



## **BLOOMFIELD COLLIERIES PTY LTD**

Independent Environmental Audit of  
Bloomfield Colliery

**FINAL**

September 2022



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Bloomfield Colliery

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Prepared by  
**Umwelt (Australia) Pty Limited**  
on behalf of  
**Bloomfield Collieries Pty Ltd**

Lead Auditor: Daniel Sullivan  
Auditor: Joshua Wheatley  
Report No. 21788/R02  
Date: September 2022



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QMS Certification Services

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### **Document Status**

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Daniel Sullivan	21 January 2022	Daniel Sullivan	21 January 2022
Revised Final	Daniel Sullivan	6 September 2022	Daniel Sullivan	6 September 2022

# Executive Summary

Umwelt (Australia) Pty Limited (Umwelt) was commissioned by Bloomfield Collieries Pty Ltd (Bloomfield) to conduct an independent environmental audit (IEA) against Project Approval 07\_0087 (as modified) for Bloomfield Colliery. This audit was undertaken for the Department of Planning, Industry and Environment (DPIE) for the period 31 October 2018 to 1 November 2021. The audit also assessed compliance with the conditions of the sites Environment Protection Licence (EPL), key mining authorities, management plans and other licence documents.

The audit team responsible for completing the audit as endorsed by DPIE included:

- Daniel Sullivan (Lead Auditor)
- Joshua Wheatley (Assistant Auditor)
- Luke Bettridge (Rehabilitation)
- Shane Lakmaker (Air Quality)
- Tim Procter (Noise)
- Chris Bonomini (Surface Water/Hydrology), and
- Arne Bishop (Biodiversity)

The audit consisted of a detailed desktop review of documentation, interviews with key Bloomfield Colliery staff and a field inspection of the mining and rehabilitation areas which was conducted on 1 November 2021. The audit was conducted generally consistent with 'AS/NZS ISO 19011:2011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and the 'Independent Audit Guideline Post-approval requirements for State Significant Developments (NSW Government, 2015)'.

Key actions and recommendations from the previous independent environmental audit completed in 2018 have been reviewed and responded to, as described in **Section 3.0** .

This audit has concluded that the on the ground environmental management practices being applied at Bloomfield Colliery are appropriate. The open cut pit areas assessed during the field inspection were observed to be well managed, with equipment operators and supervisory personnel demonstrating a good understanding of management actions required to minimise amenity impacts from mining activities. This observation is supported by the results from noise and dust monitoring programs and the relatively small number of community complaints received during the audit period.

A review of rehabilitation during the field inspection completed for this audit found that active mining areas are being progressively reshaped in a manner generally consistent with the final landform in the Project Approval and that previously rehabilitated areas are being monitored and are subject to maintenance where required. However limited new rehabilitation has been completed during the audit period.

During the site visit, historical rehabilitation was observed to be effective with vegetation cover established that contains minimal weed species. Minor gully erosion was observed in one historically rehabilitated area

and a plan to remediate the area is required to be developed. The documentation reviewed as part of the rehabilitation component of the audit has identified a range of actions to address some inconsistency across the documents and to ensure appropriate planning is in place as the site heads into the final years of mining operations ahead of planned closure.

A review of management plans for Bloomfield Colliery found that most plans had been subject to regular review and updates and were approved by DPIE however some plans were found to have not been updated in some time and require review and revision as identified in this audit report.

A review of environmental incidents that have occurred since the previous audit indicated that they were all classified as low risk and included three water management incidents. Non-compliances identified during this audit are summarised in **Section 4.0** . These confirm that each of the non-compliances that occurred during the audit period were low risk in nature. A series of recommendations arising from a review of environmental management documentation, the audit site inspections and identified non-compliances is provided in **Section 7.0** .

At the time of the audit, Bloomfield were aware of most of the identified non-compliances against development consent conditions, licences and approvals and were working to address a number of the issues identified in this report.

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# 1.0 Introduction

Bloomfield Colliery is owned and operated by Bloomfield Collieries Pty Limited (Bloomfield) and is located south of East Maitland in the Hunter Valley of New South Wales. Coal has been mined from Bloomfield Colliery for approximately 170 years through previous underground operations and current open-cut mining operations.

Bloomfield commissioned Umwelt Australia Pty Limited (Umwelt) to conduct an Independent Environmental Audit (IEA) as required by Schedule 5, Condition 7 of Project Approval (PA) 07\_0087. The IEA was conducted in accordance with PA07\_0087 (as modified), the NSW Government Independent Audit Guideline Post-approval requirements for State Significant Developments (NSW Audit Guidelines) (NSW Government, 2015) and with AS/NZS ISO 19011:2011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing.

The IEA was conducted by Daniel Sullivan (Exemplar Global International Certified Lead Auditor 113202) and Joshua Wheatley from Umwelt. Daniel and Joshua were supported during the audit by experts in a number of fields including:

- Luke Bettridge (Rehabilitation)
- Shane Lakmaker (Air Quality)
- Tim Procter (Noise Specialist)
- Chris Bonomini (Water Specialist) and
- Arne Bishop (Biodiversity).

This IEA report has been certified by the lead auditor (see **Appendix 1**) as required by the NSW Audit Guidelines. As required by the Project Approval, the audit team was approved by DPIE to undertake the audit (refer to **Appendix 2**).

The IEA consisted of a detailed desktop review and onsite component including a site inspection and assessed the compliance status of Bloomfield Colliery against the Project Approval and other relevant environmental approvals and licences, for operations occurring between 31 October 2018 and 1 November 2021 (the audit period). The on-site component of the IEA was conducted on 1 November 2021 (see **Appendix 3** for the audit plan and itinerary). Some information requested by the audit team was not available on-site at the time of the audit and was subsequently provided to the audit team for review.

The weather conditions during the site component of this IEA were fine and sunny (temperature of 16.6°C, at 9 am and a temperature of 23.0°C at 3 pm), with moderate humidity. Winds during the morning of the audit were generally West northwest, with speeds of around 4 km/h while easterly winds with speeds around 7 km/hr were experienced in the afternoon (Maitland BoM monitoring station site 061428). In the week preceding the IEA, conditions were dry, with a total of 0.6 mm of rainfall recorded at the Maitland BoM monitoring station.

An opening and closing meeting for the IEA was held on site, with Bloomfield Environment staff and the Bloomfield Mine Manager in attendance at the opening meeting and closing meeting.

This report provides an outline of the IEA methodology and results and provides recommended actions for achieving full compliance with environmental approvals.

## 1.1 Audit Objectives

The key objectives identified for the 2021 IEA for Bloomfield Colliery were as follows:

- to undertake an independent environmental audit as required by the conditions of Project Approval
- to assess the environmental performance of Bloomfield Colliery against the conditions of the Project Approval, Environmental Protection Licence (EPL), Mining Authorities and other applicable licences listed below, and the ability of the environmental management systems and controls to provide for sustainable management of the operations.

The IEA assessed the level of compliance and the environmental performance of Bloomfield Colliery in accordance with the:

- the Bloomfield Colliery Project Approval (Modification 4, August 2018) (PA 07\_0087)
- the Environment Protection Licence (EPL) No. 396
- relevant Water Licences under the Water Act 1912 and Water Management Act 2000
- the respective Environmental Assessments (EAs), including the EA supporting documents
- Mining Authorities
- any strategy, plan or program which has been prepared for the operations.

The scope of the IEA for Bloomfield Colliery is detailed in **Section 1.2.1**.

## 1.2 Audit Scope

The IEA was undertaken in accordance with the Development Consent conditions and supporting approval documents as detailed in the sections below.

### 1.2.1 Project Approval

As part of the Project Approval conditions, Bloomfield Colliery is required to be audited independently to determine compliance to the satisfaction of the Secretary of DPE. In order to assess the level of compliance with the terms of the approval, Condition 7 of Schedule 5 of PA 07\_0087 requires that an independent environmental audit be carried out. Specifically, the Project Approval condition states:

*“Every 3 years, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:*

- (a) Be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;*
- (b) Include consultation with the relevant agencies and the CCC*

- (c) *Assess the environmental performance of the project and whether it is complying with the relevant requirements of this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);*
- (d) *Review the adequacy of any approved strategies, plans or programs required under these approvals, and*
- (e) *Recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and*

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary”.

### 1.2.1.1 Project Approval and Supporting Document Summary

Project Approval (07\_0087) was granted by the Minister for Planning under Part 3A of the Environment Planning & Assessment Act 1979 (EP&A Act) to allow for the completion of open cut mining operations and rehabilitation. The approval was issued 3 September 2009 and is subject to a number of conditions. Four variations to modify the Project Approval under s75W of the EP&A Act have been granted for the site.

The history of project approvals and modifications is provided in **Table 1.1** .

**Table 1.1 Bloomfield Colliery Project Approval History**

Year	Description	Approval Reference
3 Sep 2009	Approval for the completion of mining and progressive rehabilitation of the Bloomfield Colliery open cut mine over a 12-year period	Part 3A Project Approval
16 May 2011	Extension of project approval area for out-of-pit overburden emplacement and rehabilitation, alternative haul road and power line relocation. Additional conditions relating to Biodiversity Offsets, Conservation bond and Biodiversity Offset Management Plan were approved as MOD 1	MOD 1
29 March 2012	An application to modify PA 07_0087 was submitted by Bloomfield in September 2010 to facilitate an amend the submission date of the Final Void Management Plan and Mine Closure Plan of Project Approval Schedule 3 Condition 26, to 30 June 2012. (The Modification was lodged after DRE requested that Bloomfield submit Final Void Management Plan and Mine Closure Plan after DRE's approval of the Mining Operations Plan (MOP) for the Bloomfield Colliery).	MOD 2
20 Feb 2013	An application to modify PA 07_0087 was submitted by Bloomfield on 17 December 2012 to allow a change to an area proposed for vegetation clearing. The current approval was to clear 1.3ha of vegetation to create a corridor for a power-line easement. Bloomfield used an existing contour drain for the power-line corridor and consequently the approved vegetation clearing was not required. Bloomfield requested a Modification for clearance of 1.6ha of vegetation adjacent to the 'Creek Cut' high-wall, for mining infrastructure purposes	MOD 3

Year	Description	Approval Reference
16 Aug 2018	In December 2017 a variation to modify the Project Approval (07_0087_Mod 4) was submitted to the Department of Planning and Environment. The modification adjusted the approved disturbance footprint and allows the Colliery to continue its open cut mining operations and use existing mine infrastructure to process up to 1.3Mtpa of ROM coal until 31 December 2030.	MOD 4

### 1.2.1.2 Relationship with Abel Underground Coal Mine (PA 05\_0136)

Abel Underground Mine is located immediately to the south-east of Bloomfield Colliery and is approved under PA 05\_0136. The Abel Consent (PA 05\_0136) provides approval for the Bloomfield Infrastructure Site which includes the Bloomfield CHPP and rail loading facility. Bloomfield Colliery is permitted to use the Bloomfield CHPP and rail loading facility under PA 05\_0136 and are required to operate in accordance with the conditions of PA 05\_0136 where they apply to the Bloomfield Infrastructure Site.

The Bloomfield Colliery and Abel Underground Mine approvals were intended to operate in cooperation to manage the responsibility of the integrated components for both sites (namely the Bloomfield Infrastructure Site). However, the Abel Underground Mine has been on care and maintenance since 2016 and has not processed any coal through the Bloomfield infrastructure. During the audit period and for the past 5 years, the Bloomfield CHPP and rail loading facility have been managed and operated by Bloomfield.

As noted in **Section 2.2**, when approving the audit team and approach to this IEA, DPIE requested that the audit considers the Abel Consent as relevant to the infrastructure that is used and managed by Bloomfield, and to conduct a review of the Bloomfield management plans and how they consider operations at the Bloomfield Infrastructure Site. This has been undertaken and is included in this audit report.

### 1.2.1.3 Supporting Approvals and Documents

The other approvals and statutory documents held by Bloomfield Colliery which have been reviewed as part of this IEA include:

- EPL No. 396
- Water Access Licence (20BL172035)
- Mining Authorities
  - Consolidated Coal Lease 761
  - Mining Lease 1738 (including Ancillary Mining Activity AMA1001)
- any strategy, plan or program which has been prepared for the Project.

## 1.3 Audit Criteria

The compliance status of each approval was assessed in accordance with the compliance assessment criteria detailed within the NSW Audit Guidelines and as directed in the letter from DPIE approving the audit team. The criteria have been reproduced in **Table 1.2** and **Table 1.3** below.

**Table 1.2 Independent Audit Guidelines Compliance Assessment Criteria**

Assessment	Criteria
Compliant	Where the auditor has collected sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory approval have been complied with within the scope of the audit.
Non- Compliant	Where the auditor has collected sufficient veritable evidence to demonstrate that the intent of one or more specific elements of the regulatory approval have not been complied with within the scope of the audit.
Administrative non-compliance	A technical non-compliance with a regulatory approval that would not impact on performance and that is considered minor in nature (e.g. report submitted but not on the due date, failed minor or late monitoring session). This would not apply to performance- related aspects (e.g. exceedance of noise limit) or were a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval).
Not triggered	A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the audit inspection, therefore a determination of compliance could not be made.

**Table 1.3 Risk Level for Non-Compliances**

Risk Level	Colour Code	Description
High		Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium		Non-compliance with: <ul style="list-style-type: none"> <li>• potential for serious environmental consequences, but is unlikely to occur; or</li> <li>• potential for moderate environmental consequences, but is likely to occur</li> </ul>
Low		Non-compliance with: <ul style="list-style-type: none"> <li>• potential for moderate environmental consequences, but is unlikely to occur</li> <li>• potential for low environmental consequences, but is likely to occur</li> </ul>
Administrative non-compliance		Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

## 1.4 Structure of this Document

This report contains the following sections:

- **Section 1.0 - Introduction.** An overview of Bloomfield Colliery and the purpose and scope of the audit
- **Section 2.0 - Audit Methodology.** A detailed description of the audit process
- **Section 3.0 – Previous Independent Audit Recommendations and Status**
- **Section 4.0 – Compliance Assessment.** An overview of the findings of the audit, including detailed descriptions of any non-compliance identified
- **Section 5.0 – Environmental Management Plans**
- **Section 6.0 – Environmental Performance**
- **Section 7.0 – Recommendations and Conclusion**
- **Appendix 1 – Independent Audit Submission Form**
- **Appendix 2 – DPIE Correspondence Approving the Audit Team**
- **Appendix 3 – Bloomfield Colliery Audit Plan and Itinerary**
- **Appendix 4 – Compliance Tables for Project Approval 07\_0087 and Statement of Commitments**
- **Appendix 5 – Bloomfield Colliery Photographic Plates.** Photographs of key site features referred to in this report
- **Appendix 6 – Response to agency advice and items to be addressed by the audit**

## 2.0 Audit Methodology

The audit process involved the interview of personnel and relevant regulatory agencies, a review of documentation and samples of records provided by Bloomfield and a site inspection of the Bloomfield Colliery operations to determine the level of environmental performance and compliance of Bloomfield Colliery.

### 2.1 Audit Team

The audit team was led by Daniel Sullivan, a qualified and highly experienced environmental auditor, who has undertaken a number of DPIE independent environmental audits for mining projects in NSW. Daniel was approved by DPIE to act as the lead auditor for the project. Joshua Wheatley was approved by DPIE to act as the environmental auditor. DPIE approved the following experts to review their respective areas including:

- Luke Bettridge (Rehabilitation)
- Shane Lakmaker (Air Quality)
- Tim Procter (Noise)
- Chris Bonomini (Water), and
- Arne Bishop (Biodiversity)

A copy of the independent audit certification form as required by the NSW Audit Guidelines is included within **Appendix 1** with the DPIE correspondence approving the audit team included within **Appendix 2**.

### 2.2 Agency/Stakeholder Consultation

During the preparation for this IEA, input was sought from regulatory agencies to confirm any areas of compliance or environmental management at Bloomfield Colliery that should be a particular focus. The following agencies were contacted and invited to provide input as part of the scoping phase of this Audit:

- Department of Planning, Industry and Environment (DPIE)
- Environment Protection Authority (EPA)
- Resource Regulator (RR)
- Biodiversity and Conservation Division (BCD)
- Crown Lands & Water Division – Natural Resources Access Regulator (NRAR)
- Cessnock City Council and
- The Community Consultative Committee (CCC) Chairperson

An overview of the agency consultation is included in **Table 2.1**. Representatives from, DPIE, RR, BCD and EPA responded and provided feedback regarding items to be addressed in addition to the requirements of the Project Approval with their responses summarised in **Table 2.1** below. Cessnock City Council responded noting that they did not have any particular issues or areas to raise as requiring specific attention during the audit.

**Table 2.1 Stakeholder Consultation**

Stakeholder	Person Contacted	Response	Where Addressed
BCD	Steven Crick (Senior Team Leader – Planning)	BCD recommends that the Independent Audit checks whether Schedule 3, Condition 29A – securing the biodiversity offset – has been met; and	<b>Section 6.3.6, Appendix 4 and Appendix 6</b>
		BCD recommends that the audit reviews the effectiveness of the measures of Performance Indicators and Completion criteria in areas of native ecosystem re-establishment. Schedule 3, Condition 25 ‘Rehabilitation Objectives and Commitments’ and Table 5 ‘Rehabilitation Objectives’ of the consent state that the rehabilitation to native ecosystems is to be self-sustaining, with species characteristic of native vegetation communities found in the local area, and in which ecosystem function has been restored. However, Appendix A ‘Completion Criteria’ of the Bloomfield Mining Operations (Bloomfield Colliery) Rehabilitation Management Plan (dated 07 May 2021) contains no details about which vegetation communities are being targeted for recreation; what success looks like in relation to tree recruitment, canopy species diversity and composition, or how ecosystem function is being measured. Further, no details are provided on the location of plots in the rehabilitation areas and analogue sites, or the data that is being measured there. The provision of such information would help quantify the Performance Indicators and Completion Criteria for native ecosystem re-establishment.	<b>Section 6.3.5, Appendix 4 and Appendix 6</b>
EPA	Anthony Van der Horst (Regulatory Operations Officer)	I refer you to the EPA’s public register <a href="http://www.epa.nsw.gov.au/prpoeo/index.htm">http://www.epa.nsw.gov.au/prpoeo/index.htm</a> where you can search for regulatory activity undertaken by the EPA for Environment Protection Licence 396 for Bloomfield Collieries Pty Ltd.	<b>Section 4.2 and Appendix 4</b>
RR	Jenny Ehmsen (Principal Compliance Auditor)	Review relevant mining leases and exploration licences as agreed with Resources Regulator	<b>Section 4.2, 4.4 and Appendix 6</b>
		Undertake an assessment of compliance against the conditions of title related to environmental management	<b>Appendix 4 and Appendix 6</b>
		Verify that there is a current Mining Operations Plan (MOP) in place and it has been approved by the Regulator – review compliance against any conditions of approval of the MOP	<b>Section 4.4.1, Section 6.3.5, Appendix 4 and Appendix 6</b>



Stakeholder	Person Contacted	Response	Where Addressed
		<p>Undertake a critical review of the MOP, including an assessment of its compatibility with the description of operations contained in the planning approval. In particular:</p> <p>Review the rehabilitation strategy as outlined in the MOP to determine if it is consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s)</p> <p>Review the rehabilitation objectives and completion criteria as outlined in the MOP to determine if they have been developed in accordance with the proposed final land use(s) as outlined in the Project Approval</p>	<p><b>Section 6.3.5, Appendix 4 and Appendix 6</b></p>
		<p>Review the development and implementation of any rehabilitation monitoring programs to assess performance against the nominated objectives and completion criteria – verified by reviewing monitoring reports and rehabilitation inspection records</p>	<p><b>Section 6.3.5, Appendix 4 and Appendix 6</b></p>
		<p>Determine if a rehabilitation care and maintenance program has been developed and implemented based on the outcomes of monitoring program – verified by reviewing Annual Rehabilitation Programs or similar documentation</p>	<p><b>Section 6.3.5, Appendix 4 and Appendix 6</b></p>
		<p>Confirm that mining operations are being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary – to be verified by site plans and site inspection</p>	<p><b>Section 6.3.5, Appendix 4 and Appendix 6</b></p>
		<p>Confirm that rehabilitation progress is consistent with the approved MOP as verified by site plans and a site inspection. This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in the Project Approval</p>	<p><b>Section 6.3.5, Appendix 4 and Appendix 6</b></p>
		<p>Based on a visual inspection, determine if there are any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation outcomes</p>	<p><b>Section 6.3.5 and Appendix 5</b></p>
		<p>Review the site's soil and materials management practices in relation to the stripping, stockpiling, and reuse of soil and other materials for rehabilitation.</p>	<p><b>Section 6.3.5, Appendix 4 and Appendix 6</b></p>
DPIE	Ann Hagerthy	<p>Consider Abel Consent (MP 05_0136) as relevant to infrastructure that is used and managed by Bloomfield</p>	<p><b>Section 1.2.1.2, Section 5, and Appendix 6</b></p>
		<p>Review Bloomfield Management Plans and how they consider and manage operations in Abel Consent areas</p>	<p><b>Section 1.2.1.2, Section 5 and Appendix 6</b></p>
		<p>Review Noise management in the Abel infrastructure area and monitoring</p>	<p><b>Section 1.2.1.2, Section 5 and Appendix 6</b></p>

Stakeholder	Person Contacted	Response	Where Addressed
		Surface water management in this area and across the site (confirming closed and captured)	<b>Section 1.2.1.2, Section 5, Section 6.3.7, 6.3.8 and Appendix 6</b>

## 2.3 Site Interviews and Inspections

The opening meeting was held at the Bloomfield Colliery main office commencing at 9.30 am on 1 November 2021. The list of participants is provided in **Table 2.2**.

**Table 2.2 Opening Meeting Attendees**

Person	Organisation	Title / Role
Brad Donoghue	Bloomfield	Mine Manager
Chris Knight	Bloomfield	Group Environmental Manager
Greg Lamb	Bloomfield	Environmental Officer
Daniel Sullivan	Umwelt	Lead Auditor
Joshua Wheatley	Umwelt	Auditor
Luke Bettridge	Umwelt	Rehabilitation Expert

The audit team was introduced, and the scope of their responsibilities was conveyed to the auditees. The purpose, depth and scope of the audit were outlined. The methods to be used by the team to conduct the audit were explained. It was stated that the audit team would be interviewing personnel, reviewing site management plans, examining records and conducting a site inspection in order to address specific compliance requirements. Bloomfield personnel were asked to provide an overview of the operations and some key issues relevant to the operations were discussed.

### 2.3.1 Audit Interviews

During the on-site component of the audit, interviews were conducted with Bloomfield staff and identified in **Table 2.3**.

**Table 2.3 Personnel Interviewed During the Audit**

Person	Organisation	Title
Chris Knight	Bloomfield	Environmental Manager
Greg Lamb	Bloomfield	Environmental Officer
Brad Donoghue	Bloomfield	Mine Manager

## 2.3.2 Data Collection and Verification

A detailed site inspection of Bloomfield Colliery was undertaken during the audit. The following locations were inspected:

- Active mining areas
- Site infrastructure areas including the workshop, fuel farm and laydown areas
- Areas of the Bloomfield Infrastructure Site approved under the Abel Consent (PA05\_0136) including the coal handling and preparation plant, product stockpile area and rail loading facility
- Tailings dam
- Water management system and water infrastructure
- Rehabilitation areas on site

## 2.3.3 Closing Meeting

The list of participants who attended the closing meeting is provided in **Table 2.4**.

**Table 2.4 Closing Meeting Attendees**

Person	Organisation	Title / Role
Brad Donoghue	Bloomfield	Mine Manager
Chris Knight	Bloomfield	Environmental Manager
Greg Lamb	Bloomfield	Environmental Officer
Daniel Sullivan	Umwelt	Lead Auditor
Joshua Wheatley	Umwelt	Auditor
Luke Bettridge	Umwelt	Rehabilitation Expert

The objective of this meeting was to discuss outstanding matters, present preliminary findings and outline the process for finalising the audit report.

