA-12).

The Department has reviewed the nominations and information you have provided and is satisfied that these experts are suitably qualified and experienced.

Consequently, I can advise that the Planning Secretary approves the appointment of Christopher Knight to prepare the Exploration Management Plan.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

A handwritten signature in black ink, appearing to read "Matthew Sprott".

Matthew Sprott  
Director  
Resource Assessments (Coal & Quarries)

As nominee of the Planning Secretary

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**Chris Knight**

**From:** no-reply@majorprojects.planning.nsw.gov.au  
**Sent:** Friday, 30 April 2021 12:18 PM  
**To:** Enviro  
**Cc:** Joe.Fittell@planning.nsw.gov.au  
**Subject:** Rix's Creek North Open Cut - Rix's\_Creek\_Exploration\_MP\_29042021 MP08\_0102-PA-13 - Request for Additional Information  
**Attachments:** ..datacontentImagerteImagesNew\_DPIE\_Logo1561956956365.png; Rix's Creek Heritage.png; DPIE\_Review\_Expl\_MP.pdf

Dear Christopher Knight,

The Department is requesting that you provide additional information in relation to the Rix's Creek North Open Cut - Rix's\_Creek\_Exploration\_MP\_29042021 .

Please access your profile for details of this request and to upload your response. You are requested to provide this response by 7/05/2021 .

If you have any enquiries, please contact Joe Fittell on 02 4908 6896 /at Joe.Fittell@planning.nsw.gov.au .

To sign in to your account click [here](#) or visit the [Major Projects Website](#).

Please do not reply to this email.

Kind regards

The Department of Planning, Industry and Environment



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## Exploration Activities Management Plan Rix's Creek North

**Attachment A**  
**DPIE Review of Rix's Creek North Exploration Activities Management Plan**

Exploration Activities Management Plan - condition 49A, Schedule 3	Compliance (Yes/No)	Comment	Action Required
<i>Within three months of the determination of MOD 9, or other timing as agreed by the Secretary, the Applicant must prepare an Exploration Activities Management Plan for the project to the satisfaction of the Secretary. This Plan must:</i>	Yes	N/A	N/A
(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	Yes	N/A	N/A
(b) be prepared in consultation with BCD and Heritage NSW;	Yes	N/A	N/A
(c) include a description of the measures to be implemented for:	Yes	N/A	N/A
(i) managing exploration activities associated with mining operations under this consent;			
(ii) consulting with and compensating affected landowners;	Yes	N/A	N/A
(iii) assessing noise, air quality, traffic, biodiversity, heritage, public safety and other impacts;	Partial	Section 2.5 should include discussion on managing traffic impacts. Will there be any use of public roads for the exploration works? If not, the measures provided in Section 2.5.9 to mitigate dust would suffice in terms of mitigating traffic impacts.	Update to include traffic management measures if public roads are to be used during exploration.
(iv) avoiding (where possible), or minimising environmental impacts;	Yes	N/A	N/A
(v) avoiding (where possible), or minimising impacts on threatened species, populations or their habitats and EECs, including any measures required condition 42A of Schedule 3;	Yes	Please include reference in Table 1 to sections 2.5.4 and 2.5.5 in addressing this condition.	Update Table 1 references
(vi) minimising clearance and disturbance of native vegetation;	Yes	Please include reference in Table 1 to sections 2.5.4 and 2.5.5 in addressing this condition.	Update Table 1 references
(vii) minimising and managing erosion and sedimentation; and	Yes	N/A	N/A
(viii) rehabilitating disturbed areas.	Yes	N/A	N/A
49B. The Applicant must not carry out exploration activities associated with the mining operations under this consent that cause temporary surface disturbance, except where authorised under the Mod 7 exploration drilling program shown in Appendix 3A until the Exploration Activities Management Plan is approved by the Secretary.	Yes	N/A	N/A
49C. The Applicant must implement the Exploration Activities Management Plan as approved by the Secretary.	Yes	N/A	N/A

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## Exploration Activities Management Plan Rix's Creek North