## 2.3.4 Independent Environmental Audit Reporting

Following completion of the site audit, the Project Approval, EPL and Mining Authorities compliance assessments were completed, and audit notes were reviewed in order to compile a list of outstanding matters to be noted in the audit report. This report was prepared to provide an overview of the status of compliance by reference to the relevant compliance documentation and any other observations of the auditors during the site inspections and interviews. This report has been prepared on an exception basis, highlighting the compliance issues identified along with any areas where action or improvement is required. This IEA has been prepared in accordance with the NSW Audit Guidelines with **Table 2.5** detailing where the key requirements have been addressed.

**Table 2.5 Audit Guidelines Requirements**

Section	Description	Where Addressed
2	Assess the operator's compliance with the requirements of regulatory approvals, including (as applicable): <ul style="list-style-type: none"> <li>• The Project Approval;</li> <li>• The Environment Protection Licence;</li> <li>• The Mining Leases; and</li> <li>• Water licences and approvals.</li> </ul>	<b>Section 4.0 and Appendix 4</b>
2, 3	The scope of the audit and the audit team (including any technical specialists) to be determined by the lead regulator.	<b>Section 1.2 and 2.1</b>
3.3	The auditor team must be independent of the development being audited and audit findings must be based on verifiable evidence.	<b>Section 2.1 and Appendix 1</b>
4.1	The compliance status of each requirement or commitment should be assessed in accordance with the compliance assessment criteria and risk levels in the audit guidelines.	<b>Section 4.0 and Appendix 4</b>
4.2	Consultation with key regulatory agencies prior to commencement of the audit site inspection.	<b>Section 2.2</b>
5.1	The audit outcomes to be documented in a thorough, accessible and accurate audit report that is written in a neutral tone reflecting facts gathered by the audit team.	This Audit Report
5.1	The audit report should include the following sections: <ul style="list-style-type: none"> <li>• Introduction, providing a brief overview of the development, audit scope and objectives;</li> <li>• Methodology, describing the audit team, methodology applied, document reviews, site inspections and interviews;</li> <li>• Audit findings, including documentation of consultation, response to actions from the previous audit, assessment of compliance status against the conditions and commitments in relevant documents and a discussion of environmental incidents and performance; and</li> <li>• Recommendations, identifying any opportunities for improvement identified in the audit.</li> </ul>	This Audit Report
5.2	Audit reports submitted to the lead regulator must be certified by the lead auditor on an attached 'Independent Audit Submission Form'	<b>Appendix 1</b>
5.3	Copies of the final audit report to be distributed to regulatory agencies within two weeks of finalisation and placed on the development's website.	Bloomfield Colliery to complete.
6	The operator of the development to respond to the lead regulator responding to the audit findings and recommendations with an action plan within four weeks of receiving the final audit report.	Bloomfield Colliery to complete.

## 2.4 Limitations

The findings of the compliance audit are based upon visual observations of the site and its vicinity, interviews with site personnel and our interpretation of documentation provided by Bloomfield.

Opinions presented herein apply to the site as it existed at the time of the audit and from information provided by site personnel and government agencies. Any changes to this information of which Umwelt is not aware and has not had the opportunity to evaluate therefore cannot be considered in this report.

The auditors have taken due care to consider all reasonably available information provided whilst undertaking this audit and have taken this information to represent a fair and reasonable characterisation of the environmental status of the site but recognise that any site assessment program is necessarily limited in scope and true site conditions may differ from those inferred from the available data.

## 3.0 Previous Independent Audit Recommendations and Status

The recommendations made in the 2018 Bloomfield Colliery Independent Environmental Audit (Umwelt, 2018) and the status of the recommendations as at 1 November 2021 are detailed in **Table 3.1** .

**Table 3.1 Previous Audit Findings Update**

Condition / Issue	2018 – Audit Recommendations	2021 - Bloomfield Status Update
<b>PA07_0087</b>		
<b>Schedule 2 Condition 15</b>	The revision of management plans going forward will need to consider the outcomes of the required consultation in further detail to ensure compliance with this condition. Further for future revisions of management plans it should be confirmed with DPE upfront whether additional consultation is required with listed agencies (in addition to consultation that has occurred for the original versions of the management plans).	There is a lack of evidence that supports Bloomfield have considered the outcomes of required consultation in the revision of management plans (refer to findings in <b>Section 4</b> and <b>Appendix 4</b> )
<b>Schedule 3 Condition 19</b>	It is recommended that during the next revision of the Water Management Plan that Bloomfield consults with Dol.	In preparation of the Water Management Plan, Bloomfield have consulted with Dol, consultation dated 2 July 2019.
<b>Schedule 3 Condition 26</b>	During the next revision of the Landscape Management Plan (and subsequent plans required within it) consultation with Dol and Council should be undertaken.	Consultation was not undertaken with Dol or Council in the revision of the landscape management plan or subsequent plans (refer to findings in <b>Section 4</b> and <b>Appendix 4</b> )
<b>Schedule 5 Condition 6</b>	Bloomfield should continue to ensure that all staff are aware of the requirements to report incidents to DPE and other relevant regulatory agencies under the project approval, mining authorities and EPL.	The employee induction presentation has been reviewed and updated to better highlight the requirement to report incidents to external agencies
<b>Spontaneous Combustion Management</b>		
	Revise documented dumping procedures in the "Spontaneous Combustion Principal Mining Hazard Management Plan" to reflect actual practice of providing a minimum of 10 metres of suitable inert overburden over higher spontaneous combustion risk carbonaceous material.	Spontaneous Combustion Principal Mining Hazard Management Plan had been revised and updated to reflect actual practice of providing a minimum of 10 metres of suitable inert overburden over higher spontaneous combustion risk carbonaceous material.
	Upgrade existing or purchase gas monitors with both SO <sub>2</sub> and H <sub>2</sub> S capability with resolution to 0.1 ppm to allow monitoring of very low levels of gases and better assess any deterioration.	A new gas monitor had been purchased specifically for use in spontaneous combustion testing.

Condition / Issue	2018 – Audit Recommendations	2021 - Bloomfield Status Update
	Purchase heat gun/s to determine strata temperature (this is best done in the early morning).	Bloomfield owns heat guns that can be utilised to determine strata temperature.
	Develop a procedure for measurement of gas and temperature data to be incorporated into the existing TARP to better identify and manage potential odour issues.	Testing with monitors to determine levels needed for practicality. TARP to be updated as test data acquired.
	Provide personnel with relevant information on SO <sub>2</sub> and H <sub>2</sub> S gases, odour impacts and relevant concentration levels, particularly for public annoyance affection.	In progress. Training outcomes determined around updated TARP.
<b>Water Licence – 20BL172035</b>		
	The groundwater management plan, which is part of the Water Management Plan should be updated to meet the specific requirements of Condition 6 of the water licence. The revised groundwater management plan should be provided to DPI Water for review and approval as required by Condition 5 of the water licence.	The Water Management Plan (WMP) was revised during the audit period and was approved by the Secretary on the 2 September 2020  It is noted in preparation of the plan consultation with the EPA (19 April 2019) and the DoI (2 July 2019) was undertaken. Feedback from DoI was incorporated into the WMP.
	It is recommended that Bloomfield conduct a thorough review of the specific conditions attached to 20BL172035 and any other water licences that might be required and granted in future and develop a compliance database to ensure that all requirements are adequately addressed as required.	Currently implementing INX software for all environmental compliance and monitoring requirements.

## 4.0 Compliance Assessment

This section provides a discussion of the identified non-compliances and the status of the approvals assessed as part of the audit. **Appendix 4** provides a condition-by-condition checklist of PA 07\_0087, ML 1738 and CCL 761 and provides the compliance status of each condition. The scope of approvals assessed as part of this audit is detailed in **Section 1.2**. The respective compliance tables in the following sections include a ranking of the non-compliance risk levels in accordance with Table 2 of the NSW Audit Guidelines.

Recommendations arising from the non-compliances are included **Section 7.0**.

### 4.1 Project Approval 07\_0087

A summary of the identified non-compliances against PA 07\_0087 are provided in **Table 4.1** with further details provided in the compliance tables in **Appendix 4**.

**Table 4.1 Non-Compliances with Project Approval 07\_0087**

Condition	Non-Compliance	Risk Level
<b>Schedule 2 Condition 2A</b>	Non-Compliances have been identified against conditions of Project Approval 07_0087.during the audit period and are detailed below.	<b>Low</b>
<b>Schedule 2 Condition 15</b>	There has not been consultation between Bloomfield and relevant agencies during the revision of some of the management plans required under this approval during the audit period.	<b>Low</b>
<b>Schedule 3 Condition 18</b>	<p>Three incidents have occurred during the audit period related to discharge of water from site:</p> <ul style="list-style-type: none"> <li>On 21 March 2021 and 22 March 2021 two licenced discharges occurred following heavy rainfall with discharged water exceeding the Criteria for TSS. On 21 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l) and on 22 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l).</li> <li>On 23 February 2021 during a routine inspection undertaken by DPIE two sediment dams were passively seeping water.</li> <li>On 20 March 2021 following heavy periods of rainfall, the overland dam was passively spilling</li> </ul>	<b>Low</b>
<b>Schedule 3 Condition 19</b>	The revised WMP was not submitted to the Secretary within the timeframe required by the project approval.	<b>Administrative Non-compliant</b>
<b>Schedule 3 Condition 23</b>	The Groundwater Monitoring Program does not include procedures for the verification of the groundwater model as required.	<b>Low</b>
<b>Schedule 3 Condition 26</b>	The revised Landscape Management Plan has not been prepared in consultation with OEH, DoI and Council following the approval of MOD 4.	<b>Low</b>
<b>Schedule 3 Condition 29</b>	The revised Mine Closure Plan was not developed in consultation with DRG and Council.	<b>Low</b>



Condition	Non-Compliance	Risk Level
<b>Schedule 3 Condition 31</b>	Aboriginal Cultural Heritage Management Plan was last updated and approved in May 2010 and has not been subject to regular review and updates as required by Schedule 5, Condition 4.	<b>Low</b>
<b>Schedule 3 Condition 33</b>	The Energy Savings Action Plan was last updated and approved in September 2011 and has not been subject to regular review and updates as required by Schedule 5, Condition 4. Further the Energy Actions Saving Plan does not include an appropriate program to monitor the effectiveness of energy saving measures implemented or an effort to continually improve environmental performance onsite.	<b>Low</b>
<b>Schedule 5 Condition 4</b>	The Aboriginal Cultural Heritage Management Plan (dated May 2010) and the Energy Savings Action Plan (dated September 2011) have not been subject to regular review and revision as required.	<b>Low</b>
<b>Schedule 5 Condition 6</b>	During the audit period one incident occurring on the 21/22 March 2021 in relation to TSS exceedances during a licenced discharge was not reported to the Department as required by this condition	<b>Low</b>

#### 4.1.1 Environmental Assessments

As part of the compliance assessment against Bloomfield Colliery's Project Approval, an assessment of the operations was undertaken against the EAs prepared as part of the original and modification approval processes for Bloomfield Colliery. This assessment included a review of compliance against the statement of commitments. As noted in **Section 1.2.1**, the Project Approval has been modified four times since it was originally granted in 2009. During the audit period there has been no modifications. Bloomfield Colliery currently operates under Modification 4.

Modification 4 as approved allows the Colliery to continue its open cut mining operations and use existing mine infrastructure to process up to 1.3Mtpa of ROM coal until 31 December 2030.

This IEA noted that during the audit period Bloomfield appear to have been undertaking operations generally in accordance with the requirements of the EA's and subsequent modifications except where noted in **Table 4.1** and **Appendix 4**.

## 4.2 Environment Protection Licence

During the audit period operations undertaken on the Bloomfield Colliery site have been conducted under EPL 396. The EPL as issued under the POEO Act outline Bloomfield Colliery's responsibilities and the environmental performance standards it is required to meet, being:

- limit conditions;
- operating conditions;
- monitoring and recording conditions;
- reporting conditions;
- general conditions; and
- pollution studies and reduction programs.

Bloomfield Colliery reports its performance against the above responsibilities and environmental performance status via the submission of its Annual Return. Generally, Bloomfield Colliery has demonstrated compliance with the conditions of its EPL, however, some non-compliances have been identified.

The non-compliances identified with EPL 396 are detailed in **Table 4.2** below with further detail regarding the reportable incidents that have occurred during the audit period provided in **Section 6.2.2**.

**Table 4.2 Non-Compliances with EPL 396**

Condition	Non-Compliance	Risk Level
Condition L1	<ul style="list-style-type: none"> <li>• On 23 February 2021 during a routine inspection undertaken by DPIE two sediment dams were passively seeping water. This was notified to DPIE, EPA, RR and Maitland Council on 23 February 2021 with a detailed report provided to DPIE and EPA on 2 March 2021</li> <li>• On 20 March 2021 following heavy periods of rainfall, the overland dam was passively spilling and this was notified to DPIE, EPA, RR and Maitland Council on 22 March 2021. with a detailed report provided to DPIE, the RR and EPA on 26 March 2021</li> </ul>	Low
Condition L2	<ul style="list-style-type: none"> <li>• On 21 March 2021 and 22 March 2021 two licenced discharges occurred following heavy rainfall with discharged water exceeding the Criteria for TSS. On 21 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l) and on 22 March 2021 the water released recorded TSS at 74mg/l (criteria 30mg/l). This was reported to the EPA under the EPL.</li> </ul>	Low

## 4.3 Water Licence

A review of the conditions outlined WAL 41506 7 determined that all conditions were compliant within the audit period.

## 4.4 Mining Authorities

A review of the conditions outlined in ML 1738 (including AMA1001) and CCL 761 determined all conditions were either compliant or not triggered within the audit period.

### 4.4.1 Mining Operations Plan

In accordance with conditions of the relevant mining leases, a review of the Bloomfield Colliery 2021-2023 Mining Operations Plan (MOP) dated 30 June 2021 was undertaken. Bloomfield Colliery developed the MOP for the period January 2021 – December 2023 with the MOP approved by NSW Resources Regulator on 30 August 2021 up until the 2 July 2022.

The MOP outlines that “all domains will remain active throughout the term of this MOP and therefore there are no new rehabilitation activities scheduled to be completed during the term of the MOP. General rehabilitation and land management activities will continue over previously rehabilitated areas during the MOP period, including:

- Rehabilitation monitoring
- Supplementary seeding and fertiliser application
- Slashing, fencing, and access control
- Weed and feral animal control”.

The site inspection involved a drive-around of the site operational areas including the main mining areas, rehabilitation areas and mine infrastructure areas. The site inspection confirmed that Bloomfield Colliery is being progressively reshaped in a manner generally consistent with the final landform set out in the MOP with significant progress being made during the audit period with regard to landform re-establishment particularly with regard to the backfilling of the S cut void. Previously rehabilitated areas are being monitored and are subject to maintenance where required. For example, during the audit, herbicide record sheets were reviewed that outline the locations and type of weed species that were targeted for application that day. Rehabilitated vegetation appeared to contain little weeds and non-native species.

As part of the audit, Umwelt verified against the MOP site plans that operations listed above were being undertaken within the approved project boundary.

The rehabilitation security bonds held by Bloomfield Colliery for ML 1738 and CCL 761 were reviewed during the audit period. The rehabilitation security deposits were observed to have been updated during the audit period (15 January 2021) and were accepted by MEG.

## 5.0 Environmental Management Plans

Bloomfield Colliery has developed a number of management plans and monitoring programs for the project in accordance with relevant requirements of the Project Approval. These documents address specific impacts associated with the project, such as noise, and reflect the requirements detailed in the Project Approval.

Additionally, the MOP for Bloomfield Colliery was reviewed, being a plan required under the provisions of the Mining Authorities for the site. The MOP was prepared by Bloomfield Colliery to guide the environmental management of the mining operations.

An overview of the compliance status of the management plans and relevant environmental / operational plans (e.g. MOPs) including an overview of the compliance of the management plans with the requirements of the Project Approval and implementation status of the plans is included in **Table 5.1** with further details provided in **Appendix 4** and recommendations as relevant included in **Section 7.0**.

**Table 5.1 Bloomfield Colliery Environmental Management Plans**

Condition	Management Plan	Status of Plan and Comments
Schedule 3, Condition 4	Noise Monitoring Program (NMP)	<p>The NMP was submitted to the Secretary on the 07 November 2018 (sighted email correspondence) which was within the 3 month time frame required following the approval of MOD 4. The program has been revised multiple times during the audit period with the latest revision being approved by the Secretary on the 31 March 2021.</p> <p>Noise monitoring during the audit period has been completed as per the requirements of this plan. No exceedances of the relevant noise criteria during this audit period.</p> <p>As requested by DPIE this audit has completed a review of relevant Bloomfield Management Plans to understand how they consider and manage operations within Abel Consent areas (MP 05_0136) namely the Bloomfield Infrastructure Site.</p> <p>This review has identified that the current NMP describes an integrated noise monitoring protocol (in Section 4.5 of the plan) which is designed to work with the noise monitoring programs for Abel and Donaldson mines. Section 3.2 (Table 3) of the NMP outlines all potentially affected receivers with respect to the three mining operations and Section 4.2 (Table 4) then specifies which locations are considered to be potentially most affected by Bloomfield's Operations and hence required to be monitored by Bloomfield under the NMP.</p>

Condition	Management Plan	Status of Plan and Comments
		<p>With the Abel and Donaldson Mine operations not currently operating (under care and maintenance) the reference to and reliance in part on an integrated monitoring protocol is not considered to appropriately monitor and manage compliance with applicable criteria in some areas.</p> <p>One example of where this is not currently captured is the rail noise associated with the rail loading facility and spur line (which was required to be monitored under Abel's NMP). These locations are not currently being monitored with Location J (Thornton) and Location I (Ashtonfield) not included in Bloomfield's monitoring program (ie. not in Table 4 of the NMP).</p> <p>It is considered that the NMP would currently capture operations at the CHPP however rail noise criteria and monitoring of the rail loading facility and rail movements is not currently considered or captured by Bloomfield's monitoring program and with Abel not conducting monitoring these locations are not being actively captured in any compliance monitoring.</p> <p><b>It is recommended that Bloomfield's NMP be subject to review and revision to ensure that noise monitoring covers Bloomfield operations within the Bloomfield Infrastructure Site in order to demonstrate compliance with applicable criteria (including rail criteria).</b></p>
Schedule 3, Condition 14	Blast Monitoring Program (BMP)	<p>The BMP was submitted on the 07 November 2018 (sighted email correspondence) which was within 3 months from the date of the MOD 4 approval.</p> <p>The most recent revision of the BMP was approved by the Secretary on the 13 July 2020.</p> <p>Blast monitoring during the audit period has been completed as per the requirements of this plan. As noted, <b>Appendix 4</b> there have been no exceedances of the relevant criteria during this audit period.</p>
Schedule 3, Condition 16	Air Quality Monitoring Program (AQMP)	<p>The AQMP was submitted to the Secretary within 3 months of the date of the MOD 4 approval on the 07 November 2018 (sighted email correspondence). The most recent revision of the program was approved (version 9) by the Secretary on the 13 July 2020.</p> <p>Air quality monitoring during the audit period has been completed as per the requirements of this plan. As noted, <b>Appendix 4</b> there have been no exceedances of the relevant criteria during this audit period as a result of the Project.</p> <p>As requested by DPIE this audit has completed a review relevant Bloomfield Management Plans to understand how they consider and manage operations in Abel Consent areas (MP 05_0136) namely the Bloomfield Infrastructure Site.</p>

Condition	Management Plan	Status of Plan and Comments
		<p>While monitoring described (and monitoring sites included) in the AQMP broadly covers the areas surrounding the Bloomfield Infrastructure Site, the AQMP does not specifically reference how Bloomfield's operations in this area are managed or monitored.</p> <p><b>It is recommended that Bloomfield's AQMP be subject to review and revision to ensure that air quality monitoring covers Bloomfield operations within the Bloomfield Infrastructure Site in order to demonstrate compliance with applicable criteria.</b></p>
<p>Schedule 3, Condition 19</p>	<p>Water Management Plan (WMP)</p>	<p>The WMP was not submitted within the required timeframe as agreed by the Secretary. THE WMP was prepared in consultation with the EPA (sighted letter dated 19 April 2019) and the DoI (sighted letter 2 July 2019).</p> <p>The revised WMP was submitted to the Secretary on the 19 August 2019.</p> <p>Following DPIE review the WMP was approved by the Secretary approved the WMP on the 2 September 2020. Water quality monitoring during the audit period has been completed as the requirements of this plan. Sighted water discharge results for the audit period and reviewed a summary of surface water and groundwater monitoring results for the audit period in the Annual Reviews.</p> <p>As requested by DPIE this audit has completed a review relevant Bloomfield Management Plans to understand how they consider and manage operations in Abel Consent areas (MP 05_0136) namely the Bloomfield Infrastructure Site.</p> <p>Upon review of the WMP it is not considered that the plan currently captures and considers water management across the rail loading facility area. As identified by this audit, earlier in 2021 Bloomfield have undertaken works to install bunding and sediment dams in this area to capture water from the rail loading facility area (including surrounding roadways) within the closed Bloomfield water management system. These works were undertaken in response to an incident identified by DPIE during a routine inspections where two dams were observed to be passively seeping water.</p> <p>It was noted during the audit that Bloomfield have made updates to the WMP to include relevant management components related to the Bloomfield Infrastructure Site. The revised WMP was submitted to DPIE for review and approval on 12 August 2021 but has not yet been approved.</p> <p><b>It is recommended that Bloomfield seek to engage with DPIE and have the revised WMP reviewed and approved so that it can be implemented.</b></p>

Condition	Management Plan	Status of Plan and Comments
Schedule 3, Condition 26	Landscape Management Plan (LMP)	<p>The LMP was submitted on the 7 November 2018 within 3 months of the approval of MOD 4. The LMP was revised during the audit period with the Secretary approving the plan on the 13 July 2020. This audit has identified that the revised Landscape Management Plan has not been prepared in consultation with OEH, DoI and Council as required.</p> <p>In accordance with the Landscape Management Plan, during the audit it was noted that procedures are in place to ensure lighting does not shine directly toward residences in any direction.</p>
Schedule 3, Condition 27	Rehabilitation Management Plan (RMP)	<p>The RMP was submitted on the 7 November 2018 within 3 months of the approval of MOD 4. The RMP (Version 10) was approved by DPIE on 8 July 2021.</p> <p>The RMP requires the completion of pre-clearance surveys to be conducted prior to any vegetation clearing works in advance of mining. During the audit it was confirmed no vegetation has been cleared during the audit period.</p> <p>It is noted that the performance indicators / completion criteria are different in the MOP, RMP and MCP for the site. The criteria needs to be reviewed and updated to ensure consistency across plans. Further detail is provided in <b>Section 6.3.5</b> and <b>Appendix 4</b>.</p>
Schedule 3, Condition 28	Final Void Management Plan (FVMP)	<p>The FVMP was submitted on the 7 November 2018 within the 3-month time frame required by the MOD 4 approval. The FVMP was revised was approved by the Secretary on the 13 July 2020.</p> <p>The FVMP adequately addresses all requirements of this condition.</p>
Schedule 3, Condition 29	Mine Closure Plan (MCP)	<p>The MCP was submitted on the 7 November 2018 within 3 months of the approval of MOD 4. The MCP was revised during the audit period with the Secretary approving the plan on the 13 July 2020. The revised Mine Closure Plan was not developed in consultation with DRG and Council.</p> <p>The MCP adequately addresses all requirements of this condition. The performance indicators and completion criteria within the MCP are to be reviewed to ensure alignment with the performance indicators and completion criteria in the MOP. Further detail is provided in <b>Section 6.3.5</b> and <b>Appendix 4</b>.</p>

Condition	Management Plan	Status of Plan and Comments
Schedule 3, Condition 29B	Biodiversity Offset Management Plan (BOMP)	<p>The Biodiversity Offset Management Plan has not been revised during the audit period.</p> <p>In accordance with the plan, short term measures such as the establishment of fencing to prevent the uncontrolled entry of livestock has been constructed and medium measures including weed and feral pest monitoring has been undertaken.</p> <p>It is noted the current approved Biodiversity Offset Management Plan refers to and relies on the three yearly IEA process as an indicator to measure environmental performance of the management of the Offset and determine when the offset has met completion criteria. As described in further detail in <b>Appendix 4</b> this is not considered an appropriate mechanism to monitor the performance of the offset and to assess progress towards the completion criteria. A recommendation to revise and update the BOMP has been provided in <b>Section 7.1</b> in this regard.</p>
Schedule 3, Condition 31	Aboriginal Cultural Heritage Management Plan (ACHMP)	<p>The ACHMP was last updated and approved in May 2010 and has not been subject to regular review and revision as required by Schedule 5, Condition 4. Further detail is provided in <b>Appendix 4</b>.</p>
Schedule 3, Condition 31B	Historic Heritage Conservation Management Plan (HHCMP)	<p>The HHCMP has been prepared in consultation with OEH (Heritage Division), Hunter Water, Cessnock Family History Group/Cessnock and District Historical Society and Cessnock City Council with correspondence letters dating 05 April 2019.</p> <p>The HHCMP was submitted to the Secretary in November 2019, with an updated version resubmitted in April 2021. Following submission the Department provided feedback for incorporation into the plan dated 16 July 2021 and required the feedback and additional information be provided in the plan by 2 August 2021.</p> <p>The plan was resubmitted in August 2021 and approval of the HHMP was received from DPIE (following the site audit) on 15 December 2021.</p>
Schedule 3, Condition 33	Energy Savings Action Plan (ESAP)	<p>The ESAP was last updated and approved in September 2011 and has not been subject to regular review and revision as required by Schedule 5, Condition 4.</p> <p>Further the Energy Actions Saving Plan does not include an appropriate program to monitor the effectiveness of energy saving measures implemented or an effort to continually improve environmental performance onsite. Further detail is provided in <b>Appendix 4</b>.</p>



Condition	Management Plan	Status of Plan and Comments
Schedule 5, Condition 1	Environmental Management Strategy (EMS)	<p>The EMS was submitted within the required timeframe to DPIE on 07 November 2018 following the approval of MOD 4.</p> <p>The most recent revision has been approved by the Secretary dated 13 July 2020.</p> <p>The EMS was reviewed as part of the audit and was found to adequately address the requirements of this condition.</p>
<b>ML 1738 and CCL 761</b>		
Condition 3a and 3c	Mining Operations Plan (MOP)	<p>DPE have approved the 2018-2020 MOP on 3 October 2018 (sighted approval letter).</p> <p>RR have approved the 2021 – 2023 MOP on the 17 December 2021.</p> <p>The site inspection confirmed that Bloomfield Colliery is being progressively reshaped in a manner generally consistent with the final landform set out in the MOP and that previously rehabilitated areas are being monitored and are subject to maintenance where required.</p>

## **6.0 Environmental Performance**

### **6.1 Environmental Management System**

#### **6.1.1 Management Commitment and Resourcing**

Throughout the audit, Bloomfield Colliery staff were co-operative and forthcoming with information and this allowed the auditors to gain an understanding of the culture of the organisation. Regarding resourcing for environmental personnel, Bloomfield Colliery has a full time Environmental Officer who manages day to day environmental management at Bloomfield Colliery and an Environmental Manager that visits Bloomfield Colliery regularly and on average once per week.

During the audit, Bloomfield Colliery senior management were involved in the audit and demonstrated an understanding of key environmental issues on site and demonstrated a clear intent to manage the operation in accordance with the requirements of the Project Approval.

#### **6.1.2 Training and Competence**

Induction training records were reviewed during the audit to verify that Bloomfield Colliery has a system in place for the training of its employees and contractors such that licensed activities are undertaken in a competent manner (EPL Condition O1.1) and that plant and equipment on-site is maintained and operated in a proper and efficient manner (EPL Condition O2.1).

The induction process contains an environmental section of the induction PowerPoint presentation which is led by the Environmental Officer educating staff and contractors of the environmental aspects of the operation, obligations under the Project Approval and other relevant licences and how they are to be managed.

In terms of environmental training, training records reviewed during the audit identified that the site inductions include environmental management requirements for the site and appears to cover all relevant aspects as required.

#### **6.1.3 Environmental Inspections and Compliance Management**

The Bloomfield environmental team undertakes periodic site environmental inspections of the operations including operational and rehabilitated areas on site. The inspection results and any actions required are discussed at the daily management meeting where they are reviewed and prioritised based on the risk level attributable to the action.

Bloomfield Colliery currently have a significant number of commitments and requirements from existing statutory approvals and management plans which are required to be complied with as part of ongoing operations and it is important that these are captured in relevant inspection procedures (including pre-disturbance inspections) in order to be able to demonstrate compliance.

## 6.1.4 Plant Maintenance and Inspection

Based on the audit observations and the records reviewed on-site, the auditors concluded that systems are in place for the maintenance of plant used on-site and that the key issue relates to the appropriate implementation of this system.

Poorly maintained plant and equipment has the potential to increase the risk of environmental impacts due to increased risk of fuel or oil spills and leaks, increased air emissions and increased noise. During the site inspection undertaken for the audit, the standard of equipment observed to be in operation was of appropriate standard and other equipment viewed to be in the workshop undergoing servicing and/or repairs.

The Mining Operations Management System containing all Bloomfield's maintenance, engineering and induction checklists was reviewed as part of the audit. Additionally, maintenance service sheets were reviewed that demonstrated that servicing was up to date and any plant/equipment that was deemed faulty was logged in the system, followed by the appropriate servicing to close the ticket out.

## 6.1.5 Environmental Monitoring

A range of environmental monitoring programs have been developed within the respective site management plans and in accordance with the Project Approval 07\_0087. Monitoring undertaken in accordance with the environmental monitoring programs is displayed on the Bloomfield website with the monitoring data also included within the Bloomfield Annual Review.

Bloomfield have implemented a predictive environmental monitoring system on site which provides daily weather predictions, as well as predictions of potential for noise enhancement and impacts from planned blasting. This system has been integrated into the management of the operations with the results of the daily noise enhancement and blast emission predictions determining when operations occur on site. For example, during the audit Blasting Checklists were reviewed which include a section for the identification of appropriate weather conditions to undertake blasting. Bloomfield also utilise a network of real time air loggers and predictive noise model to manage operations in response to predicted and observed weather at the operation. The system appears to be well implemented and integrated into the management of the operations.

As requested by DPIE this audit has completed a review of relevant Bloomfield Management Plans to understand how they consider and manage operations in Abel Consent areas (MP 05\_0136) namely the Bloomfield Infrastructure Site. With Abel and Donaldson Coal Mines currently not operating, Bloomfield are the only company operating within the Bloomfield Infrastructure Site and are responsible for managing activities in this area.

Relevant to environmental management in this area this review has identified that the NMP, AQMP and WMP do not specifically reference how Bloomfield's operations in this area are managed or monitored. Accordingly, a recommendation has been made to update these plans to consider and manage operations within the Bloomfield Infrastructure Site (see **Section 5** and **Section 7**).

## 6.2 Reportable Environmental Incidents and Complaints

The reportable environmental incidents, Penalty Infringement Notices (PINs), regulatory orders and complaints received by Bloomfield during the audit period are discussed in the following sections.

### 6.2.1 Penalty Infringement Notices / Orders

In February 2019 Bloomfield Colliery received a Show Cause letter from DPIE for potentially failing to provide appropriate long-term security for the Biodiversity Offset Area located on Lot 2371 DP 1170348 (Schedule 3, Condition 29A of the Approval). Bloomfield provided a written response to the letter, which resulted in DPIE issuing a Warning Letter. No further action was taken.

Bloomfield Colliery have since engaged with NSW Biodiversity Conservation Trust to provide appropriate long-term security for the Biodiversity Offset Area. Bloomfield are currently in the process of securing management of the site under Part 4, Division 12 of the National Parks and Wildlife Act 1974; however, changes in policy have delayed the process.

### 6.2.2 Reportable Incidents

The reportable environmental incidents which have occurred in the audit period as advised by Bloomfield Colliery are detailed below with further details provided in **Appendix 4**:

- On 23 February 2021 during a routine inspection undertaken by DPIE two sediment dams were passively seeping water. This was notified to the Secretary EPA, RR and Maitland Council on 23 March 2021.
- On 21 March 2021 and 22 March 2021 two licenced discharges occurred following heavy rainfall with discharged water exceeding the Criteria for TSS. On 21 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l) and on 22 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l). This was reported to the EPA under the EPL.
- On 20 March 2021 following heavy periods of rainfall, the overland dam was passively spilling and this was notified to the Secretary, EPA, RR and Maitland Council on 22 March 2021.

### 6.2.3 Community Complaints

During the audit period community complaints were received by Bloomfield Colliery regarding their operations with the complaints related to:

- Blasting, dust, odour and noise generation from mining activities at Bloomfield Colliery

The annual complaints as detailed within the complaints register for Bloomfield Colliery for the audit period 31 October 2018 - 1 November 2021) are detailed below:

- 2018 – 1 complaint
- 2019 – 7 complaints

- 2020 – 4 complaints
- 2021 – 4 complaints

It is noted that the complaint summary has been obtained from the Bloomfield Colliery complaints register which has been sourced from the Bloomfield website, as of 10 November 2021. The number of complaints remained relatively constant within the audit period.

Based on observations during the site visit and interviews with site personnel there has been a reduction of complaints and this can be contributed to the operations moving further away from sensitive receivers and improved environmental management and monitoring practices regarding air, noise and blast management. An example of this is the predictive environmental monitoring system that Bloomfield has implemented which provides daily weather predictions, as well as predictions of potential for noise enhancement and impacts from planned blasting (see **Section 6.1.5** for further details).

## **6.3 Key Issue Environmental Performance**

### **6.3.1 Heritage Management**

During the audit period the revised Historic Heritage Conservation Management Plan for the Buttai No. 1 & 2 Reservoirs and Buttai Cemetery was submitted to DPIE, following which DPIE provided feedback for additional information to be included in the plan. The plan was resubmitted in August 2021 and approval of the HHMP was received from DPIE (following the site audit) on 15 December 2021.

The ACHMP was last updated and approved in May 2010 and has not been subject to regular review and revision as required by Schedule 5, Condition 4. Bloomfield have noted that consultation with relevant stakeholders have halted the progress of the plan. It is emphasised that Bloomfield should continue consultation with the Land Council and consistently inform the secretary of progress of the plan. It was apparent during the review of documentation that a regional monitoring network for Aboriginal heritage across the Abel mining area (including relevant areas of Bloomfield) had not been formed, with no evidence of monitoring undertaken as outlined in the Aboriginal Cultural Heritage Management Plan.

### **6.3.2 Noise and Blasting**

Regarding management of noise emissions from site operations, Bloomfield utilise a predictive environmental monitoring system to provide a daily forecast of noise emissions from operations based on predicted weather conditions. From this system, predictions of higher noise impacts are used to make operational changes to ensure compliance under relevant Project Approval and EPL conditions. Bloomfield also use forecast information from the system to determine where it is suitable to blast on any given day.

A predictive meteorological modelling software program is utilised on the day of a blast to assist in planning blast operations. The software incorporates regional weather station data to predict daily weather events that may exacerbate overpressure impacts from blasting operations. Where predictions determine increased potential impacts then blast times are delayed to more favourable conditions or postponed. In addition, an automated weather station on site provides real time online data. This data is utilised to assist in determining whether a blast proceeds or is postponed. Factors such as wind speed and direction, cloud cover, blast location and blast size are all taken into consideration.

Additionally, in order to minimise noise impacts from the various items of plant and equipment, particularly during night-time operations, the noise levels of the major items of plant and equipment will be monitored before they are installed.

There were no exceedances of blasting criteria during the audit period. Predicted noise emission modelling software has been implemented at Bloomfield to assist in mine planning operations and to avoid operating in exposed/elevated locations during noise enhanced conditions. No noise exceedances have occurred during the audit period.

### **6.3.3 Air Quality**

Dust generation was observed to be minimal during the site audit and overall dust monitoring results appear reasonable with no exceedances of criteria noted for the audit period. The dust controls in place at the site were considered appropriate. A dust monitoring program is in place with 10 dust deposition gauges and 2 High Volume Air Samplers (HVOL) located on and around the mine lease area. In addition 2 dust track units are also installed forming part of the air quality monitoring network which helps to measure upstream and downstream particulate matter (PM10) contributions.

The use of a predictive meteorological modelling software program is utilised to assist in planning mine operations. The software incorporates regional weather station data to predict daily weather events that may exacerbate dust impacts from operations. This highlights areas where sources of dust are likely and predicts wind shifts.

Operational procedures are in place to minimise dust impacts on the surrounding environment and community. Vehicular generated dust is controlled through the use of water carts on all internal roads and high traffic areas. Sprinkler systems operate on coal stockpile areas and the surrounds of the washing plant. Conveyor systems at the washing plant and rail loader are enclosed on at least two sides. Operational practices such as not dumping to exposed locations, minimizing the drop height into trucks during loading are also employed.

Progressive rehabilitation of emplacement areas is also a key control to assist to minimise dust generation potential in the future.

### **6.3.4 Traffic**

No significant traffic impacts or issues were identified during the audit period in regard to road closures for blasting.

### **6.3.5 Rehabilitation**

The rehabilitation review has been undertaken to include a review of the Mining Lease conditions, the Project Approval, the requirements of the approved MOP and feedback provided by the NSW Resources Regulator and Biodiversity Conservation Division (BCD), which is included as **Appendix 6**.

In accordance with the conditions of the Project Approval and relevant mining leases, a review of the Mining Operations Plan 2021 – 2023 (MOP) and the key rehabilitation documents required by the Project Approval was undertaken. Bloomfield Colliery developed the MOP for the period January 2021 – December 2023 with the MOP approved by NSW Resources Regulator on 17 December 2021 for the period 17

December 2021 to 30 September 2021. Within subsequent correspondence on 30 August 2021, the NSW RR determined that the MOP was approved from 30 August 2021 until 2 July 2022.

The MOP includes a range of further studies which are required to be undertaken to obtain additional knowledge which is required for mine closure planning. The MOP notes that Bloomfield have engaged external consulting support to undertake a Closure Execution Plan, a Landform and Rehabilitation Assessment and a Water Study. The scope of the works required to be undertaken are detailed in Section 8.2.2 of the MOP and are noted as being scheduled for completion in the December Qtr 2021. The completion of these works is critical to mine closure planning which is required to be progressed for the operation. The results of these specialist assessments are recommended to be reviewed and actioned in a revised MOP to be submitted to the NSW RR as a priority following the completion of the assessments. Further discussion in regards to the specialist assessments is included below.

Bloomfield have developed a range of rehabilitation focussed documents as required by the Project Approval and Mining Leases and these documents include:

- Mining Operations Plan 2021 – 2023
- Rehabilitation Management Plan (Schedule 3 Condition 27 of Project Approval)
- Final Void Management Plan (Schedule 3 Condition 28 of Project Approval)
- Mine Closure Plan (Schedule 3 Condition 29 of Project Approval)

In accordance with the approved MOP, a range of operations were undertaken in the audit period and these included:

- Continuation of mining within S Cut and Creek Cut
- Completion of rehabilitation works within the S Cut highwall area and the Train loading bin
- Commencement of capping within the U Cut tailings dam
- Rehabilitation maintenance works
- Completion of rehabilitation monitoring in 2019 with rehabilitation monitoring also scheduled to be undertaken during December 2021
- Development of a range of further studies as included in the MOP, which are being undertaken to obtain further information to support mine closure planning. The additional studies included within Section 8.2.2 of the MOP and scheduled for completion during December 2021 include:
  - Closure Execution Plan
  - Landform and Rehabilitation Assessment
  - Water Study.

The completion of the Landform and Rehabilitation Assessment in particular includes the following objectives:

- Confirm if historical and current landform is consistent with the approved landform
- Understand the historical rehabilitation area conditions
- Establish if existing evidence requirements meet MOP requirements for relinquishment
- Establish if MOP requirements meet proposed future requirements for relinquishment
- Gap analysis of information or knowledge to demonstrate and provide evidence for rehabilitations and landform
- Identify monitoring / methodologies to ensure information is collected.

The completion of the Landform and Rehabilitation Assessment in particular, is key to informing a range of aspects which will influence both the final landform and the ability of the operation to achieve the final land use for the site, which is discussed further below.

The rehabilitation program undertaken on site has resulted in small areas becoming available for rehabilitation each year. Rehabilitation undertaken throughout the audit period included:

- 2020 S Cut High Wall (5 hectares – September 2020) (refer to **Plate 1, in Appendix 5**)
- 2021 Train Loader (0.6 hectare – May 2021)

Rehabilitation maintenance undertaken during the audit period included:

- 2018 K Cut West Paddock – (10 hectares direct seeding January 2018)
- 2018 X Cut – Blue Lagoon (10 hectares February 2018)
- 2018 X Cut – (20 hectares direct seeding September 2018)
- 2020 K Cut -1 (7.5 ha September 2020)
- 2020 K Cut -2 (2.5 ha fertiliser application)

During the audit period overburden emplacement was undertaken within the mine void against existing highwalls, with the highwalls on the southern and western lease boundary to be backfilled to ground level. Shaping and rehabilitation of the overburden areas is noted as not being able to be undertaken until backfilled areas within the void reach the final landform.

An overview of the key factors which influence the completion of rehabilitation on the site are discussed in the following sections. The recommendations to address the matters raised in the following sections are included within **Section 7** and **Appendix 4**.



## Rehabilitation Documentation

There are a range of rehabilitation documents which have been developed to manage the rehabilitation at the Bloomfield operation. This audit has identified that there are inconsistencies in the content of the information which has been included in the range of overlapping rehabilitation and mine closure documents. These inconsistencies are detailed in the compliance tables in this report and should be addressed within revisions of the plans.

## Rehabilitation Scheduling

A revision of the MOP is recommended to align the material production and rehabilitation scheduling in the MOP to the proposed production and rehabilitation schedules for the operation. Currently, the MOP has been developed based on maximum production rates however given the proximity of the operation to mine closure, the operation should develop a revised MOP to reflect the proposed operational and rehabilitation schedules. The existing production volumes being achieved are significantly below the nominated volumes in the MOP production schedules. During the MOP term 2021 – 2023, there are 39 ha of rehabilitation scheduled to be completed however it is noted that vast majority of this rehabilitation is scheduled to be completed at the cessation of the mining operations.

## Final Landform and Land Use

There are a range of regulatory requirements which define the final landform and land use for the operation, with the final landform and land use being developed based on two separate scenarios:

- Scenario 1: Assumes mining at Abel Underground Mine recommences (Plan 4A of MOP)
- Scenario 2: Assumes Abel Underground Mine remains in Care and Maintenance (Plan 4B of MOP).

The post mining landform and land use plans are defined in Section 4.2.3 of the MOP. The final land use will include a mix of pasture and tree areas suitable for grazing and general habitat. The Final Land Use as detailed in the MOP is Undulating Grazing Land / Rural Landscape. This would result in the rehabilitation of the mine site areas to undulating grazing landform consistent with pre-mining land capability, while still providing areas of native vegetation. There are no vegetation communities which have been defined as part of the final land use. Section 4.2.1 of the MOP states the majority of the mining lease area is owned by Ashtonfields Pty Ltd and any decision regarding post mining landform and land use will take the obligations under the commercial lease agreement between Bloomfield and Ashtonfields Pty Ltd (Ashtonfield Agreement). Section 4.1.1 also notes *“if alternative landforms or landuse other than currently approved under the Project Approvals is required under the Ashtonfields Agreement or through the Stony Pinch Consortium that either a modification to the Project Approvals or a new approvals would be required under the Environmental Planning and Assessment Act (1979).”*

The conceptual final landform is identified in Plan 4A and 4B of the MOP. The Final Landform for the operation is to be reviewed following the completion of the Landform and Rehabilitation Assessment discussed above. The Landform Rehabilitation Assessment is also being undertaken to determine whether the historical and current landform is consistent with the approved landform.

## Material Balances

The final landform for the operation is recommended to be reviewed to compare to the material balances which are available for operation. Given the proximity of the operation to closure, as noted above, it is key that material balances are reviewed to ensure the production, material and rehabilitation schedules align to the proposed final landform.

## Capping Material and Topsoil Management

Capping material is required to cap the tailings dam onsite (and this has commenced), with topsoil material required for the completion of rehabilitation works required on site. The MOP is required to be updated to include a detailed review of the final landform on the site and how the material balances align to the final landform. Section 3.3.6 of the MOP notes that a topsoil balance will be calculated and reported in the Annual Review, however a topsoil balance was not included in the 2020 Annual Review. Indicative topsoil volumes have been estimated by site personnel however these are required to be reviewed and surveyed to develop accurate topsoil volumes on site. If adequate topsoil is not available to achieve the nominated 100 mm placement of topsoil across remaining rehabilitation areas, site are to identify priority utilisation areas for the topsoil or strategies to achieve successful rehabilitation relinquishment utilising the reduced topsoil volumes and other growth mediums. An existing topsoil and subsoil stockpiles on site are shown on **Plate 5** and **Plate 6** within **Appendix 5**.

A detailed material balance is required to be completed to confirm the volume of capping material on site, and review whether there is adequate material available on site for the completion of capping activities related to the tailings dam. The MOP notes that the existing tailings capping strategy requires the placement of 2 m of capping material across the tailing's dams on site. The topsoil balance is also to be reviewed to confirm whether adequate topsoil material is available for the completion of rehabilitation works onsite.

## Rehabilitation Performance

During the audit an inspection of the rehabilitation was undertaken. The inspection reviewed the status of rehabilitation undertaken on site and also considered the outcomes of rehabilitation monitoring and reports undertaken for the site. There are older areas of the rehabilitation onsite which are well established and the progression of these sites towards rehabilitation relinquishment is recommended to be reviewed by Bloomfield in consultation with the NSW RR and other stakeholders as appropriate. Refer to **Plate 1 – Plate 4** within **Appendix 5** for photographs of rehabilitation undertaken during 2020, existing landform preparation being undertaken in preparation for rehabilitation to be conducted in 2022 as well as photos of historical rehabilitation.

## Rehabilitation Performance Indicators and Completion Criteria

Rehabilitation performance indicators and completion criteria have been developed and are included in a range of documents including the Rehabilitation Management Plan, MOP, Mine Closure Plan and Landscape Management Plan. There are inconsistencies in the rehabilitation and performance indicators as included in the various rehabilitation documents and these are discussed in **Appendix 4**.

In accordance with the rehabilitation objectives included in the Project Approval (which refers to rehabilitation having to be consistent with the commitments made in the EIS, Bloomfield has committed to rehabilitate the land to create a stable, undulating landscape with a mix of pasture and tree areas suitable

for grazing and general habitat as described in the EIS for Modification 4. In this regard there are no commitments to specific vegetation communities in the MOP. Recommendations to refine the performance indicators and completion criteria and ensure they are consistent across the documents listed above are included in **Section 7** and **Appendix 4**.

There are a range of completion criteria which have been developed based on information which could be supported by the establishment of additional baseline data e.g. Ecosystem and Land Use Sustainability Soil criteria are based on ACARP Projects undertaken in 2004, however these criteria are to be calibrated utilising suitable analogue data. Further the tree species assemblages are developed based on comparison to analogue sites however there is only one analogue site established in the rehabilitating monitoring program.

### **Rehabilitation Monitoring**

Rehabilitation monitoring is undertaken on a biennial basis with rehabilitation monitoring undertaken in 2019. Rehabilitation monitoring has been scheduled for completion in 2021 however was planned outside of the audit period (following the audit period).

The rehabilitation performance indicators and completion criteria which have been developed are largely conceptual and include reference to a number of criteria being consistent with analogue sites. Whilst there is an existing rehabilitation monitoring program in place for both monitoring of grazing and native vegetation land uses, the number of analogue sites for each final land use is limited to a one or two analogue sites for each final land use. This is to be reviewed by Bloomfield.

### **Rehabilitation Maintenance**

It was determined during the site audit that there is no formal program for the completion of rehabilitation maintenance. Rehabilitation maintenance is undertaken in an unstructured manner based on observations from the Site Environmental team. The rehabilitation maintenance inspection and works program is to be detailed in the MOP, with clarification of how the outcomes of the inspections undertaken by site personnel will be utilised in the development of rehabilitation maintenance programs. The MOP update is also to include how the outcomes of the biennial rehabilitation monitoring will be utilised to determine whether there are any rehabilitation maintenance works required to be completed at site.