53. Within 12 months of the completion of any exploration drilling works within the area identified as the 'area not to be disturbed' in Appendix 3, the Applicant must plant 2 trees for every established tree removed during exploration drilling. The replacement trees must be of like-for-like species, planted in the same area from which they were removed, and be maintained until established. <i>Note: An established tree is considered to be two metres or greater in height.</i>	Yes	Please update Table 1 to include the relevant Section reference	Update Table 1
53. Rehabilitation of all areas disturbed by exploration drilling is to be undertaken in accordance with the conditions imposed on the mining lease(s) associated with the development under the Mining Act 1992.	Yes	Please update Table 1 to include the relevant Section reference	Update Table 1
42A. Prior to the commencement of any exploration drilling activities within the area identified as the 'area not to be disturbed' in Appendix 3, the Applicant must: <ol style="list-style-type: none"> <li>a) conduct a targeted survey for <i>Diuris tricolor</i> during its known flowering time (mid-September to mid-October) within the area of disturbance of each proposed borehole, in consultation with BCD;</li> <li>b) prepare a report, to the satisfaction of the Secretary, detailing:               <ul style="list-style-type: none"> <li>• the results of the survey;</li> <li>• whether the proposed exploration activities would harm <i>Diuris tricolor</i>;</li> <li>• what measures would be implemented to avoid impacts on <i>Diuris tricolor</i> and other threatened species, populations or their habitats; and</li> <li>• suitable offset arrangements in accordance with the NSW Biodiversity Offsets Policy for Major Projects, if the survey concludes that <i>Diuris tricolor</i> would be harmed by the proposed boreholes.</li> </ul> </li> </ol>	Yes	Please update Table 1 to include this condition and a reference to Section 2.3.2.	Update Table 1
The Applicant must implement the findings of the report, to the satisfaction of the Secretary.	Yes	N/A	N/A
<b>Additional Comments</b>			
1. Table of Contents – the link to Section 4.2.2 is broken. 2. Report Structure – Section 2.2.3 comes directly after Section 2.3.2 – please fix section referencing throughout to make it consecutive. 3. Section 2.5.1 – the dot points are missing from the first paragraph. 4. Section 2.5.3 – the dot points are missing from the first paragraph.			

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5. Section 2.5.6 refers to the BCD providing written notification to Bloomfield in regard to managing aboriginal remains – please update this reference to refer to Heritage NSW. The BCD no longer deal with Aboriginal heritage issues.
6. Section 2.5.7 states “*In addition to the requirements of the Rix's Creek Mine Noise assessments will be undertaken when proposed drill sites are in proximity to sensitive receivers.*” I think this should say “*In addition to the requirements of the Rix's Creek Mine Noise Management Plan ...*” – can you please review and confirm?
7. Section 2.5.7 – it looks like the dot point formatting is a little skew – I don't think they're meant to be formatting as subpoints to dot point 1 (?).
8. Section 2.5.10 – Rix's Creek Mine is spelt incorrectly in the first line ('Creek' is missing the k).
9. Figure 5 see below a higher resolution image you could use – it's still pretty hard to read. I can email a copy of this figure if it helps.
10. Please provide a clean pdf with highlighting removed for publication on our website.

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**8. Appendix 2**

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## Exploration Activities Management Plan Rix's Creek North

### **Chris Knight**

**From:** Siobhan Lavelle <Siobhan.Lavelle@environment.nsw.gov.au>  
**Sent:** Wednesday, 7 April 2021 5:20 PM  
**To:** Enviro  
**Subject:** Rix's Creek North Mine - EXPLORATION ACTIVITIES MANAGEMENT PLAN - PA 08\_0102

OUR REFERENCE: DOC21/194410

Dear Mr Knight,

Heritage NSW received a referral from the Major Projects portal regarding the above document which relates to Project Approval PA 08\_0102.

I can advise that I reviewed the document in regard to Non-Aboriginal Heritage Matters (matters subject to the NSW Heritage Act, 1977).

Comments are:

Figure 5, which shows Identified Non-Aboriginal Heritage Sites is at a resolution that makes the image unclear and uninformative.

It should be revised.

Section 2.5.6 of the Management Plan advises that 'a number of non-Indigenous heritage sites have been identified within the Project Area. Exploration/groundwater monitoring sites and access tracks will be located to avoid impacts on these sites.'

It also advises that if significant European cultural material was to be uncovered, that works would cease and Heritage NSW would be notified.

These management measures are considered appropriate. I also note that s146 of the Heritage Act, 1977 requires that such notifications occur and that s146 is not suspended by the Major Project Approval.

Regards,

**Dr Siobhán Lavelle OAM | Senior Team Leader, Specialist Services**  
 Heritage NSW, Community Engagement, Department of Premier and Cabinet  
 Level 6, 10 Valentine Avenue, Parramatta Locked Bag 5020 Parramatta 2124  
 T: (02) 9873 8546 | M: 0455 093962 | E: [siobhan.lavelle@environment.nsw.gov.au](mailto:siobhan.lavelle@environment.nsw.gov.au)



Please lodge all Applications to [Heritagemailbox@environment.nsw.gov.au](mailto:Heritagemailbox@environment.nsw.gov.au) Otherwise they will not be processed.

I acknowledge and respect the Traditional Custodians and Ancestors of the land I work across.

#### Heritage NSW and coronavirus (COVID-19)

Heritage NSW has taken steps to protect the safety, health and wellbeing of our staff, communities and customers. Whilst our offices remain open, we have put in place flexible working arrangements for our teams across NSW and continue to adapt our working arrangements as necessary. Face-to-face meetings and field work/site visits with our customers are subject to rules on gatherings and social distancing measures. We thank you for your patience and understanding at this time.

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