### **Rehabilitation Sign Off**

Bloomfield to commence consultation with the NSW RR regarding the sign off process for rehabilitation on site.

Based on observations during the field inspections and review of the Bloomfield Rehabilitation Management Plan documentation, it is considered that Bloomfield limits the amount of area disturbed at any given time. The rehabilitation performance for each reporting year is documented in the Annual Reviews.

An inspection of the active mining areas has noted that Bloomfield Colliery is being progressively reshaped in a manner generally consistent with the final landform in the Project Approval and that previously rehabilitated areas are being monitored and are subject to maintenance where required. It is noted that this aspect is subject to a Landform and Rehabilitation Assessment as requested by the NSW Resources Regulator and is due to be completed in December 2021.

During the site visit, historical rehabilitation was observed to be effective with vegetation cover established that contains minimal weed species. Minor gully erosion was observed in a historically rehabilitated area and a plan to remediate the area is required to be developed. The gully erosion was recorded on a slope to the east of the U-Cut tailings facility.

### 6.3.6 Biodiversity Offsets

In February 2019 Bloomfield Colliery received a Show Cause letter from DPIE for potentially failing to provide appropriate long-term security for the Biodiversity Offset Area located on Lot 2371 DP 1170348 (Schedule 3, Condition 29A of the Approval). Bloomfield provided a written response to the letter, which resulted in DPIE issuing a Warning Letter. Bloomfield Colliery have since engaged with NSW Biodiversity Conservation Trust to provide appropriate long-term security for the Biodiversity Offset Area. Bloomfield are currently in the process of securing management of the site under Part 4, Division 12 of the National Parks and Wildlife Act 1974; however, changes in policy have delayed the process.

It is evident throughout the audit period a number of activities identified within the Biodiversity Offset Management Plan had been undertaken to appropriately manage the site. Activities include weed and feral animal monitoring, the establishment and maintenance of fencing to prevent the uncontrolled entry of livestock and people and the installation of signage denoting private conservation area.

No reportable incidents relating to flora and fauna management occurred during the audit period.

### 6.3.7 Water

The Bloomfield water management system has been designed with three primary goals and objectives:

- separation of clean water and mine water;
- safe storage and priority use of mine water on-site;
- management of water that is discharged so as to preserve the environmental values of Four Mile Creek and comply with the conditions of EPL 396.

Bloomfield has two major mine water storage facilities referred to as Lake Kennerson and Lake Foster. Water pumped from the open cuts (S Cut and Creek Cut) reports via open drains to Lake Kennerson. Run off from disturbed areas (i.e. high wall, haul roads, overburden dumps awaiting rehabilitation) which has the potential to carry suspended solids, is also directed to Lake Kennerson. Lake Kennerson dissipates velocity and allows the settlement of suspended solids. Lake Kennerson has a valve-controlled pipe which, when opened, feeds to Lake Foster. Lake Foster also receives decant water from the tailing's storage facility (U Cut) and water from the stockpile dam, which collects the runoff from the CHPP and coal stockpile pads.

Mine water is pumped, primarily from Lake Foster, to the CHPP for use in coal processing and for dust suppression spraying on the coal stockpile pads. Mine water is discharged, via lockable valve pipes, into an open drain that flows to Four Mile Creek. Fine tailings are currently pumped as 20% solids slurry to Tailings Dam, a disused open cut pit in north of the mine site (see **Plate 9 in Appendix 5**). Discharges are undertaken in accordance with conditions of EPL 396.

Water samples are collected during discharge for independent water quality analysis. A monitoring station located downstream in Four Mile Creek continuously measures electrical conductivity (EC) and water level.

Monthly background sampling is conducted in Lake Kennerson, Lake Foster and various upstream and downstream watercourses.

Run off from undisturbed and rehabilitated areas is directed away from operational areas and mine water storages via diversion banks and channels. These banks and channels direct this run off into clean water dams or natural watercourses.

The audit of water management at Bloomfield included a site inspection by the Lead Auditor and a review of the following documentation by the DPIE approved water specialist:

- Water Management Plan (WMP) (including sub plans)
- Water sections from the last three annual reviews
- Licenced water discharge records (including water quality and volume)
- Water quality monitoring results
- Incident reports for the two uncontrolled mine affected water discharges in February and March 2021

As indicated above, there were two water management incidents in the audit period relating to mine affected water (i.e. water that had come into contact with coal) spilling from the Eastern Dam (23 February 2021) and the Overland Dam (21-22 March 2021) located adjacent to the Rail Loadout Facility and below the Coal Stockpile area respectively. These incidents were reported to the EPA and incident reports prepared and submitted to DPIE and distributed to the EPA, the Resources Regulator and Maitland Council.

Based on a review of the incident reports, the immediate response to each incident and ongoing follow up actions are considered appropriate. The follow up actions include the engagement of a suitable qualified and experienced specialist to assess the magnitude of the storm events that resulted in the spill incidents and assess whether the capacity of each dam is appropriate for the catchment being serviced. Discussions with the Lead Auditor following the site audit suggest that consideration of an increase in dam capacities may be appropriate and also recommend consideration of pump capacity increases which will help reduce the risk of dam spills. We note that Umwelt's experience has been to design and manage dams receiving mine affected water to contain a 24-hour duration 1% AEP.

In general, the WMP was found to be compliant with project approval conditions, however, two non-compliances were identified in relation to the Erosion and Sediment Control Plan (ESCP) and the Groundwater Monitoring Program (GMP), both sub-plans of the WMP.

Condition 21 (a) of the project approval requires the ESCP to be consistent the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 2E – Mines and Quarries* (DECC, 2008). Section 2.4.2 of the ESCP indicates that the existing sediment dams on site are not actively dewatered, rather, the water in the basins is allowed to infiltrate and evaporate. *Managing Urban Stormwater: Soils and Construction, Volume 2E – Mines and Quarries* (DECC 2008) requires that sediment basins be dewatered within five days of rainfall to restore basin capacity for containment of the design rainfall event. The design rainfall event adopted by Bloomfield in the approved ESCP is the five day 90<sup>th</sup> percentile rainfall event (while it has not been specified, we would assume that the rainfall depth for this event is based the five day 90<sup>th</sup> percentile rainfall depth for Cessnock of 42.8 mm). If dewatering of sediment dams is not being undertaken, it is likely

that discharges of water with elevated sediment concentrations is occurring during rainfall events that do not exceed the sediment dam design rainfall event. It is therefore recommended that sediment dams be dewatered to the site water management system.

Condition 23 (e) of the project approval requires the GMP to include procedures for verification of the groundwater model. The current GMP does not include procedures for verification of the groundwater model and should be updated with the required procedures.

### 6.3.8 Mining and Site Infrastructure Areas

A site inspection was undertaken by the lead and assistant auditor and involved a drive around of the sites key operational areas including the mining areas, tailings dam, rehabilitation areas, water management system and environmental monitoring network, followed by a walk-around the administration, workshop and hardstand areas (including the fuel farm). It also included a specific inspection of relevant areas of the Bloomfield Infrastructure Site approved under the Abel Consent (PA05\_0136) including the CHPP, product stockpile area and rail loading facility.

A detailed inspection of the site's rehabilitation areas was also undertaken by Luke Bettridge (Endorsed Rehabilitation Expert) with the findings of this component discussed in **Section 6.3.5**.

During the site inspection the operations within the mining areas and main haul roads were observed to be well maintained and managed with limited visible dust evident and no occurrences of active spontaneous combustion on the day of the audit (see **Plate 7** in **Appendix 5**). It was observed that in the period since the last audit that significant progress has been made during the audit period with regard to landform re-establishment and backfilling of the S cut void. It was also observed that the stage 1 lift and capping of the tailings dam has recently been completed with stockpiles of capping material being stored in this area for future lifts and capping as the tailings dam dries and further areas become available (refer to **Plate 8** and **Plate 9** in **Appendix 5**).

During the walk around of the workshop area it was found to be sufficiently maintained, with all areas managed to an appropriate standard. Hydrocarbon management measures were being implemented effectively, with spill and containment kits available for use as required. Fuel storage areas and fill points at the fuel farm were being appropriately maintained, with sumps and drains in good condition at the time of the site inspection and all hydrocarbons observed to be appropriately stored within bunded or contained areas (see **Plate 10** to **Plate 13** in **Appendix 5**). Appropriate waste management and segregation was also observed.

An inspection of the CHPP and product stockpile area identified that these areas were being managed appropriately by Bloomfield with roads and operational areas well maintained and no visible dust observed (see **Plate 14** in **Appendix 5**). It was also observed and confirmed by Chris Knight during the site inspection that the water management system captures the CHPP and product stockpile areas within the Bloomfield closed system with all water from these areas reporting to the Overland Dam.

An inspection was also completed of the rail loading facility area including roadways and water management infrastructure in this area. On the day of the inspection the rail loading facility was found to be managed appropriately by Bloomfield however it should be noted that no loading was being undertaken. It was noted in discussions with Chris Knight that this area has been subject to a range of recent works by Bloomfield to address water management issues that were identified following a routine

inspection by DPIE in February 2021. Works observed to have been completed in this area included the establishment of roadside bunds around the perimeter of the site to capture all water from this area within the Bloomfield closed water management system and the installation of a new sediment basin (see **Plate 15** to **Plate 18** in **Appendix 5**). Water from this area is now captured and reports to the Overland Dam.

The Overland Dam, which was subject to one of the passive discharge incidents identified and discussed previously in this report was also inspected. At the time of the inspection the Overland Dam had been pumped down in preparation for desilting and it was observed to be heavily silted (refer to **Plate 19** and **Plate 20** in **Appendix 5**). It is noted that in the time since the passive discharge incident from this dam that further catchment has been directed to it (from the rail loading facility area). This is considered appropriate however it is considered that on the basis of the prior incident and the larger area now reporting to this dam that the Overland Dam be resized appropriately to account for the large area of catchment that reports to it and ensure its design capacity prevents future uncontrolled discharges.

## 7.0 Recommendations and Conclusion

A summary of recommendations identified as an outcome of the audit process is provided in **Table 7.1**.

### 7.1 Consolidated Recommendations

Condition / Issue	Recommendation
<b>PA07_0087</b>	
<b>Schedule 2 Condition 15</b>	The revision of management plans going forward will need to consider the outcomes of the required consultation in further detail to ensure compliance with this condition. Further for future revisions of management plans it should be confirmed with Department of Planning, Industry and Environment upfront whether additional consultation is required with listed agencies (in addition to consultation that has occurred for the original versions of the management plans).
<b>Schedule 3 Condition 3 (a)</b>	It is recommended a program to monitor the effectiveness of the modelling software (comparing to monitoring data) to be incorporated into the noise monitoring program to ensure the accuracy of the software is maintained.
<b>Schedule 3 Condition 3 (c)</b>	It is recommended the Annual Review detail other noise mitigation measures such as noise suppression equipment to provide a comprehensive overview of the measures implemented at Bloomfield Colliery.
<b>Schedule 3 Condition 16</b>	It recommended Air Quality Monitoring Program to be updated to: <ul style="list-style-type: none"> <li>• Ensure that the protocol in the Air Quality Monitoring Program provides clarity on how the incremental impact is determined so that compliance with the air quality impact assessment criteria in PA 07_0087 can more easily be evaluated.</li> <li>• include the locations of the two DustTrak monitors and meteorological station</li> <li>• a description on how extraordinary events are identified</li> </ul>
<b>Schedule 3 Condition 21</b>	It is recommended that sediment dams be dewatered to the site water management system as required by <i>Managing Urban Stormwater: Soils and Construction Volume 2E – Mines and Quarries (DECC 2008)</i> , and that this requirement be appropriately documented in the WMP and site EMS.
<b>Schedule 3 Condition 21</b>	As per the recommendation in the approved Erosion and Sediment Control Plan within the Water Management Plan Bloomfield should build up the toe of the rehabilitated batter on the main ROM haul road to act as armouring against the erosive fast flowing runoff water during intense storm events
<b>Schedule 3 Condition 23 (f)</b>	It is recommended that the Groundwater Management Plan be revised to include procedures for the verification of the groundwater model as required.
<b>Schedule 3 Condition 23 (f)</b>	It is recommended to ensure consistency that reference to Bore IDs in the Groundwater Management Plan and Annual Reviews be updated correctly for future reporting.
<b>Schedule 3 Condition 25</b>	It is noted that the performance indicators / completion criteria are different in the Mine Operations Plan, Rehabilitation Management Plan and Closure Plan for the site. The performance indicators and completion criteria are to be included in revised versions of the documents which are to be developed in accordance regulators authorities as required by the respective Project Approval Conditions.
<b>Schedule 3 Condition 25</b>	As noted in Section 7.1 of the Mine Operations Plan, the development and finalisation of the capping design for the U Cut tailings dam is in progress and due for completion by end December 2021. The outcomes of the capping strategy are to be included in an updated Mine Operations Plan to be prepared for the site following the completion of the additional studies scheduled for completion during December 2021, as detailed in Section 8.2.2 of the Mine Operations Plan.

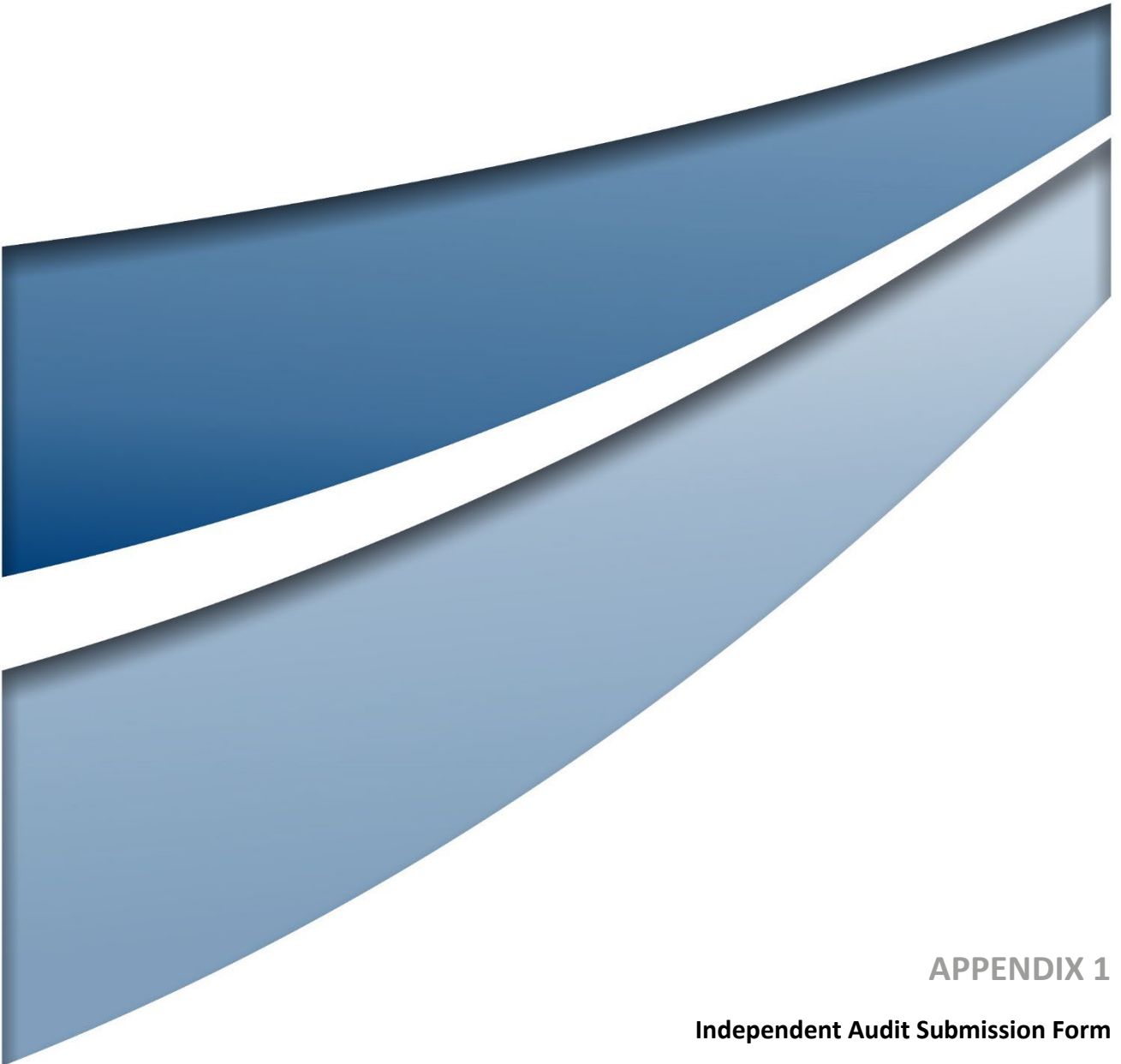


<b>Schedule 3 Condition 25A</b>	It is recommended to develop a rehabilitation plan for the remediation of the gullyng observed to the east of U Cut Tailings Dam.
<b>Schedule 3 Condition 25A</b>	Undertake and complete the Landform and Rehabilitation Assessment as committed in the Mine Operations Plan. This assessment includes an objective of confirming if the historical and current landform is consistent with the approved operations. The outcomes of this assessment are to be included in a revised Mine Operations Plan to assist in the determination of whether the constructed landform is consistent with approved operations.
<b>Schedule 3 Condition 25A</b>	In conjunction with the completion of the proposed mitigation measures as detailed Table 20 (Section 9.2) of the Mine Operations Plan, it is recommended Bloomfield align the material balances of production and rehabilitation scheduling in the Mine Operations Plan (which are no longer current due to changes in mine planning, rates of mining and earlier completion of mining) to the new planned production and rehabilitation schedules to achieve the final landform.
<b>Schedule 3 Condition 26</b>	It is recommended the Landscape Management Plan to be revised in consultation with Office of Environment and Heritage, DoI and Council.
<b>Schedule 3 Condition 27</b>	It is recommended that site capping material balances are reviewed following the finalisation of the tailings dam capping strategy. The topsoil balance is also to be reviewed to confirm whether adequate topsoil material is available for the completion of rehabilitation works onsite. If adequate topsoil is not available to achieve the nominated 100 mm placement of topsoil across remaining rehabilitation areas, identify priority utilisation areas or strategies to achieve successful rehabilitation relinquishment utilising the reduced topsoil volumes.
<b>Schedule 3 Condition 27</b>	Topsoil and capping materials are to be demarcated and signposted in the field, with the volumes and quality of the material to be recorded as part of the site data management system.
<b>Schedule 3 Condition 27</b>	It is noted that the performance indicators / completion criteria are different in the Mine Operations Plan, Rehabilitation Management Plan and Closure Plan for the site. The performance indicators and completion criteria are to be included in revised versions of the documents which are to be developed in accordance with regulatory authorities as required by the respective Project Approval Conditions.
<b>Schedule 3 Condition 27</b>	It is recommended that Bloomfield undertake a review of the appropriateness of the existing analogue sites to support performance indicators and comparisons for rehabilitation criteria and recommend additional sites as necessary
<b>Schedule 3 Condition 28</b>	It is recommended the location of final void in the Mine Operations Plan and Final Void Management Plan is reviewed to confirm a consistent void location is identified in each plan.
<b>Schedule 3 Condition 29</b>	The Mine Closure Plan is required to be developed in consultation with DRG and Council. The rehabilitation objectives, performance indicators and completion criteria included in the Mine Closure Plan are also required to be updated to ensure they are consistent with other documents including the Mine Operations Plan and Rehabilitation Management Plan.
<b>Schedule 3 Condition 29</b>	The Mine Closure Plan is required to be updated to reflect the outcomes of the Closure Execution Plan as defined in Section 8.2.2 of the Mine Operations Plan, which is due to be completed December 2021 as defined in the Mine Operations Plan.
<b>Schedule 3 Condition 29A</b>	It is recommended that Bloomfield finalise the process of securing management of the site under Part 4, Division 12 of the National Parks and Wildlife Act 1974 with Biodiversity Conservation Trust.
<b>Schedule 3 Condition 29B</b>	It is recommended that Bloomfield undertake a review and update to the Biodiversity Offset Management Plan to include an appropriate mechanism and process to monitor the performance of the offset and to assess progress towards the completion criteria.
<b>Schedule 3 Condition 29C</b>	It is recommended that Bloomfield finalise the Biodiversity Stewardship Agreement for the offset site with Biodiversity Conservation Trust.

<b>Schedule 3 Condition 31</b>	<p>It is recommended Bloomfield Colliery review and update the Aboriginal Cultural Heritage Management Plan in consultation with the Mindaribba Land Council and Office of Environment and Heritage as required and submit the plan to the Secretary for approval.</p> <p>As part of this review it is recommended Bloomfield consult with Abel to discuss the status of the regional monitoring network for Aboriginal heritage across the Abel mining area (including Bloomfield) as described in the plan and ensure annual monitoring is being conducted as outlined in the Aboriginal and Cultural Management Plan or make revisions as appropriate to account for current operations.</p>
<b>Schedule 3 Condition 31A</b>	<p>It is recommended that Bloomfield seek confirmation from the Secretary that the Condition Assessments completed as per the requirements of this condition have been completed to their satisfaction.</p>
<b>Schedule 3 Condition 33</b>	<p>It is recommended that the Energy Savings Action Plan should be reviewed and revised in accordance with the requirements of this condition and submitted to the Secretary for approval. The revised plan should consider energy use by mobile equipment and include a details of a program to monitor the effectiveness of energy saving measures to reduce energy use on site.</p>
<b>Schedule 5 Condition 4</b>	<p>It is recommended Bloomfield develop and implement an appropriate review tracking system to monitor and track plans and document reviews to demonstrate compliance with the requirements of this condition.</p>
<b>Schedule 5 Condition 6</b>	<p>It is recommended that Bloomfield notify the Department and Resource Regulator of the TSS exceedances that occurred on 21/22 March 2021 against the EPL for the Project.</p>
<b>Bloomfield Management Plans and Abel Consent Areas</b>	
<p><b>Noise Monitoring Program</b> It is recommended that Bloomfield’s Noise Monitoring Program be subject to review and revision to ensure that noise monitoring covers Bloomfield operations within the Bloomfield Infrastructure Site in order to demonstrate compliance with applicable criteria (including rail criteria).</p> <p><b>Air Quality Monitoring Program</b> It is recommended that Bloomfield’s Air Quality Monitoring Program be subject to review and revision to ensure that air quality monitoring covers Bloomfield operations within the Bloomfield Infrastructure Site in order to demonstrate compliance with applicable criteria.</p> <p><b>Water Management Plan</b> It is recommended that Bloomfield seek to engage with DPIE and have the revised WMP reviewed and approved so that it can be implemented. The revisions in the revised plan were made to ensure that water management covers Bloomfield operations within the Bloomfield Infrastructure Site.</p>	
<b>Rehabilitation</b>	
<p>The rehabilitation maintenance inspection and works program is to be detailed in the Mine Operations Plan, with clarification of how the outcomes of the site inspection undertaken by site personnel will be utilised in the development of rehabilitation maintenance programs. The Mine Operations Plan update is also to include how the outcomes of the biennial rehabilitation monitoring will be utilised to determine whether there are any rehabilitation maintenance works required to be completed at site.</p>	
<b>Water Management</b>	
<p>It is recommended that the Overland Dam be resized appropriately to account for the large area of catchment that reports to it and ensure its design capacity prevents future uncontrolled discharges.</p>	
<p>It is recommended Bloomfield incorporate requirement to monitoring in accordance with Approved methods for sampling and analysis of water pollutants in NSW (NSW EPA, 2021 version currently in draft format) into the Water Management Plan and confirm that their sampling procedures and the laboratory analysis undertaken is in accordance with the document.</p>	


## 7.2 Conclusion

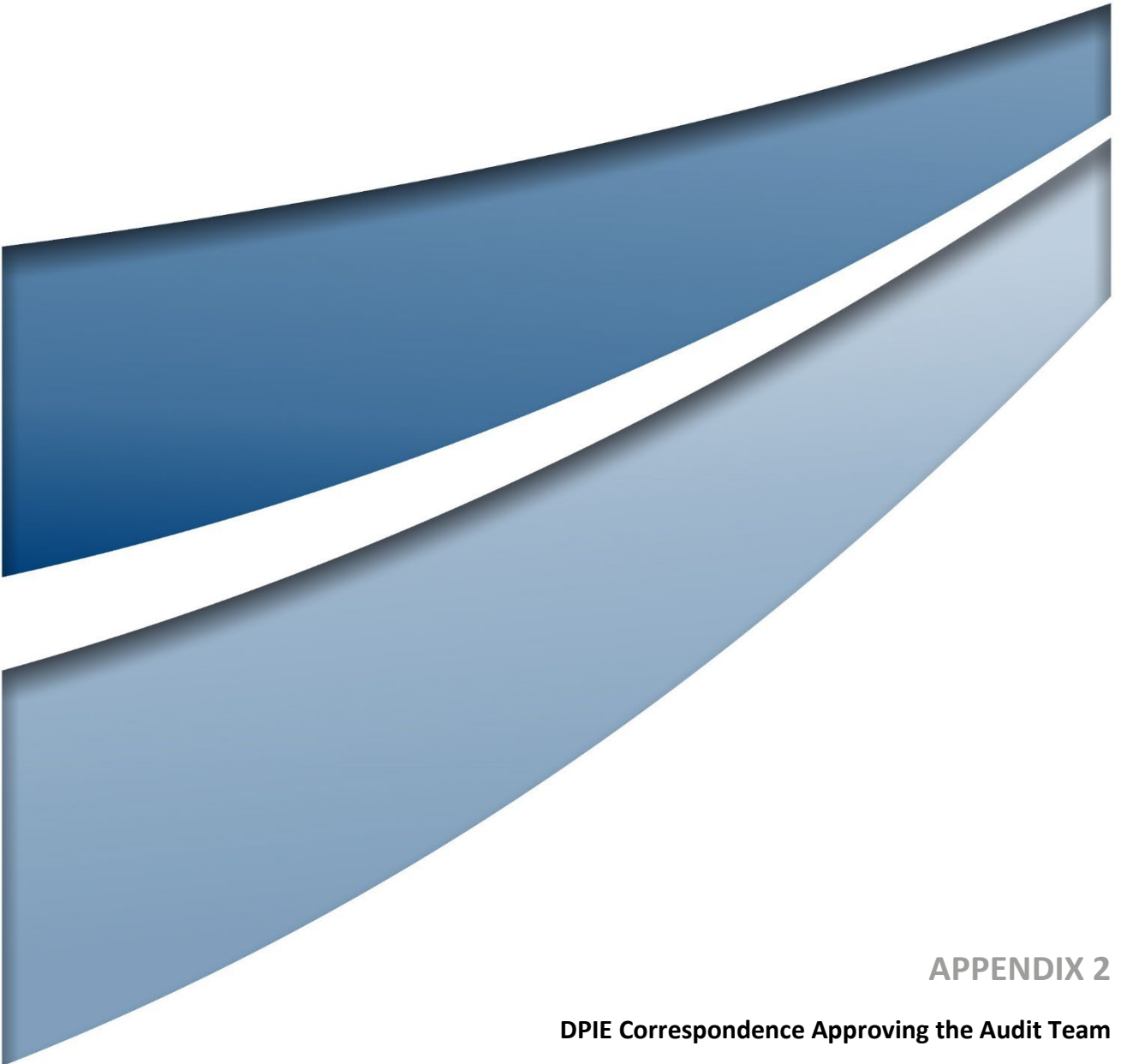
The audit process involved the interview of personnel and relevant regulatory agencies, a review of documentation and samples of records provided by Bloomfield and a site inspection of the Bloomfield Colliery operations to determine the level of environmental performance and compliance of Bloomfield Colliery.



## APPENDIX 1

### **Independent Audit Submission Form**

Independent Audit Certification Form	
Development Name:	Bloomfield Colliery
Development Consent:	07_0087
Description of Development:	Operation of open cut coal mine
Development Address:	East Maitland, NSW
<b>Independent Audit</b>	
Title of Audit:	Independent Environmental Audit of Bloomfield Colliery
<p><i>I certify that I have undertaken the independent audit and prepared the contents of the attached independent audit report and to the best of my knowledge:</i></p> <ul style="list-style-type: none"> <li><i>The audit has been undertaken in accordance with relevant approval condition(s) and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits</i></li> <li><i>The findings of the audit are reported truthfully, accurately and completely;</i></li> <li><i>I have exercised due diligence and professional judgement in conducting the audit;</i></li> <li><i>I have acted professionally, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the audit;</i></li> <li><i>I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;</i></li> <li><i>I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);</i></li> <li><i>Neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the lead regulator prior to the audit; and</i></li> <li><i>I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.</i></li> </ul> <p><b>Note.</b></p> <p>a) <i>The Independent Audit is an ‘environmental audit’ for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p>b) <i>The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Signature:	
Name of Lead Auditor:	Daniel Sullivan
Address:	75 York Street Teralba NSW 2284
Email Address:	dsullivan@umwelt.com.au
Auditor Certification (if relevant):	Exemplar Global International Certified Lead Auditor 113202
Date:	6 September 2022



## APPENDIX 2

### DPIE Correspondence Approving the Audit Team



Mr Chris Knight  
Environmental Manager  
Bloomfield Collieries Pty Ltd

By Email Only: cknight@bloomcoll.com.au

27/09/2021

Dear Chris Knight

**BLOOMFIELD COAL PROJECT (MP 07\_0087)  
INDEPENDENT ENVIRONMENTAL AUDIT 2021**

Reference is made to correspondence from Bloomfield Collieries Pty Ltd (Bloomfield) dated 17 August 2021 seeking endorsement of the proposed audit team for the upcoming Independent Environmental Audit (IEA) required by Schedule 5, Condition 7 of development consent MP 07\_0087, as modified (the consent) for the Bloomfield Coal Project (site).

The Secretary has considered Bloomfield's request and endorses the following audit team from Umwelt for the 2021 IEA:

- Mr Daniel Sullivan – Lead auditor;
- Mr Joshua Wheatley – Assistant Auditor;
- Mr Shane Lakmaker – Air quality;
- Mr Arne Bishop – Biodiversity/ecology;
- Mr Tim Proctor – Noise;
- Mr Luke Bettridge – Rehabilitation; and
- Mr Chris Bonomini – Surface water/hydrology.

The Department requests that the IEA includes the areas of the project that relate to the Abel consent (MP 05\_0136), that are operated or managed by Bloomfield, including but not limited to the Coal Handling Preparation Plant (CHPP), rail loadout facility (RLF), rail loop and rail spur, and all associated management and monitoring that occurs outside the Bloomfield consent boundary.

The IEA is to be conducted in accordance with the conditions of the approval, and the Department's *Independent Audit Guideline* (October 2015).

The IEA shall include a focus on assessing the environmental performance of the project, and if its complying with relevant approvals including management plans (Schedule 2, Condition 7(c)), the adequacy of management plans (Schedule 2, Condition 7(d)), and recommend measures or actions to improve the environmental performance of the project or any plan (Schedule 2, Condition 7(e)).

The IEA period shall be from 31 October 2018 to approximately 31 October 2021. The IEA audit inspection date shall coincide with the end of the audit period.

The Department also requests that a copy of the IEA report be submitted to the Major Projects Portal, together with a response to any auditor recommendations (RAR), **within three (3) months**

**of commencing the audit**, or as otherwise agreed by the Secretary. Please note that the RAR must include target dates (DD/MM/YYYY) for implementation.

If you wish to discuss the matter further, please contact Ann Hagerthy, Senior Compliance Officer, on 02 6575 3407.

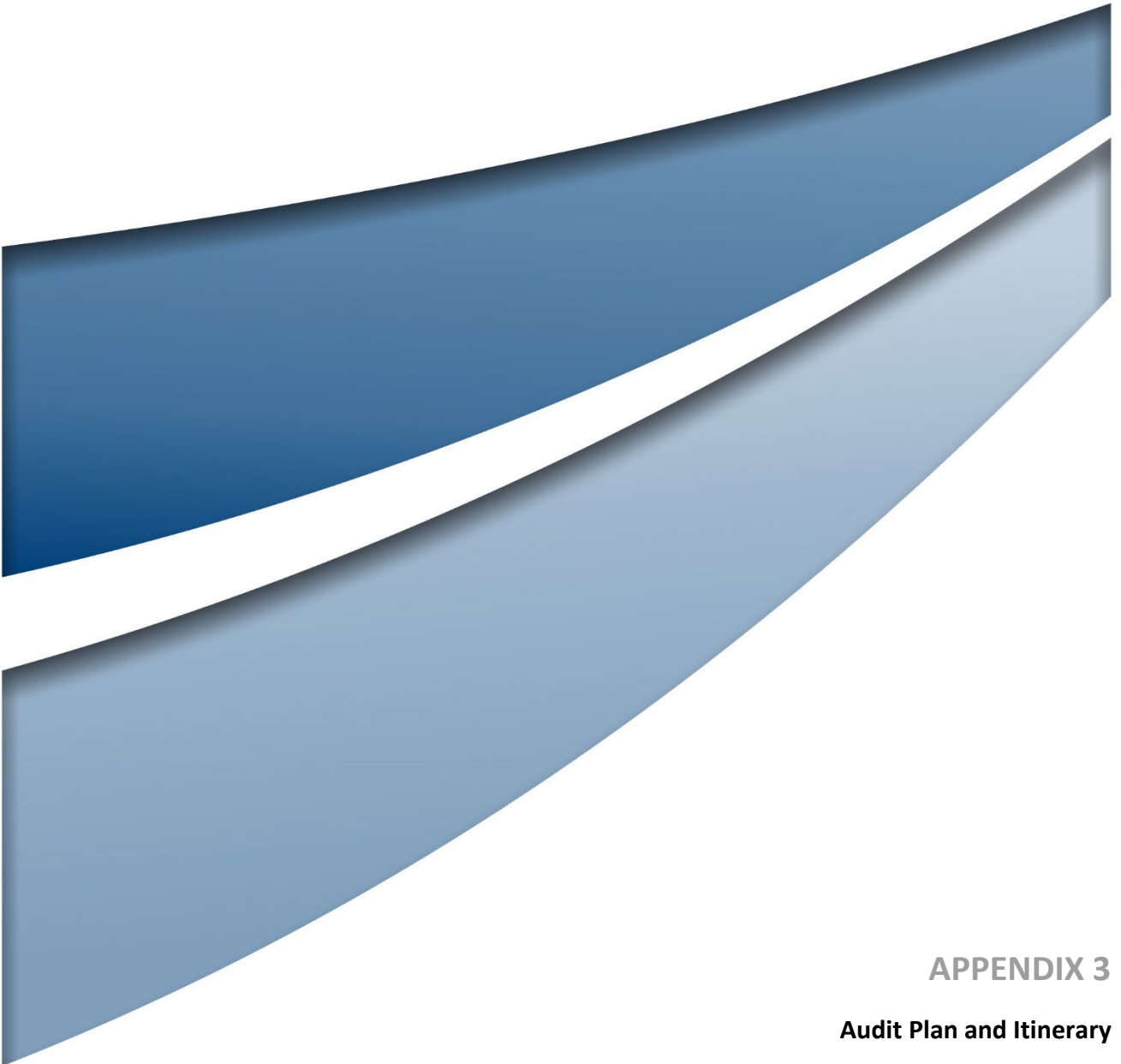
Yours sincerely

A handwritten signature in black ink, appearing to be 'James Epstein', with a stylized flourish extending to the right.

James Epstein  
A/ Team Leader  
Compliance

As nominee of the Planning Secretary





## APPENDIX 3

### **Audit Plan and Itinerary**



## **Bloomfield Colliery 2021 Independent Environmental Audit Audit Plan**

<b>To:</b>	Greg Lamb (Bloomfield Group)
<b>From:</b>	Daniel Sullivan (Umwelt)
<b>Author:</b>	Daniel Sullivan (Umwelt)
<b>Date:</b>	30 September 2021
<b>Subject:</b>	Bloomfield Colliery – 2018 Independent Environmental Audit

**Audit Period :** 31 October 2018 to 1 November 2021

**Site Audit Date:** 1 November 2021

**Auditors:** Lead Auditor – Daniel Sullivan (attending site)  
Auditor – Joshua Wheatley (attending site)  
Rehabilitation Expert – Luke Bettridge (attending site)  
Surface Water Expert – Chris Bonomini  
Noise Expert – Tim Procter  
Air Quality Expert – Shane Lakmaker  
Biodiversity Expert – Arne Bishop

### **1.0 Audit Objectives**

The key objectives identified for the Audit are to assess Bloomfield Colliery's compliance with:

- The Project Approval for PA 07\_0087 dated August 2018
- The Environmental Protection Licence (EPL)
- Relevant Mining Leases
- All relevant water licences under the Water Act 1912 and Water Management Act 2000

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This plan and any files transmitted with it are confidential and are intended to provide information for use in discussions between Umwelt and the named recipient(s) only.

- The respective environmental impact statement (EIS), including the EISs supporting documents and statement of commitments and
- Any strategy, plan or program which has been prepared for the operation.

## **2.0 Audit Scope**

In accordance with the Bloomfield Colliery Project Approval (PA 07\_0087) an Independent Environmental Audit of the project is required to be undertaken by an auditor endorsed by the Department of Planning, Industry and Environment (DPIE) every three years. This audit is proposed to be undertaken in accordance with the NSW Government Independent Audit Guideline (October, 2015).

The Terms of Approval for the respective project approval identifies that the project shall be carried out generally in accordance with the:

- Environmental Impact Statement (EIS) that has been prepared
- Supplementary information and documents submitted (as listed in the approval)
- Subsequent modification documents that have been submitted (as listed in the approval) and
- Conditions of the consent.

## **3.0 Audit Criteria**

The audit will assess the level of compliance and the environmental performance of Bloomfield Colliery during the audit period 31 October 2018 to 1 November 2021 against the following approvals and licences:

- PA 07\_0087
- EPL 396;
- Water Licences
- The EIS and subsequent modification documents for the operation;
- Mining Leases held by the operation; and
- Any strategy, plan or program which has been prepared for the operation.

Reporting of compliance is proposed to be based on the compliance assessment criteria as defined in the NSW Government Independent Audit Guidelines (October, 2015).

## 4.0 Audit Process

**Document Review:** The documents provided in response to the request for information (RFI) as provided in **Table 1** will be reviewed prior to and during the audit to enable compilation of audit checklists and allow the auditors to gain an understanding of the site operations. Additional documents may be requested and inspected during the site audit component.

**Agency Consultation:** Consultation with regulatory authorities including DPIE, the EPA, MEG, NRAR and will be conducted prior to the site inspection. Consultation with Council and the CCC will also be conducted prior to the site inspection.

**Site Inspection/Audit:** One day has been allowed for the on-site component of the audit for the lead and assistant auditors and the rehabilitation expert. To maximise the time on site, documentation as discussed below will be reviewed prior to the site inspection. An indicative itinerary for the site inspection is provided in **Table 2**.

During the audit, the following people are proposed to be interviewed (if available):

- General Manager/Mine Manager;
- Environmental Officer;
- Supervisors of operational areas visited during the site inspections; and
- Other persons identified during the course of the audit (as relevant).

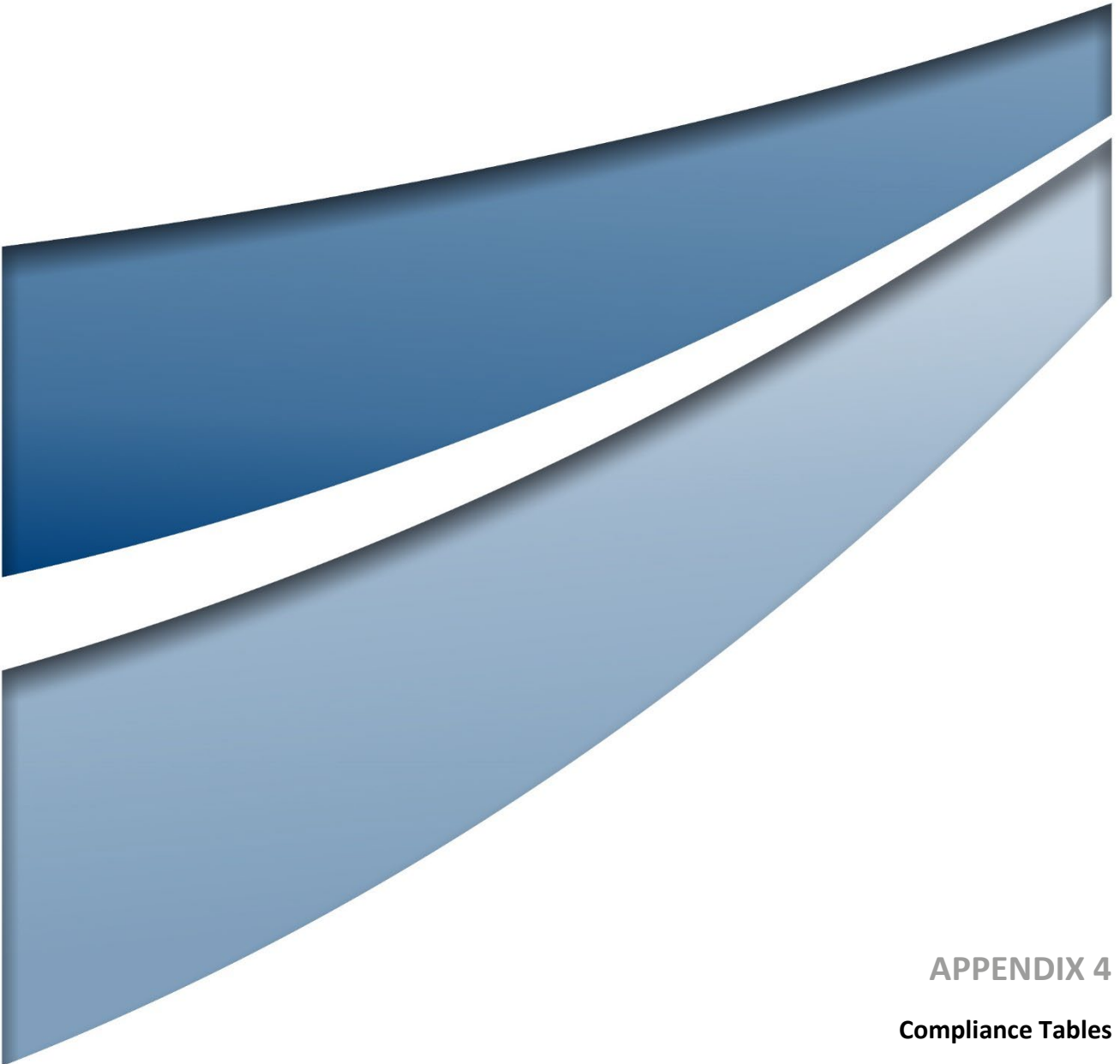
For the Opening and Closing Meetings, it is suggested that as a minimum these should be attended by the General Manager, Environmental Officer, relevant area managers and any other personnel nominated by Bloomfield Group.

**Table 1 - Initial Documentation Requirements**

<b>Issue</b>	<b>Document</b>	<b>Status</b>
<b>Part 1 – Documentation Required Prior to Audit</b>		
<b>Approvals/Licences</b> (preferably in word or excel format)	Development Consent (2018)	Obtained from Previous
	EIS and modification supporting documents	Obtained from Previous
	Abel Consent MP 05_0136 (PDF and word) and advise on which conditions apply	<b>Required</b>
	Mining Authorities	<b>Required</b>
	Water Licences	<b>Required</b>
	EPL	<b>Required</b>
<b>Environmental Documentation</b>	EPL Annual Returns (2018 – 2021)	<b>Required</b>
	PIRMP	<b>Required</b>
	Mining Operations Plan	Umwelt Downloaded
	Management Plans	Umwelt downloaded (from website)
	Environmental Management Strategy	Umwelt Downloaded
	Annual Reviews (2018 – 2020)	Umwelt Downloaded
	Monitoring data for 2021 YTD	<b>Required</b>
	Details of any PINs received and incidents reported within the audit period	<b>Required</b>
	Complaints databases for the audit period	<b>Required</b>
	Copies of correspondence to relevant agencies for consultation, submission and approval of plans	Available as appendices in the relevant management plan
<b>Part 2 – Documentation Required During Audit</b>		
<b>Environmental Controls and Monitoring</b>	Production data and coal transport data	During audit
	Waste management records	During audit
	Rehabilitation monitoring data	During audit
	Notification to landowners	During audit
	Acquisition requests if any	During audit
	Independent review reports if any	During audit
	Incident reporting and complaints management	During audit
<b>Other</b>	Copies of correspondence from agencies	During audit
	Plant maintenance, inspection and defects reporting records	During audit
	Training and competency records	During audit

**Table 2 – Indicative Itinerary for Site Inspection/Audit**

Day/Time	Description	Personnel
9.00am - 9.30am	<b>Opening Meeting</b> <ul style="list-style-type: none"> <li>• Introductions</li> <li>• Purpose of Audit</li> <li>• Confidentiality Arrangements</li> <li>• Audit Process and Timing</li> </ul>	Mine Manager, Environmental personnel and site personnel as invited by Bloomfield Group.
9:30am - 10:00am	<b>Presentation on Bloomfield Colliery Operations in the Audit Period</b> <ul style="list-style-type: none"> <li>• Bloomfield Group personnel to present an overview of the operations on site, including outline of environmental management system and controls</li> </ul>	Environmental personnel
10.00am - 12.00 pm	<b>Documentation Compliance Review</b> <ul style="list-style-type: none"> <li>• Review of PA 07_0087</li> <li>• Review of rehabilitation requirements</li> <li>• Mining authorities</li> </ul>	Environmental personnel and appropriate site personnel as required
12.00pm - 12.30pm	<b>Lunch</b>	
12.30pm - 2.00pm	<b>Documentation Compliance Review (cont)</b> <ul style="list-style-type: none"> <li>• EPL</li> <li>• Water licences</li> <li>• Review key EIS commitments</li> <li>• Review activities against EIS and MOP</li> <li>• Regulator issues and audit feedback</li> <li>• Reportable incidents and complaints</li> <li>• Management plans commitments review</li> <li>• Training and communication</li> <li>• Any outstanding items</li> </ul>	Environmental personnel and appropriate site personnel as required
2.00pm – 4.00pm	<b>Field Inspection</b> <ul style="list-style-type: none"> <li>• Main infrastructure areas (workshop, waste segregation, oil, wash-down, storage, etc.)</li> <li>• Operations inspection</li> <li>• Rehabilitation areas</li> <li>• Monitoring network: met stations, air, noise, water,</li> <li>• Water &amp; waste systems</li> <li>• Heritage sites</li> <li>• Any key private neighbour/stakeholder issues</li> </ul>	Environmental personnel and appropriate site personnel as required
4.00pm - 4.30 pm	<b>Auditors Revision and Preparation for Closeout Meeting</b>	Audit Team Only
4.30pm – 5.00 pm	<b>Close Out Meeting</b> <ul style="list-style-type: none"> <li>• Overview of findings</li> <li>• Confirmation of outstanding items or documents required</li> <li>• Confirm audit review and completion process</li> </ul>	Mine Manager, Environmental personnel and site personnel as invited by Bloomfield Group



**APPENDIX 4**  
**Compliance Tables**

Development Consent Compliance Table – Bloomfield Coal Mine – Project Approval 07\_0087

Mod 1 (May 2011) – Red text

Mod 2 (March 2012) – Dark blue text

Mod 3 (February 2013) – Green text

Mod 4 (August 2018) – Purple text

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
<b>Schedule 2 – Administrative Conditions</b>				
<b>Obligations to Minimise Harm to the Environment</b>				
1.	The Proponent <b>must</b> implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	Environmental Management Strategy Environmental Management Plans Site inspection	Compliant	The Bloomfield Environmental Management Strategy (EMS) document provides the framework for environmental management at Bloomfield Colliery. It also generally addresses the requirements of this Project Approval. Findings and observations made during the audit and site inspection confirmed that Bloomfield are implementing appropriate measures under the management plans to prevent / minimise material harm to the environment. There were some reportable incidents during the audit period as described below in these compliance tables, however no material harm was shown to occur to the environment.  The predictive forecast system in place for noise and air quality management as well as the Terrock predictive blast modelling program are further examples as to how obligations to minimise harm are being met.
<b>Terms of Approval</b>				
2	The Proponent shall carry out the project generally in accordance with the:			
	(a) EA;EA (MOD 1), EA (MOD 2), EA (MOD 3) and EA (MOD 4)		Compliant	The Bloomfield Colliery development is being carried out generally in accordance with EA;EA (MOD 1), EA (MOD 2), EA (MOD 3) and the EA (MOD 4).
	(b) Biodiversity Offset Strategy; and		Compliant	Previous Audit confirmed compliance for the establishment of a Biodiversity Offset Strategy ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).  The project is being carried out in accordance with the Biodiversity Offset Strategy including the completion of some short term and medium term management measures for the offset area such as the establishment of fencing and pest and weed monitoring. The current status of progress against this is assessed further as relevant under Schedule 3 Conditions 29A, 29B and 29C.
	(c) Statements of Commitments.  <i>Notes: The general layout of the project is shown in Appendix 2; and the Statement of Commitments is reproduced in Appendix 3.</i>		Compliant	Operations at Bloomfield were undertaken generally in accordance with the statement of commitments (SOCs) made in the project EA, subsequent modifications and reproduced as Appendix 3 of the Project Approval.  No non-Compliances against SOC's have been identified during the audit period
2A	The Proponent must carry out the project in accordance with the conditions of this approval.		<b>Non-Compliant</b>	The Bloomfield Colliery development is being carried out generally in accordance with the conditions of Project Approval 07_0087.  <b>Non-Compliances against conditions have been identified during the audit period and are recorded in this table and in the main Audit Report</b>
3	If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.		Noted	
4	The Proponent shall comply with any reasonable requirements of the Director-General arising from the Department's assessment of:  (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with the conditions of this approval;  (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with the conditions of this approval; and  (c) the implementation of any actions or measures contained in these documents.		Not Triggered	No requests received from the Department during the audit period under Schedule 2, Condition 4 (C. Knight pers comms).
<b>Limits of Approval</b>				



Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
5	Mining operations may take place on the site until 31 December 2031.  <i>Notes: Under this Approval, the Proponent is required to rehabilitate the site to the satisfaction of the Secretary and DRG. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.</i>		Noted	
6	The Proponent shall not extract more than 1.3 million tonnes of ROM coal a year from the site.	Production Data 2018-2019, 2019-2020, 2020-2021	Compliant	Sighted Production Data (28 October 2021) indicating Run-of-Mine coal extracted from 'The Wall' in 2018 to 2021 was less than 1.3 million tonnes: 7 July 2018- 29 June 2019 – 755,996 million tonnes 6 July 2019 – 27 June 2020 – 954,983 million tonnes 4 July 2020 –30 June 2021 – 624,661 million tonnes
<b>Hours of Operation</b>				
7	Project operations may take place 24 hours per day, 7 days per week.		Noted	
<b>Management Plans/Monitoring Programs</b>				
8	With the approval of the Secretary, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.		Compliant	Management Plans and monitoring programs have been submitted to the Department as required under this condition.
9	The Proponent <b>must</b> prepare revisions of any strategy, plan or program required under this project approval if directed to do so by the Secretary. Such revisions shall be prepared to the satisfaction of, and within a timeframe approved by, the Secretary.		Not Triggered	No requests received from the Department during the audit period under Schedule 2, Condition 9 (C. Knight pers comms).
10	With the approval of the Secretary, the Proponent may integrate any strategy, plan, program, review, audit or committee required by this approval with any similar requirement under the development consent for the Donaldson Coal Mine and the project approval for the Abel Coal Mine.		Not Triggered	This condition has not been triggered during the audit period.
<b>Structural Adequacy</b>				
11	The Proponent <b>must</b> ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.  <i>Notes: Under Part 4A of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.</i>  <i>Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</i>		Not Triggered	No alterations/new buildings or structures have been constructed (GL pers comms).
<b>Demolition</b>				
12	The Proponent <b>must</b> ensure that all demolition work is carried out in accordance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i> , or its latest version.	SWMS No 2 Annual Review 2018, Annual Review 2019 Annual Review 2020	Compliant	On the 8 July 2019 demolition work was undertaken onsite, work activities included cutting up and loading out steel components for the steaming gantry. Completed SWMS (No.2) showed compliance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i> .  No other demolition work has occurred at Bloomfield Colliery during the audit period.
<b>Operation of Plant and Equipment</b>				
13	The Proponent <b>must</b> ensure that all plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Maintenance Service Sheets of Dozer (13/07/2021), Highway truck (13/08/2021) and Wheel Loader (27/07/2021).	Compliant	All equipment and plant used on the Bloomfield site is maintained to specification at the on-site workshop and is operated in an efficient manner.  Sighted the sites induction record and completed pre-start inspections which ensures all plant and equipment are operating in an efficient condition prior to undertaking work dating from: - Dozer 9/9/2021 - Haul Truck 8/9/2021 - Drill 23/09/2021

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
		Induction Record 4 x Pre-start inspections dated 9/9/2021, 8/9/2021, 23/9/2020, 14/10/2021		- Loader 14/10/2021  Sighted completed Maintenance Service Sheets which cover all elements of mechanical maintenance and actions/comments as needed for plant: - D11N Dozer 13/07/21 - 793C Off Highway Truck 13/08/21 - 992C Wheel Loader 27/07/21
<b>Community Enhancement Fund</b>				
14	The Proponent <b>must</b> establish a Community Enhancement Fund of a minimum of \$500,000 and implement expenditure from that fund to the satisfaction of the <b>Secretary</b> . Proposals for expenditure from the fund must: (a) be prepared by the Proponent in consultation with Council and the CCC and be submitted to the <b>Secretary</b> for approval by 31 December 2009; (b) be expended over the ten calendar years 2010-2019; and (c) a minimum of \$180,000 on local infrastructure projects within Cessnock LGA, to be commenced no later than 30 September 2011; and		Compliant	Previous Audit confirmed compliance for the establishment of a Community Enhancement Fund ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).
	(d) a minimum of \$32,000 annually to locally-operating community charities.	Youth off the Street Invoice dated 12/06/2019	Compliant	Sighted invoice paid yearly to 'Youth off the Streets' charity for \$32,000 per year paid on 21 June 2019.
<b>Evidence of Consultation</b>				
15	Where conditions of this approval require consultation with an identified party, the Proponent must: (a) consult with the relevant party prior to submitting the subject document to the Secretary for approval; and (b) provide details of the consultation undertaken including: <ul style="list-style-type: none"><li>the outcome of that consultation, matters resolved and unresolved; and</li><li>details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed the matters not resolved.</li></ul>		<b>Non-Compliant</b>	<b>There has not been consultation between Bloomfield and relevant agencies during the revision of some of the management plans required under this approval during the audit period.</b>  <b>Recommendation: The revision of management plans going forward will need to consider the outcomes of the required consultation in further detail to ensure compliance with this condition. Further for future revisions of management plans it should be confirmed with DPIE upfront whether additional consultation is required with listed agencies (in addition to consultation that has occurred for the original versions of the management plans).</b>
<b>Applicability of Guidelines</b>				
16	References in the conditions of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval.		Noted	
17	However, consistent with the conditions of this approval and without altering any limits or criteria in this approval, the Secretary may, when issuing directions under this approval in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.		Noted	
<b>Compliance</b>				
18	The Proponent must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this approval relevant to activities they carry out in respect of the project.	Employee Induction PowerPoint Presentation Employee Induction Record	Compliant	A copy of the employee induction PowerPoint presentation (n.d) was sighted on 19 October 2021. The Environment section of the PowerPoint presentation outlines the planning approvals that are applicable to the Bloomfield Colliery site and specifies that "only activities allowed under these planning approvals can be carried out at the mines".  The employee induction record was also sighted showing employees undertaking the induction which provides an overview of the conditions of this approval.

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments																																																		
<b>Schedule 3 – Specific Environmental Conditions</b>																																																						
<b>NOISE</b>																																																						
Noise Impact Assessment Criteria																																																						
1	<p>The Proponent <b>must</b> ensure that the noise generated by the project does not exceed at any residence on privately-owned land, or on more than 25% of any privately-owned land, the noise impact assessment criteria shown in Table 1 for the monitoring location nearest to that residence or land:</p> <p style="text-align: center;"><i>Table 1: Operational noise impact assessment criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th rowspan="2">Morning shoulder LAeq(15)</th> <th rowspan="2">Day LAeq(15)</th> <th rowspan="2">Evening LAeq(15)</th> <th colspan="2">Night</th> <th rowspan="2">Location and Locality</th> </tr> <tr> <th>LAeq(15)</th> <th>LA1(1 min)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> <td>E Browns Rd, Black Hill</td> </tr> <tr> <td>42</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> <td>F Black Hill Rd, Black Hill</td> </tr> <tr> <td>43</td> <td>39</td> <td>42</td> <td>37</td> <td>45</td> <td>G Buchanan Rd, Buchanan</td> </tr> <tr> <td>35</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> <td>H Mt Vincent Rd, Louth Park</td> </tr> <tr> <td>48</td> <td>39</td> <td>39</td> <td>37</td> <td>46</td> <td>L Kilshanny Ave, Ashtonfield</td> </tr> <tr> <td>43</td> <td>42</td> <td>42</td> <td>35</td> <td>45</td> <td>M John Renshaw Drive, Buttai</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>N Lings Road, Buttai</td> </tr> </tbody> </table> <p><i>Notes:</i> To interpret the locations in Table 1, see Appendix 2.</p> <p>However, if the Proponent has a written negotiated noise agreement with the landowner of any privately- owned land, and a copy of this agreement has been forwarded to the Department and EPA, then the Proponent may exceed the noise limits in Table 1 on that land in accordance with the negotiated noise agreement.</p>	Morning shoulder LAeq(15)	Day LAeq(15)	Evening LAeq(15)	Night		Location and Locality	LAeq(15)	LA1(1 min)	40	35	35	35	45	E Browns Rd, Black Hill	42	35	35	35	45	F Black Hill Rd, Black Hill	43	39	42	37	45	G Buchanan Rd, Buchanan	35	35	35	35	45	H Mt Vincent Rd, Louth Park	48	39	39	37	46	L Kilshanny Ave, Ashtonfield	43	42	42	35	45	M John Renshaw Drive, Buttai						N Lings Road, Buttai	<p>Quarterly Monitoring Reports March 2019 – Sept 2021</p>	Compliant	<p>Noise monitoring is conducted in accordance with the Noise Monitoring Program. Noise monitoring results during the audit period 31 October 2018-1 November 2021 demonstrate general compliance with the operational noise impact assessment criteria.</p> <p>Predicted noise emission modelling software has been implemented at Bloomfield to assist in mine planning operations and to avoid operating in exposed/elevated locations during noise enhanced conditions. No noise exceedances have occurred during the audit period.</p>
Morning shoulder LAeq(15)	Day LAeq(15)				Evening LAeq(15)	Night		Location and Locality																																														
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Cumulative Noise Criteria																																																						
2	<p>The Proponent <b>must</b> take all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other mines does not exceed the following amenity criteria at any residence on, or on more than 25 percent of, any privately owned land:</p> <p><i>LAeq(11 hour) 50dB(A) – Morning shoulder and Day;</i></p> <p><i>LAeq(4 hour) 45 dBA) – Evening; and</i></p> <p><i>LAeq(9 hour) 40 dB(A) – Night.</i></p>	<p>2018 Annual Review 2019 Annual Review 2020 Annual Review Complaints Register 2018-2021</p>	Compliant	<p>Quarterly Noise Monitoring Reports and Annual Reviews provide detail on the noise impact of the Project on surrounding receivers and have demonstrated general compliance with the cumulative noise criteria throughout the audit period.</p> <p>A review of the complaints register recorded 12 noise complaints during the audit period. One particular complaint mentions one minor exceedance which occurred on the 27 August 2020 at night indicating an exceedance of 0.3dB. As a result mobile equipment was reduced on the coal pad and noise was within limits. It was not recorded as an exceedance but highlights all reasonable and feasible measures are undertaken to ensure compliance.</p>																																																		
Continuous Improvement																																																						
3	<p>The Proponent <b>must</b>:</p> <p>(a) implement all reasonable and feasible noise mitigation measures;</p>	<p>Quarterly Monitoring Reports March 2019 – Sept 2021 Annual Review 2018,2019 and 2020</p>	Compliant	<p>Bloomfield Colliery’s predictive meteorological modelling software program has been utilized consistently throughout the audit period. The software includes half-hourly noise predictions for the daily period in order to plan operations (e.g. blasts) around the times of predicted noise impacts on surrounding residents.</p> <p><b>Recommendation: It is recommended a program to monitor the effectiveness of the modelling software (comparing to monitoring data) to be incorporated into the noise monitoring program to ensure the accuracy of the software is maintained.</b></p>																																																		

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments								
	(b) investigate ways to reduce the noise generated by the project; and	Quarterly Monitoring Reports March 2019 – Sept 2021 Annual Review 2018,2019 and 2020, Noise Monitoring Program V4.5	Compliant	Bloomfield Colliery’s predictive meteorological modelling software program incorporates regional weather station data to predict daily weather events to help assist in identifying noise generating areas of the project. This data aids mine planning operations and assists planning to avoid operating in exposed/elevated locations during noise enhanced conditions.								
	(c) Report on these investigations and the implementation and effectiveness of these measures in the <a href="#">Annual Review</a> , to the satisfaction of the <a href="#">Secretary</a>	Annual Review 2018,2019 and 2020	Complaint	The Annual Reviews of 2018, 2019 and 2020 all report on the implementation and effectiveness of the predictive meteorological modelling software program however no other measures are detailed. Each Annual Review also outlines the performance of operational noise for their respective operating year in Section 6.5.2. <b>Recommendation: It is recommended the Annual Review includes details on other noise mitigation measures that are used such as noise suppression equipment to provide a comprehensive overview of the measures implemented at Bloomfield Colliery.</b>								
<b>Monitoring</b>												
4	The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the <a href="#">Secretary</a> . The Program must : (a) be prepared in consultation with <a href="#">EPA</a> and be submitted to the <a href="#">Secretary</a> for approval within 6 months of the date of this approval; and (b) include:  - a combination of unattended and attended monitoring measures; and  - a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval  <a href="#">The Proponent must implement the Noise Monitoring Program as approved by the Secretary.</a>	Noise Monitoring Program V 4.5 Sighted Email Correspondence EPA Correspondence email DPIE letter 31/03/2021	Compliant	The Noise Monitoring Program was submitted to the Secretary on the 07 November 2018 (sighted email correspondence) which was within 3 months of the approval of MOD 4 (as required by Schedule 5, Condition 4).. The program has been revised multiple times during the audit period with the latest revision being approved by DPIE on the 31 March 2021 (Letter sighted)  The program includes a description of monitoring measures (unattended and attended) in Section 4.2 and 4.3. Section 4.5 of the program outlines the integrated noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval.  During the audit period, noise monitoring has been undertaken in accordance with the Noise Monitoring Program and the results reported annually in the Annual Review.								
<b>BLASTING AND VIBRATION</b>												
<b>Airblast Overpressure Limits</b>												
5	The Proponent <b>must</b> ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 2 at any residence on privately-owned land.  <table border="1" data-bbox="439 1495 1285 1738"> <thead> <tr> <th colspan="2">Table 2: Airblast overpressure impact assessment criteria</th> </tr> <tr> <th>Airblast overpressure level (dB(Lin Peak))</th> <th>Allowable Exceedance</th> </tr> </thead> <tbody> <tr> <td>115</td> <td>5% of the total number of blasts in a 12 month period</td> </tr> <tr> <td>120</td> <td>0%</td> </tr> </tbody> </table>	Table 2: Airblast overpressure impact assessment criteria		Airblast overpressure level (dB(Lin Peak))	Allowable Exceedance	115	5% of the total number of blasts in a 12 month period	120	0%	1 Jan 2021 to 26 October 2021 Blasting results 2020 Blasting results 2019 Blasting results, 2018 Blasting results	Compliant	Blast results for the Bloomfield Colliery between the audit period (31 October 2018 to 1 November 2021), indicated no blast exceeding the 115dB blast over pressure level. No blasts exceeded 120 dB blast overpressure limits during the audit period.
Table 2: Airblast overpressure impact assessment criteria												
Airblast overpressure level (dB(Lin Peak))	Allowable Exceedance											
115	5% of the total number of blasts in a 12 month period											
120	0%											
<b>Ground Vibration Impact Assessment Criteria</b>												
6	The Proponent <b>must</b> ensure that the ground vibration level from blasting at the project does not exceed the levels in Table 3 at any residence on privately-owned land.  <table border="1" data-bbox="439 1831 1285 1927"> <thead> <tr> <th colspan="2">Table 3: Ground vibration impact assessment criteria</th> </tr> <tr> <th>Peak particle velocity (mm/s)</th> <th>Allowable Exceedance</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Table 3: Ground vibration impact assessment criteria		Peak particle velocity (mm/s)	Allowable Exceedance			1 Jan 2021 to 26 October 2021 2020 Blasting results 2019 Blasting	Compliant	Blast results indicate no blasts exceeded the 5mm/sec or 10mm/sec ground vibration limits during the audit period (31 October 2018 to 1 November 2021).		
Table 3: Ground vibration impact assessment criteria												
Peak particle velocity (mm/s)	Allowable Exceedance											

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	5 10	5% of the total number of blasts in a 12 month period 0%		results, 2018 Blasting results
<b>Blasting Hours and Frequency</b>				
7	The Proponent <b>must</b> carry out blasting on site only between 9 am and 5 pm Monday to Saturday. No blasting is allowed on Sundays and Public Holidays.	1 Jan 2021 to 28 September 2021 Blasting results 2020 Blasting results 2019 Blasting results, 2018 Blasting results	Compliant	Blast results indicate blasting has only occurred between the hours of 9am to 5pm Monday to Saturday. No blasting occurred on Sundays or Public holidays during the audit period.
8	The Proponent may carry out on the site a maximum of: (a) 2 blasts a day; and (b) 5 blasts a week, averaged over a 12 month period.	1 Jan 2021 to 28 September 2021 Blasting results 2020 Blasting results 2019 Blasting results, 2018 Blasting results	Compliant	Bloomfield Colliery has not exceeded 2 blasts per day, or exceeded 5 blasts per week averaged over a 12 month period during the audit period.
<b>Operating Conditions</b>				
9	During mining operations on site, the Proponent <b>must</b> implement best blasting practice to: (a) protect the safety of people, property, public infrastructure, and livestock; and (b) minimise the dust and fume emissions from blasting at the project, to the satisfaction of the Secretary.	Air Monitoring Program and Blasting Monitoring Program Completed checklists for blasting, Explosives Control Plan, Blast fume Management Strategy	Compliant	The Blast Monitoring Program implements best blasting practice by the use of a predictive modelling system to plan for the timing of their blasts to occur during periods of low winds, this is detailed on page 6 of the blast monitoring program. Additional management strategies and measures undertaken at Bloomfield are also included in the Principal Explosives Control Plan.  The Air Quality Monitoring Program as approved by the Secretary on 13 July 2020 outlines on Page 5 the dust minimisation management measures used at Bloomfield Colliery. The Blast fume management strategy reviewed on the 20 May 2020 addresses the likely causes of gases from blasting, the controls that should be used to mitigate excessive blast fumes and the procedure for the management of excessive blast fumes should they occur.  Pre-Blasting checklists were sighted during the audit which identifies suitable conditions to undertake blasting. Examples of completed checklists for the following dates were reviewed: <ul style="list-style-type: none"><li>- 20 December 2019</li><li>- 10 December 2020</li><li>- 09 September 20221</li></ul>
10	The Proponent <b>must</b> not undertake blasting within 500 metres of any privately-owned land, unless suitable arrangements have been made with the landowner and any tenants to minimise the risk of flyrock-related impact to the property to the satisfaction of the Secretary.	1 Jan 2021 to 28 September 2021 Blasting results 2020 Blasting results 2019 Blasting results, 2018 Blasting results	Compliant	Blast monitoring results for the audit period confirm blasting was not undertaken within 500 metres of any privately-owned land.

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
<b>Public Notice</b>				
11	The Proponent <b>must</b> :	ACM Invoice 2020-2021 ACM Invoice 30 June 2020, ACM Invoice 30 September 2020, ACM Invoice 31 December 2020, ACM Invoice 31 March 2021 ACM Invoice 30 June 2021	Compliant	Previous Audit confirmed compliance for the notification of landowner/occupier of any residence within 2km of mining area ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).
	(a) notify the landowner/occupier of any residence within 2 kilometres of the mining area who registers an interest in being notified about the blasting schedule at the mine, or any other landowner nominated by the <b>Secretary</b> ;			Bloomfield Colliery currently operates a blasting hotline ((02) 4930 2680).
	(b) operate a blasting hotline, or alternate system agreed to by the Director-General, to enable the public to get up-to-date information on the blasting schedule at the project;			Bloomfield Colliery advertises the blasting hotline in Maitland Mercury and Cessnock Advertiser. Advertisement contain the blasting hotline and environmental enquiries line. Sighted invoice dated 31 December 2018, 30 June 2019, 30 September 2019, 30 June 2020, 30 September 2020, 31 December 2020, 31 March 2021 and 30 June 2021
	(c) advertise the blasting hotline number in a local newspaper at least 4 times each year; and			Confirmed up to date on the website during this audit. The most recent blasting information and schedule on the website is for week commencing 18 October 2021.
	(d) publish an up-to-date blasting schedule on its website, to the satisfaction of the Director-General.			
<b>Property Inspections</b>				
12	The Proponent shall advise the owners of privately-owned land that they are entitled to a structural property inspection to establish the baseline condition of buildings and other structures on the property:		Compliant	Previous Audit confirmed compliance of Bloomfield Colliery in accordance with this condition ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).
	(a) within 2 months of the date of this approval, for properties within 2 kilometres of blasting operations occurring at the date of this approval; and			
	(b) at least 2 months prior to blasting within 2 kilometres of additional properties.			
	If the Proponent receives a written request for a structural property inspection from any such landowner, the Proponent <b>must</b> :			
	within 2 months of receiving this request commission a suitably qualified, experienced and independent person, whose appointment has been approved by the <b>Secretary</b> , to inspect the condition of any building or structure on the land (prior to blasting taking place within 2 km of the property, if possible), and recommend measures to mitigate any potential blasting impacts; and give the landowner a copy of the property inspection report.			
<b>Property Investigations</b>				
13	If any landowner of privately-owned land within 2 kilometres of blasting operations, or any other landowner nominated by the <b>Secretary</b> , claims that buildings and/or other structures on his/her land have been damaged as a result of blasting at the project after the date of this approval, the Proponent shall within 3 months of receiving this claim:		Not Triggered	Condition not triggered during audit period. Noted for future operations in the event that this condition is triggered.
	(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the <b>Secretary</b> to investigate the claim; and			
	(b) give the landowner a copy of the property investigation report.			
	If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent <b>must</b> repair the damages to the satisfaction of the <b>Secretary</b> .  If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the <b>Secretary</b> for resolution.			
<b>Blast Monitoring Program</b>				
14	The Proponent <b>must</b> prepare and implement a Blast Monitoring Program for the project to the satisfaction of the <b>Secretary</b> . This program must: (a) be submitted to the Director General for approval within 6 months of the date of this approval; and	Blast Monitoring Program Annual Review 2018	Compliant	The Blast Monitoring Program was submitted on the 07 November 2018 (sighted email correspondence) which was within 3 months of the approval of MOD 4 (as required by Schedule 5, Condition 4).. The program has been revised twice during the audit period, with the most recent revision being approved by DPIE on the 13 July 2020.

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	(b) include a protocol for evaluating blasting impacts on, and demonstrating compliance with, the blasting criteria in this approval for all privately-owned residences and other structures.	Annual Review 2019 Annual Review 2020 Email correspondence dated 7/11/2018		During the audit period, blast monitoring has been undertaken in accordance with the Blast Monitoring Program and the results reported annually in the Annual Review. A blast protocol is provided on page 6 of the Blast Monitoring Program

**AIR QUALITY**

**Impact Assessment Criteria**

15	<p>The Proponent <b>must</b> ensure that dust emissions generated by the project do not cause additional exceedances of the criteria listed in Tables 4 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.</p> <p><i>Table 4: Air quality criteria</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>Annual</td> <td><sup>a,c</sup> 25 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td><sup>b</sup> 50 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 2.5 µm (PM<sub>2.5</sub>)</td> <td>Annual</td> <td><sup>a,c</sup> 8 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 2.5 µm (PM<sub>2.5</sub>)</td> <td>24 hour</td> <td><sup>b</sup> 25 µg/m<sup>3</sup></td> </tr> <tr> <td>Total suspended particulates (TSP)</td> <td>Annual</td> <td><sup>a,c</sup> 90 µg/m<sup>3</sup></td> </tr> <tr> <td><sup>d</sup> Deposited dust</td> <td>Annual</td> <td><sup>b</sup> 2 g/m<sup>2</sup>/month      <sup>a</sup> 4 g/m<sup>2</sup>/month</td> </tr> </tbody> </table> <p>Notes:  <sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).  <sup>b</sup> Incremental impact (i.e. incremental increase in concentrations due to the project on its own).  <sup>c</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.  <sup>d</sup> Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1.2003: Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter _ Gravimetric Method.</p>	Pollutant	Averaging Period	Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a,c</sup> 25 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>b</sup> 50 µg/m <sup>3</sup>	Particulate matter < 2.5 µm (PM <sub>2.5</sub> )	Annual	<sup>a,c</sup> 8 µg/m <sup>3</sup>	Particulate matter < 2.5 µm (PM <sub>2.5</sub> )	24 hour	<sup>b</sup> 25 µg/m <sup>3</sup>	Total suspended particulates (TSP)	Annual	<sup>a,c</sup> 90 µg/m <sup>3</sup>	<sup>d</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month <sup>a</sup> 4 g/m <sup>2</sup> /month		Compliant	<p>Monitoring is carried out near Bloomfield mine to allow for the assessment of the compliance with the air quality indicators and criteria in PA 07_0087.</p> <p>Monitoring results for the audit period (31 October 2018 – 31 October 2021) have been reviewed. These data showed that:</p> <ul style="list-style-type: none"> <li>Annual average PM<sub>10</sub> concentrations (total due to all sources) have not exceeded the 25 µg/m<sup>3</sup> criterion</li> <li>Maximum 24-hour average PM<sub>10</sub> concentrations (incremental due to Bloomfield) have not exceeded the 50 µg/m<sup>3</sup> criterion</li> <li>Annual average PM<sub>2.5</sub> concentrations (total due to all sources) have not exceeded the 8 µg/m<sup>3</sup> criterion</li> <li>Maximum 24-hour average PM<sub>2.5</sub> concentrations (incremental due to Bloomfield) have not exceeded the 25 µg/m<sup>3</sup> criterion</li> <li>Annual average TSP concentrations (total due to all sources) have not exceeded the 90 µg/m<sup>3</sup> criterion</li> <li>Annual average deposited dust levels (incremental due to Bloomfield) have not exceeded the 2 g/m<sup>2</sup>/month criterion</li> <li>Annual average deposited dust levels (total due to all sources) have not exceeded the 4 g/m<sup>2</sup>/month criterion</li> </ul> <p>The monitoring data indicate that dust emissions generated by Bloomfield mine are not causing exceedances of the criteria in Table 4 of PA 07_0087 at off-site locations.</p>
Pollutant	Averaging Period	Criterion																							
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a,c</sup> 25 µg/m <sup>3</sup>																							
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Total suspended particulates (TSP)	Annual	<sup>a,c</sup> 90 µg/m <sup>3</sup>																							
<sup>d</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month <sup>a</sup> 4 g/m <sup>2</sup> /month																							

**Monitoring**

16	<p>The Proponent <b>must</b> prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Secretary. This program must:</p> <p>(a) be prepared in consultation with EPA and be submitted to the Secretary for approval within 6 months of the date of this approval; and</p> <p>(b) include:</p> <ul style="list-style-type: none"> <li>a combination of high-volume samplers and dust deposition gauges to monitor the dust emissions of the project and provision for additional real time monitoring if required in response to monitoring results and/or complaints; and</li> <li>an air quality monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this approval.</li> </ul> <p>The Proponent must implement the Air Quality Monitoring Program as approved by the Secretary.</p>		Compliant	<p>The Air Quality Monitoring Program was submitted to the Secretary on the 07 November 2018 (sighted email correspondence) 3 months of the approval of MOD 4 (as required by Schedule 5, Condition 4)The most recent revision of the program was approved (version 9) by the Secretary on the 13 July 2020.</p> <p>The Air Quality Monitoring Program includes:</p> <ul style="list-style-type: none"> <li>a combination of ten (10) dust deposition gauges around the project area and a high-volume sampler located at Buttai to the south of the project area to monitor the dust emissions from the project activities</li> <li>A protocol for evaluating compliance (page 7)</li> </ul> <p>Photographs of instruments and data from all monitoring have been reviewed, demonstrating that the Proponent has implemented the monitoring program during the audit period.</p> <p>The monitoring is carried out in accordance with the relevant monitoring standards. PA 07_0087 includes incremental impact assessment criteria however the Air Quality Monitoring Program does not identify how the incremental impact of the mine is</p>
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Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
				<p>calculated.</p> <p><b>Recommendation: It recommended the protocol in the Air Quality Monitoring Program is updated to provide clarity on how the incremental impact is determined so that compliance with the air quality impact assessment criteria in PA 07_0087 can more easily be evaluated.</b></p> <p><b>Recommendation: It recommended Air Quality Monitoring Program to be updated to include the locations of the two DustTrak monitors and meteorological station.</b></p> <p><b>Recommendation: It is recommended the Air Quality Monitoring Program include a description on how extraordinary events are identified.</b></p>
Meteorological Monitoring				
17	During the project, the Proponent <b>must</b> ensure there is a suitable continuously operating meteorological station on or adjacent to the site that complies with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales (DEC, 2007), or its latest version, to the satisfaction of the <b>Secretary</b> .		Compliant	A meteorological station is located on site and monitors rainfall, temperature, relative humidity, wind speed and wind direction. Real-time data are available on a dedicated website – sample data were viewed. A field calibration report for the meteorological station (dated 11/05/2021) was sighted.
WATER MANAGEMENT				
Discharge				
18	Except as may be expressly provided for by an EPL, or in accordance with section 120 of the Protection of the Environment Operations Act 1997, the Proponent <b>must</b> not discharge any mine water from the site. However, water may be transferred between the site and the adjoining Donaldson Coal Mine and/or Abel Coal Mine, in accordance with any approved Water Management Plan (see below).	<p>Discharge records from 2018, 2019, 2021</p> <p>Examples of daily discharge Mine Water Discharge Sheets</p> <p>Notification to EPA and DPIE for Incidents</p>	<b>Non-Compliant</b>	<p>Mine water is discharged in accordance with conditions P1, L2 and L3 of EPL 396. These conditions allow discharge of 40 ML of mine water per day, within water quality limits, dependent on rainfall.</p> <p>Discharge records from 8 November 2018 through to 15 October 2021 indicate compliance with EPL volume, water quality limits and rainfall criteria with the exception of an incident recorded against the EPL on 21 and 22 March 2021:</p> <ul style="list-style-type: none"> <li>On 21 March 2021 and 22 March 2021 two licenced discharges occurred following heavy rainfall with discharged water exceeding the Criteria for TSS. On 21 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l) and on 22 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l). This was reported to the EPA under the EPL.</li> </ul> <p>Further two incidents related to uncontrolled release of water from site were also reported during the audit period:</p> <ul style="list-style-type: none"> <li>On 23 February 2021 during a routine inspection undertaken by DPIE two sediment dams were passively seeping water. This was notified to the Secretary EPA, RR and Maitland Council on 23 March 2021.</li> <li>On 20 March 2021 following heavy periods of rainfall, the overland dam was passively spilling and this was notified to the Secretary, EPA, RR and Maitland Council on 22 March 2021.</li> </ul> <p><i>Note: Data review identified that incorrect date recorded for discharge on 21/10/20 (recorded as 21 Sep 20)</i></p>
Water Management Plan				
19	The Proponent <b>must</b> prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must: <ul style="list-style-type: none"> <li>(a) be prepared in consultation with EPA and DoI and be submitted to the <b>Secretary</b> for approval within 6 months of the date of this approval;</li> <li>(b) be prepared by suitably qualified expert/s whose appointment/s have been approved by the <b>Secretary</b>; and</li> <li>(c) include: <ul style="list-style-type: none"> <li>• a Site Water Balance;</li> <li>• an Erosion and Sediment Control Plan;</li> </ul> </li> </ul>	Water Management Plan	<b>Administrative non-compliance</b>	<p>The Water Management Plan (WMP) as required by this condition was to be sent within 3 months of the approval of MOD 4. Email correspondence from Bloomfield to the Secretary was sighted dated 7 November 2018 requesting a 3 month extension.</p> <p>It is noted in preparation of the plan consultation with the EPA (sighted letter dated 19 April 2019) and the DoI (sighted letter 2 July 2019) was undertaken. Feedback from DoI was incorporated into the WMP.</p> <p><b>The revised WMP was not submitted to the Secretary until 19 August 2019 which exceeds the required timeframe required by Schedule 5, Condition 4 to submit within 3 months of approval of MOD 4 (inclusive of the 3 month extension requested).</b></p> <p>Following DPIE review the WMP was approved by the Secretary on the 2 September 2020</p>



Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	<ul style="list-style-type: none"> <li>• a Surface Water Monitoring Plan;</li> <li>• a Ground Water Monitoring Program; and</li> <li>• a Surface and Ground Water Response Plan.</li> </ul> <p>The Proponent must implement the Water Management Plan as approved by the Secretary.</p>			<p>and is included as Appendix G of the WMP.</p> <p>Appendix F of the WMP includes DPE approval of suitably qualified and experienced experts (AECOM personnel) to prepare the WMP dated 19 September 2019. However, the most recent WMP (Rev 1) was prepared by different AECOM personnel, although review of the WMP was undertaken by one of the two DPE approved experts.</p> <p>The Water Management Plan includes the required elements:</p> <ul style="list-style-type: none"> <li>- a Site Water Balance in Part B and in full in Appendix B</li> <li>- an Erosion and Sediment Control Plan in Part C and in full in Appendix C</li> <li>- a Surface Water Monitoring Plan in Part D and in full in Appendix D</li> <li>- a Ground Water Monitoring Program in Part E and in full in Appendix E</li> <li>- a surface and Ground Water Response Plan in Part F and in full in Appendix E</li> </ul> <p>During the audit period, water management has generally been undertaken in accordance with the Water Management Plan and the results reported annually in the Annual Review. However, it is noted that two incidents of uncontrolled mine affected water discharges occurred in February (overflow from the Eastern Dam) and March (overflow from the Overland Dam) of 2021. Reporting of these incidents was undertaken as required and the reports prepared relating to these incidents have been reviewed as part of this audit. Bloomfield has implemented a number of mitigation measures to limit the ongoing likelihood of uncontrolled mine affected water discharges. The mitigation measures implemented are considered appropriate.</p>
<b>Site Water Balance</b>				
20	<p>The Site Water Balance must:</p> <p>(a) include details of: sources and security of water supply; water use and management on site; any off-site water transfers or discharges; and reporting procedures; and</p> <p>(b) describe measures to minimise water use by the project.</p>		Compliant	<p>The Site Water Balance (SWB) is part of the WMP approved by DPIE on 2 September 2020.</p> <p>The SWB includes the elements required by the Project Approval.</p> <p>The Annual reviews for 2018, 2019 and 2020 provide a summary of the operational water balance for each reporting period. The reported controlled discharge volumes were generally consistent with water balance predictions for comparable climatic conditions (i.e. lower discharge volumes in 2019 during drought conditions and higher discharge volumes in 2020 when rainfall was 329 mm above average).</p>
<b>Erosion and Sediment Control</b>				
21	<p>The Erosion and Sediment Control Plan must:</p> <p>(a) be consistent with the requirements of Managing Urban Stormwater: Soils and Construction (Volume 2E – Mines and Quarries) manual (DECC 2008), or its latest version;</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c) describe measures to minimise soil erosion and the potential for transport of sediment downstream;</p> <p>(d) describe the location, function and capacity of erosion and sediment control structures; and</p> <p>(e) describe what measures would be implemented to maintain the structures over time</p>		Compliant	<p>The Erosion and Sediment Control Plan (ESCP) is part of the WMP approved by DPIE on 2 September 2020.</p> <p>While the Erosion and Sediment Control Plan includes the elements required by the Project Approval, there are some aspects of the ESCP that could be considered inconsistent with <i>Managing Urban Stormwater: Soils and Construction Volume 2E – Mines and Quarries</i> (DECC 2008). Section 2.4.2 of the ESCP indicates that the existing sediment dams on site are not actively dewatered, rather, the water in the basins is allowed to infiltrate and evaporate. <i>Managing Urban Stormwater: Soils and Construction Volume 2E – Mines and Quarries</i> (DECC 2008) requires that sediment basins should be dewatered within five days of rainfall to restore basin capacity for containment of the design rainfall event. The design rainfall event adopted by Bloomfield in the approved ESCP is the five day 90<sup>th</sup> percentile rainfall event (while it has not been specified, we would assume that the rainfall depth for this event is based the five day 90<sup>th</sup> percentile rainfall depth for Cessnock of 42.8 mm).</p> <p>Further the ESCP includes the following observation and recommendation: “It was noted that on the CHPP haul road the roadside drainage butted up against the toe of the rehabilitated batter. It is recommended to build up the toe of the rehabilitated batter to act as armouring against the erosive fast flowing runoff water during intense storm events”</p> <p>It was noted and observed during the site inspection that this has not yet been actioned.</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
				<p>If dewatering of sediment dams is not being undertaken, it is considered likely that discharges of water with elevated sediment concentrations could be occurring during rainfall events that do not exceed the sediment dam design rainfall event.</p> <p>Recommendation: It is recommended that sediment dams be dewatered to the site water management system as required by <i>Managing Urban Stormwater: Soils and Construction Volume 2E – Mines and Quarries (DECC 2008)</i>.</p> <p>Recommendation: As per the recommendation in the approved Erosion and Sediment Control Plan within the Water Management Plan Bloomfield should build up the toe of the rehabilitated batter on the main ROM haul road to act as armouring against the erosive fast flowing runoff water during intense storm events</p>
Surface Water Monitoring				
22	<p>The Surface Water Monitoring Program must include:</p> <ul style="list-style-type: none"> <li>(a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the project;</li> <li>(b) surface water and stream health impact assessment criteria;</li> <li>(c) a program to monitor the impact of the project on surface water flows, water quality and stream health; and</li> <li>(d) reporting procedures for the results of the monitoring program</li> </ul>		Compliant	<p>The Surface Water Monitoring Program (SWMP) is part of the WMP approved by DPIE on 2 September 2020.</p> <p>The SWMP includes the elements required by the Project Approval.</p>
Groundwater Monitoring				
23	<p>The Groundwater Monitoring Program must include:</p> <ul style="list-style-type: none"> <li>(a) further development of the regional and local groundwater model;</li> <li>(b) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality (including at any privately owned bores in the vicinity of the site);</li> <li>(c) groundwater impact assessment criteria;</li> <li>(d) a program to monitor the impact of the project on groundwater levels, yield, quality, groundwater dependent ecosystems and riparian vegetation;</li> <li>(e) procedures for the verification of the groundwater model; and</li> <li>(f) reporting procedures for the results of the monitoring program and model verification.</li> </ul>		Non Compliant	<p>The Groundwater Monitoring Program (GMP) is part of the WMP approved by DPIE on 2 September 2020.</p> <p>The GMP includes elements (a) to (d) and (f) required by the Project Approval, however, <b>does not include procedures for the verification of the groundwater model.</b></p> <p><b>Further during review of GWMP and the Annual Reviews it was noted bore IDs did not align.</b></p> <p><b>Recommendation: It is recommended that the GWMP be revised to include procedures for the verification of the groundwater model as required.</b></p> <p><b>It is recommended to ensure consistency that reference to Bore IDs in the GWMP and Annual Reviews be updated correctly for future reporting.</b></p> <p><i>Note: The bore IDs in the GMP do not align with the bore IDs presented in the Annual Reviews. Recommend ensuring consistency for future of bore IDs for future reporting.</i></p>
Surface and Groundwater Response Plan				
24	<p>The Surface and Groundwater Response Plan must describe the measures and/or procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>(a) investigate, notify and mitigate any exceedances of the surface water, stream health and ground water impact assessment criteria;</li> <li>(b) compensate landowners of privately-owned land whose water supply is adversely affected by the project; and</li> <li>(c) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.</li> </ul>		Complaint	<p>The approved Surface Monitoring Program and Ground Water Monitoring Program are part of the WMP approved by DPIE on 2 September 2020. The Surface Monitoring Program and Ground Water Monitoring Program both include response plans that address the requirements of the Project Approval.</p>
LANDSCAPE MANAGEMENT				
Rehabilitation Objectives and Commitments				

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments																
25	<p>The Proponent must rehabilitate the site to the satisfaction of DRG and the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation activities described in the documents listed in condition 2 of Schedule 2 and comply with the objectives in Table 5.</p> <p>Note: The rehabilitation objectives detailed in Table 5 apply to the entire site, including all landforms constructed under either this approval or previous consents. However, they do not require any additional earthmoving works to be undertaken for landforms that have been approved and constructed prior to Modification 4 or under previous consents.</p> <p><i>Table 5: Rehabilitation Objectives</i></p> <table border="1"> <thead> <tr> <th>Feature</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td>All areas of the site affected by the project</td> <td> <ul style="list-style-type: none"> <li>Safe, stable and non-polluting</li> <li>Fit for the intended post-mining land use/s</li> </ul> </td> </tr> <tr> <td>Areas proposed for native ecosystem re-establishment</td> <td> <ul style="list-style-type: none"> <li>Restore self-sustaining native woodland ecosystems characteristic of vegetation communities found in the local area.</li> <li>Establish areas of self-sustaining: <ul style="list-style-type: none"> <li>riparian habitat, within any diverted and/or re-established creek lines and retained water features;</li> <li>potential habitat for threatened flora and fauna species; 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and</li> <li>the risk of flood interaction</li> </ul> </li> </ul>	Creek restoration works		Annual Reviews Mine Operations Plan 2021 - 2023 Rehabilitation Management Plan	Compliant	<p>The rehabilitation objectives for Bloomfield are defined in a range of documents including:</p> <ul style="list-style-type: none"> <li>Mining Operations Plan 2021 – 2023 (MOP Amendment A 30/06/2021)</li> <li>Rehabilitation Management Plan (Version 10 07/05/21) (Schedule 3 Condition 27 of Project Approval)</li> <li>Final Void Management Plan (Version 6 18/05/20) (Schedule 3 Condition 28 of Project Approval)</li> <li>Mine Closure Plan (Version 7 19/05/20) (Schedule 3 Condition 29 of Project Approval)</li> </ul> <p>The rehabilitation objectives are defined in Section 4.3.1, 4.3.2, 4.3.3 and 4.3.4 of the MOP. The objectives include general rehabilitation objectives, landform objectives, vegetation objectives as well as a range of additional objectives. The rehabilitation objectives in the MOP also reference the rehabilitation objectives as detailed in Table 5 of the Project Approval as included in this condition. The final landform for the site is detailed in Plan 4B of the MOP. The 4A and 4B plans are consistent with Appendix 4 of the Project Approval. It is noted that Plan 4B (Final Rehabilitation and Post Mining Land Use Plan) in the MOP provides a consistent final void location to Figure 3 in the Mine Closure Plan and Figure 4 of the Final Void Management Plan.</p> <p>It is noted that the Mine Closure Plan Performance Indicators in Appendix A are inconsistent with the Performance Indicators in Table 15 of the MOP (appears the MOP Criteria have been updated).</p> <p>Bloomfield confirmed during the site inspection that there are no specific vegetation communities being targeted for the final land use. Further, as noted above, there are inconsistent rehabilitation objectives and completion criteria across a range of approved Bloomfield documents including the RMP, MOP and Closure Plan.</p> <p>Consistent with the BCD feedback provided during the preparation for the audit, the current completion criteria does not contain detail regarding which vegetation communities are being targeted for recreation; what success looks like in relation to tree recruitment, canopy species diversity and composition, or how ecosystem function is being measured.</p> <p>There a range of completion criteria which have been developed based on information which could be supported by the establishment of additional baseline data e.g. Ecosystem and Land Use Sustainability Soil criteria are based on ACARP Projects undertaken in 2004, however these criteria are to be calibrated utilising suitable analogue data. Further the tree species assemblages are developed based on comparison to analogue sites however there is only one analogue site established in the rehabilitating monitoring program.</p> <p>The Bloomfield Colliery 2019 Rehabilitation Monitoring Report identified 26 monitoring locations which included a number of rehabilitation sites within the vegetation type “Rehabilitation – Pasture” and “Rehabilitation – Trees over pasture”. The rehabilitation monitoring locations have been established within vegetation of various ages on the site with rehabilitation from 1980 – 2016. There will be additional rehabilitation locations required to be established in 2021 to enable monitoring of rehabilitation which was established in 2020. Whilst there are 26 monitoring locations there are only two analogue locations, one for “Pasture” and another for analogue for “Native Forest”. Given a number of the completion criteria are reliant on comparison of rehabilitation monitoring</p>
Feature	Objective																			
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Creek restoration works																				

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	<ul style="list-style-type: none"> <li>Engineered to be hydraulically and geomorphologically stable</li> <li>Incorporate erosion control measures based on vegetation and engineering revetments</li> <li>Incorporate structures for aquatic habitat</li> <li>Revegetate with suitable native species</li> </ul>			<p>locations to analogue locations, Bloomfield are to review whether additional analogue sites are required. It is recommended that the need for additional analogue monitoring locations is considered as part of the review of performance indicators and completion criteria as referenced below.</p> <p>The Rehabilitation Management Plan states that the intent of the company is to rehabilitate the project area so that a safe and stable landform is provided. This intent does not mention the non-polluting requirement as outlined in table 5 of Sch 3, Cond 25. It is also noted that neither the rehabilitation monitoring program or grazing land monitoring comments on the utilisation of water management structures for grazing. It was noted and observed in the field inspection that significant progress has been made with regard to landform re-establishment throughout 2018, 2019, 2020 and 2021 particularly with regard to the backfilling of the S cut void.</p> <p><b>Recommendation: It is noted that the performance indicators / completion criteria are different in the MOP, Rehabilitation Management Plan (RMP) and Closure Plan for the site. The performance indicators and completion criteria are to be included in revised versions of the documents which are to be developed in accordance regulators authorities as required by the respective Project Approval Conditions.</b></p> <p><b>Recommendation: As noted in Section 7.1 of the MOP, the development and finalisation of the capping design for the U Cut tailings dam is in progress and due for completion by end December 2021. The outcomes of the capping strategy are to be included in an updated MOP to be prepared for the site following the completion of the additional studies scheduled for completion during December 2021, as detailed in Section 8.2.2 of the MOP.</b></p>
	Surface infrastructure of the development	<ul style="list-style-type: none"> <li>To be decommissioned and removed, unless DRG agrees otherwise</li> </ul>		
	Rehabilitation materials	<ul style="list-style-type: none"> <li>Materials from areas disturbed under this consent (including topsoils, substrates and seeds) are to be recovered, managed and used as rehabilitation resources, to the greatest extent practicable</li> </ul>		
	Water quality	<ul style="list-style-type: none"> <li>Water retained on the site is fit for the intended post-mining land use/s</li> <li>Water discharged from the site is suitable for receiving waters and fit for aquatic ecology and riparian vegetation</li> </ul>		
	Community	<ul style="list-style-type: none"> <li>Ensure public safety</li> <li>Minimise adverse socio-economic effects associated with mine closure</li> </ul>		
25A	<p>The Proponent must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable steps must be taken to minimise the total area exposed at any time. Interim stabilisation and temporary vegetation strategies must be employed when areas prone to dust generation, soil erosion and weed incursion cannot be permanently rehabilitated.</p> <p>Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the development.</p>		Compliant	<p>An RMP (Version 10 07/05/21) has been prepared that outlines the objectives and approach to the rehabilitation at the site, including the intent to rehabilitate disturbed areas progressively.</p> <p>The methodology utilised for the completion of the rehabilitation is included in Appendix B of the RMP. This details the process undertaken including bulk shaping, final trim, rock raking, drainage establishment, soil amelioration, topdressing and vegetation establishment. Rehabilitation information to be recorded during the completion of rehabilitation is included in page B12 of the RMP. Rehabilitation record sheets were sighted for the S-Cut high wall and Train Loader rehabilitation undertaken during the audit period.</p> <p>The rehabilitation scheduled for the site is also included in Section 7.3 of the MOP. There is no scheduled rehabilitation to be completed during the MOP term 2021 – 2023, with 39 hectares scheduled to be completed at the cessation of mining operations. The rehabilitation schedule as detailed in Table 19 of the MOP includes:</p> <ul style="list-style-type: none"> <li>2021: 0 ha scheduled</li> <li>2022: 0 ha scheduled</li> <li>2023: 39 ha scheduled</li> </ul> <p>During the audit period the following rehabilitation was undertaken:</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
				<ul style="list-style-type: none"> <li>• 2020 S Cut High Wall (5 hectares – September 2020)</li> <li>• 2021 Train Loader (0.6 hectare – May 2021)</li> </ul> <p>It was noted and observed in the field inspection that significant progress has been made with regard to landform re-establishment throughout 2018, 2019, 2020 and 2021 particularly with regard to the backfilling of the S cut void.</p> <p>Where possible Bloomfield limits the amount of area disturbed at any given time. During the site visit, historical rehabilitation was observed to be effective with vegetation cover established that contains minimal weed species. Gully erosion was observed in a historically rehabilitated area, and a rehabilitation plan for the completion of rectification works has been included as an action within this report.</p> <p>A revision of the MOP is recommended to align the material production and rehabilitation scheduling in the MOP to the proposed production and rehabilitation schedules for the operation. Currently, the MOP has been developed based on maximum production rates however given the proximity of the operation to mine closure the operation should develop a revised MOP to reflect the proposed operational and rehabilitation schedules, as the existing operations are not being undertaken consistent with the production schedules detailed in the MOP.</p> <p>Mining production is being undertaken at a rate which is slower than the predicted schedules in the MOP.</p> <p>The final landform is included in Figure 1 of Appendix 4 of the Project Approval (which provides the Conceptual Final Landform for the operation). This figure from the Project Approval is consistent with Figure 4B of the MOP, which also provides the conceptual final landform for the operations. It is however noted that following Bloomfield submission of the MOP in January 2021, that a revised MOP was prepared to include additional studies which include the completion of a Landform and Rehabilitation Assessment, which includes an objective of confirming if the historical and current landform is consistent with the approved operations. This work is required to be completed by Bloomfield to enable a determination of whether the historical and current landform is consistent with the approved landform.</p> <p><b>Recommendation: Bloomfield to develop a rehabilitation plan for the remediation of the gulying observed to the east of U Cut Tailings Dam. Refer to Section 6.3.5 of the Audit Report.</b></p> <p><b>Recommendation: Undertake and complete the Landform and Rehabilitation Assessment as committed in the MOP. This assessment includes an objective of confirming if the historical and current landform is consistent with the approved operations. The outcomes of this assessment are to be included in a revised MOP to assist in the determination of whether the constructed landform is consistent with approved operations.</b></p> <p><b>Recommendation: In conjunction with the completion of the proposed mitigation measures as detailed Table 20 (Section 9.2) of the Mine Operations Plan, it is recommended Bloomfield align the material balances of production and rehabilitation scheduling in the Mine Operations Plan (which are no longer current due to changes in mine planning, rates of mining and earlier completion of mining) to the new planned production and rehabilitation schedules to achieve the final landform.</b></p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
Landscape Management Plan				
26	<p>The Proponent <b>must</b> prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the <b>Secretary</b> and <b>DRG</b>. This plan must:</p> <p>(a) be prepared in consultation with <b>OEH, DoI and Council</b> by suitably qualified expert/s whose appointment/s have been approved by the <b>Secretary</b>; and</p> <p>(b) include a:</p> <ul style="list-style-type: none"> <li>- Rehabilitation Management Plan to be submitted to the Director-General for approval within 6 months of the date of this approval;</li> <li>- Final Void Management Plan to be submitted to the Director-General for approval by <b>30 June 2012</b>; and</li> <li>- Mine Closure Plan to be submitted to the Director-General for approval by <b>30 June 2012</b>.</li> </ul> <p><b>The Proponent must implement the Landscape Management Plan as approved by the Secretary.</b></p>	Landscape Management Plan (V 7)	<b>Non-Compliant</b>	<p>The Landscape Management Plan was submitted on the 7 November 2018 within the 3-month time frame required by the MOD 4 approval. The revised Landscape Management Plan (Version 7 – 19/15/20) was approved by DPIE on 13 July 2020. Copies of the correspondence are included in Appendix A of the Landscape Management Plan.</p> <p>The original version of the Landscape Management Plan was prepared in consultation with OEH (refer to consultation include in Appendix 1 of the Landscape Management Plan, sighted email correspondence dated 28 April 2010). At the time of the preparation of the original management plan, consultation with DoI and Council was not required. It is noted that following approval of MOD 4 it is now required. <b>There is no evidence of the revised Version 7 of the LMP being prepared in consultation with OEH, DoI and Council.</b></p> <p>The Rehabilitation Management Plan, Final Void Management Plan and Mine Closure Plan are reviewed in conditions 27, 28 and 29 respectively.</p> <p><b>Recommendation: It is recommended the LMP is to be prepared in consultation with OEH, DoI and Council.</b></p>
Rehabilitation Management Plan				
27	<p>The Rehabilitation Management Plan must include:</p> <p>(a) the rehabilitation objectives for the site;</p> <p>(b) a description of the short, medium, and long term measures that would be implemented to rehabilitate the site; and manage the remnant vegetation and habitat on the site;</p> <p>(c) performance and completion criteria for the rehabilitation of the site;</p> <p>(d) a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:</p> <ul style="list-style-type: none"> <li>minimising and rehabilitating disturbed areas;</li> <li>protecting vegetation and soil outside the disturbance areas;</li> <li>undertaking pre-clearance surveys;</li> <li>managing impacts on fauna;</li> <li>landscaping the site to minimise visual impacts;</li> <li>conserving and reusing topsoil;</li> <li>collecting and propagating seed for rehabilitation works;</li> <li>salvaging and reusing material from the site for habitat enhancement;</li> <li>controlling weeds and feral pests;</li> <li>controlling access; and bushfire management;</li> </ul> <p>(e) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(f) a description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(g) details of who would be responsible for monitoring, reviewing, and implementing the plan.</p>	Rehabilitation Management Plan (Version 10) Clearance Permit Form Pre-Clearance Survey and Habitat Tree Documentation Correspondence with RFS	Compliant	<p>The Rehabilitation Management Plan was submitted on the 7 November 2018 within 3 months of the approval of MOD 4. The Rehabilitation Management Plan (Version 10 7/05/21) was approved by DPIE on 8 July 2021. Copies of the correspondence are included in Appendix D of the Rehabilitation Management Plan.</p> <p>(a) Rehabilitation objectives are outlined on page 9 of the RMP.</p> <p>(b) Short, medium and long term management measures for rehabilitation, remnant vegetation and habitat on the site are outlined on page 10 of the RMP.</p> <p>(c) Rehabilitation Completion criteria is addressed in Appendix A of the RMP, however it is noted that the completion criteria within the RMP should be reviewed to ensure alignment with the performance indicators and completion criteria in the MOP.</p> <p>(d) Measures that would be implemented over the next 3 years are outlined on page 12 of the RMP.</p> <p>(e) Page 17 of the RMP outlines the monitoring protocol for the site but the condition specific mentions that the RMP must include “a program to monitor the effectiveness of these measures” referring to the measures outlined in Sch 3, Cond 27 (d).</p> <p>(f) The RMP includes a TARP that proposes mitigation measures to address potential risks associated with rehabilitation.</p> <p>(g) Roles and Responsibilities table on page 8 of the RMP outlines who is responsible for monitoring, reviewing, and implementing the RMP.</p> <p>The Rehabilitation Management Plan requires pre-clearance surveys to be conducted prior to any vegetation clearing works in advance of mining. During the site inspection component of the audit Bloomfield personnel confirmed no vegetation was cleared during this audit period, pers comms G Lamb.</p> <p>The Rehabilitation Management Plan also requires the control of weeds and feral pests. Bloomfield use a Herbicide Record sheet to document any weed/pest control activities undertaken on site. Bloomfield stated during the field inspection that weed spraying is undertaken across the site, however the weed spraying program is not a structured program that is informed by the biennial rehabilitation monitoring program.</p> <p>During the site inspection site personnel advised that there was not currently any topsoil stripping being undertaken at site. The sites soil and material management processes are</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
				<p>detailed in the MOP and the Rehabilitation Management Plan. During the site inspection the topsoil / subsoil stockpiles for the site were observed in the field. The RMP states topsoil stockpiles are to be no higher than 3 metres, during the audit Bloomfield personnel confirmed per comms G Lamb that topsoil stockpiles are less than three metres however there are clay stockpiles on site higher than 3 metres.</p> <p>Subsoil and topsoil stockpiles observed in the field were observed to have no signage and were poorly demarcated with no demarcation present at any of the subsoil or topsoil stockpile locations. Following the site inspection, Bloomfield provided copies of site drawing files to detail the location and approximate volumes of capping and topsoil material, however the volumes were unable to be verified.</p> <p>The Bloomfield Colliery 2019 Rehabilitation Monitoring Report identified 26 monitoring locations which included a number of rehabilitation sites within the vegetation type "Rehabilitation – Pasture" and "Rehabilitation – Trees over pasture". The rehabilitation monitoring locations have been established within vegetation of various ages on the site within rehabilitation from 1980 – 2016. There will be additional rehabilitation locations required to be established in 2021 to enable monitoring of rehabilitation which was established in 2020. Whilst there are 26 monitoring locations there are only two analogue locations, one for "Pasture" and another for analogue for "Native Forest". Given a range of the completion criteria are reliant on comparison of rehabilitation monitoring locations to analogue locations, Bloomfield are to review whether additional analogue sites are required. It is recommended that the need for additional analogue monitoring locations is considered as part of the review of performance indicators and completion criteria as referenced below.</p> <p><b>Recommendation: Site capping material balances to be reviewed following the finalisation of the tailings dam capping strategy. The topsoil balance is also to be reviewed to confirm whether adequate topsoil material is available for the completion of rehabilitation works onsite. If adequate topsoil is not available to achieve the nominated 100 mm placement of topsoil across remaining rehabilitation areas, identify priority utilisation areas or strategies to achieve successful rehabilitation relinquishment utilising the reduced topsoil volumes.</b></p> <p><b>Recommendation: Topsoil and capping materials are to be demarcated and signposted in the field, with the volumes and quality of the material to be recorded as part of the site data management system.</b></p> <p><b>Recommendation: It is noted that the performance indicators / completion criteria are different in the MOP, Rehabilitation Management Plan (RMP) and Closure Plan for the site. The performance indicators and completion criteria are to be included in revised versions of the documents which are to be developed in accordance with regulatory authorities as required by the respective Project Approval Conditions.</b></p> <p><b>Recommendation:</b> It is recommended that Bloomfield undertake a review of the appropriateness of the existing analogue sites to support performance indicators and comparisons for rehabilitation criteria and recommend additional sites as necessary</p>
<b>Final Void Management</b>				
28	The Final Void Management Plan must: (a) justify the final location and future use of the final void;	Final Void Management Plan	Compliant	The Final Void Management Plan was submitted to the Department on the 7 November 2018 within the 3-month time frame required by the MOD 4 approval. The Final Void Management Plan (Version 6 – 18/15/20) was approved by DPIE on 13 July 2020. Copies

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	<p>(b) incorporate design criteria and specifications for the final void based on verified groundwater modelling predictions and a re-assessment of post-mining groundwater equilibration; and</p> <p>(c) describe what actions and measures would be implemented to: minimise any potential adverse impacts associated with the final void; and manage and monitor the potential impacts of the final void</p>			<p>of the correspondence are included in Appendix A of the Final Void Management Plan.</p> <p>(a) The Final Void Management Plan identifies a location for the final void based on two operating scenarios. One scenario assumes that Abel Coal Mine resumes operations (Figure 3) whilst a second scenario assumes that Abel Coal Mine remains in care and maintenance. In the event that Abel Coal Mine resumes operations, a void will be used as an active disposal site for reject material from the washery as approved by the Abel project.</p> <p>(b) Page 7 of the Final Void Management Plan incorporates design criteria and specifications based on groundwater model predictions.</p> <p>(c) Page 10 of the Final Void Management Plan outlines that the monitoring network will be reviewed in consultation with relevant departments to ensure it is appropriate for future use of the final void, prior to the completion of mining operations. This network will operate for 5 years after the cessation of mining.</p> <p>The Final Void Management Plan adequately addresses (a) to (c) as required by this condition.</p> <p>It is noted that Plan 4A (Final Rehabilitation and Post Mining Land Use Plan) in the MOP provides a different final void location to Figure 3 in the Final Void Management Plan.</p> <p><b>Recommendation: Bloomfield to review the location of final void in the MOP and Final Void Management Plan to confirm a consistent void location is identified in each plan. The location shown in the Final Void Management Plan and Mine Closure Plan is inconsistent with the MOP.</b></p>
<b>Tailings Dam Embankment</b>				
28A	Prior to any decision to construct the embankment as described in EA (MOD 4), the Proponent must submit relevant details to the DSC.		Not Triggered	Not yet triggered
<b>Mine Closure Plan</b>				
29	<p>The Mine Closure Plan must:</p> <p>(a) be prepared in consultation with DRG and Council;</p> <p>(b) define the objectives and criteria for mine closure;</p> <p>(c) investigate options for the future use of the site in a manner consistent with the Lower Hunter Regional Strategy (Department of Planning, 2006) and/or other extant regional planning strategies;</p> <p>(d) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local employment levels;</p> <p>(e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and</p> <p>(f) describe how the performance of these measures would be monitored over time.</p>	Mine Closure Plan	<b>Non-Compliant</b>	<p>The revised Mine Closure Plan was submitted on the 7 November 2018 within the 3-month time frame required by the MOD 4 approval. The revised Mine Closure Plan (Version 7) was approved by DPIE on 13 July 2020. <b>Version 7 of the plan was not developed in consultation with DRG and Council, with Appendix B of the Mine Closure Plan noting the most recent consultation being undertaken with DRG and Council in 2012.</b></p> <p>A review of the Mine Closure Plan and how it addresses the requirements of the Project Approval is included below.</p> <p>(a) The Mine Closure Plan was approved by DPIE 13 July 2020. There has been no consultation undertaken with stakeholders including DRG and Council and since 2012, refer to Appendix B of the Mine Closure Plan.</p> <p>(b) The Mine Closure Plan defines the objectives and criteria for mine closure in Appendix A. The objectives for mine closure are inconsistent with the performance indicators and completion criteria included in the MOP. The performance indicators and completion criteria within the Mine Closure Plan are to be reviewed to ensure alignment with the performance indicators and completion criteria in the MOP.</p> <p>(c) Page 8 of the Mine Closure Plan notes that discussions regarding the final land use of the site are ongoing between Bloomfield, the landowners and relevant government</p>



Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
				<p>agencies. Bloomfield state that rehabilitation of the area will enable future development of the site consistent with the strategy.</p> <p>(d) Page 10 of the Mine Closure Plan outlines the mechanisms Bloomfield will utilise to minimise the adverse socio-economic effects associated with mine closure. It is however recommended that this is refined as the site is approaching mine closure.</p> <p>(e) Page 11 of the Mine Closure Plan outlines the ways Bloomfield will minimise/manage the ongoing environmental effects of the project.</p> <p>(f) Page 12 of the Mine Closure Plan outlines that the monitoring network will be reviewed in consultation with DRG and Council to ensure it is appropriate for closure. This network will operate for 5 years after the cessation of mining.</p> <p>The Mine Closure Plan adequately addresses the (a) to (f) as required by this condition although it is recommended that DRG and Council are consulted in future revisions of the MCP. It is also noted that the Mine Closure Plan is recommended to be updated to reflect the outcomes of the Closure Execution Plan as defined in Section 8.2.2 of the MOP, which is due to be completed December 2021, as defined in the MOP.</p> <p><b>Recommendation: The Mine Closure Plan is required to be developed in consultation with DRG and Council. The rehabilitation objectives, performance indicators and completion criteria included in the Mine Closure Plan are also required to be updated to ensure they are consistent with other documents including the MOP and Rehabilitation Management Plan.</b></p> <p><b>Recommendation: The Mine Closure Plan is required to be updated to reflect the outcomes of the Closure Execution Plan as defined in Section 8.2.2 of the MOP, which is due to be completed December 2021 as defined in the MOP.</b></p>
<b>Biodiversity Offsets</b>				
29A	By 31 December 2011, the Proponent must make suitable arrangements to provide appropriate long-term security for the Biodiversity Offset Area (see Appendix 6) to the satisfaction of the Secretary.		Compliant	<p>Bloomfield Colliery has a 40 Ha Biodiversity Offset Area to compensate for vegetation clearing on the mine site. The block is located on Thursbys Road, Congewai, adjacent to the Watagan State Forest. Bloomfield has committed to the long-term protection of the Biodiversity Offset Area by a conservation agreement over the land under Part 4, Division 12 of the <i>National Parks and Wildlife Act 1974</i>.</p> <p>Previous Audit confirmed compliance of Bloomfield Colliery in accordance with this condition (<i>Independent Environmental Audit Bloomfield Colliery November 2018 Umwelt</i>).</p> <p>However, In February 2019 Bloomfield Colliery received a Show Cause letter from DPIE for potentially failing to provide appropriate long-term security for the Biodiversity Offset Area located on Lot 2371 DP 1170348. Bloomfield provided a written response to the letter, which resulted in DPIE issuing a Warning Letter. No further action was taken.</p> <p>Bloomfield Colliery have since engaged with NSW Biodiversity Conservation Trust to provide appropriate long-term security for the Biodiversity Offset Area. Bloomfield are currently in the process of securing management of the site under Part 4, Division 12 of the <i>National Parks and Wildlife Act 1974</i>; however, changes in policy have delayed the process (sighted correspondence dated 11 December 2020).</p> <p><b>Recommendation: It is recommended that Bloomfield finalise the process of securing management of the site under Part 4, Division 12 of the National Parks and Wildlife Act 1974 with BCT.</b></p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
<b>Biodiversity Offset Management Plans</b>				
29B	<p>By 31 December 2011, the Proponent <b>must</b> prepare and implement a Biodiversity Offset Management Plan to the satisfaction of the <b>Secretary</b>. This plan must:</p> <p>(a) <b>be generally consistent with OEH's "Principles for the use of biodiversity offsets in NSW";</b>  (b) <b>include:</b></p> <p>a description of the short, medium and long term measures that would be undertaken to implement the Biodiversity Offset Strategy;</p> <p>detailed performance and completion criteria for the Biodiversity Offset Strategy; and</p> <p>a detailed description of the measures that would be implemented within the Biodiversity Offset Area for:</p> <ul style="list-style-type: none"> <li>-revegetation and regeneration, including (where relevant) establishment of canopy, sub- canopy, understorey and ground cover;</li> <li>-appropriate protection, conservation and management of native vegetation and faunal habitat;</li> <li>-controlling weeds and feral pests;</li> <li>-management of public access; and</li> <li>-bushfire management.</li> </ul> <p>The Proponent <b>must</b> implement the Biodiversity Offset Management Plan as approved by the <b>Secretary</b>.</p>		Compliant	<p>The Biodiversity Offset Management Plan was submitted and approved by DPE within the required timeframe as confirmed by previous Audits.</p> <p>The Biodiversity Offset Management Plan was not revised during the audit period.</p> <p>(a) The plan references the Principles for the use of biodiversity offset areas in NSW.</p> <p>(b)</p> <ul style="list-style-type: none"> <li>- Short, Medium and Long-term Measures (pages 6-7);</li> <li>- Performance and Completion Criteria (page 7);</li> <li>- Description of the measures that would be implemented within the Biodiversity Offset Area for: <ul style="list-style-type: none"> <li>o Regeneration (page 7);</li> <li>o Protection, Conservation and Management (page 8);</li> <li>o Weeds and Feral Pests (page 8);</li> <li>o Public Access (page 8);</li> <li>o Bushfire Management (page 8)</li> </ul> </li> </ul> <p>In accordance with the plan, short term and medium term measures have been undertaken during the audit period including weed and feral animal monitoring, the establishment and maintenance of fencing to prevent the uncontrolled entry of livestock and people and the installation of signage denoting private conservation area</p> <p>It is noted the Biodiversity Offset Management Plan refers to and relies on the three yearly IEA process as an indicator to measure environmental performance of the management of the Offset. Specifically, the approved BOMP states that <i>"The Independent Environmental Audit will be used to monitor the performance of the offset and to assess progress towards the completion criteria. The IEA will determine when the offset area has met the completion criteria"</i>.</p> <p>However, upon review of the adequacy of the management plan during the IEA by the Biodiversity specialist and Umwelt it is considered that relying on the IEA to measure performance of the offset and determine when it has met completion criteria is not appropriate.</p> <p>Further it is noted that this was not included in the agreed scope for the IEA and was not undertaken.</p> <p>While the IEA did review that the key commitments and requirements of the Biodiversity Offset Management Plan have been implemented over the audit period (such as fencing, pest and weed control) the IEA did not have access to or review any ecological monitoring data or performance and completion data for the offset site. The IEA also did not include any inspections or monitoring of the offset site.</p> <p><b>Recommendation:</b></p> <p><b>It is recommended that Bloomfield undertake a review and update to the Biodiversity Offset Management Plan to include an appropriate mechanism and process to monitor the performance of the offset and to assess progress towards the completion criteria.</b></p>
<b>Conservation Bond</b>				
29C	<p>Within 6 months of the approval of the Biodiversity Offset Management Plan, the Applicant <b>must</b> lodge a conservation bond with the Department to ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Offset Management Plan. The sum of the bond <b>must</b> be determined by:</p>		Compliant	<p>Previous Audit confirmed compliance of Bloomfield Colliery in accordance with this condition (Independent Environmental Audit Bloomfield Colliery November 2018 Umwelt).</p> <p>However since 2020 the BCT Offset Conservation Agreement now require a Biodiversity</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	<p>(a) calculating the full remaining cost of implementing the offset strategy; and</p> <p>(b) employing a suitably qualified quantity surveyor to verify these costs, to the satisfaction of the Secretary.</p> <p>If the Biodiversity Offset Strategy is completed to the satisfaction of the Secretary, the Secretary will release the conservation bond. If the Biodiversity Offset Strategy is not completed to the satisfaction of the Secretary, the Secretary will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works.</p>			<p>Stewardship Agreement to include an establishment fee, annual site audit fee and Total Fund Deposit to fund the management actions. Sighted correspondence between BCT and Bloomfield Colliery dated 21 April 2021 show Bloomfield are currently in the process in finalising the new changes.</p> <p><b>Recommendation: It is recommended that Bloomfield finalise the Biodiversity Stewardship Agreement for the offset site with BCT.</b></p>
<b>Biodiversity Credits</b>				
29D	<p>Prior to works commencing for the widening of the haul road and upgrade of the watercourse as described in EA (MOD 4), the Proponent must retire 10 ecosystem credits as listed in the credit profile in Appendix D of EA (MOD 4) in consultation with OEH and in accordance with the Biodiversity Offsets Scheme of the BC Act, to the satisfaction of the BCT and OEH.</p> <p>Note: The listed credits were calculated in accordance with Framework for Biodiversity Assessment of the NSW Biodiversity Offset Policy for Major Projects (OEH, 2014) and may need to be converted to reasonably equivalent 'biodiversity credits', within the meaning of the BC Act, to facilitate retirement.</p>		Compliant	<p>A search of the Ecosystem Credits Register dated 19th October 2021, identified that 10 Credits were issued to Bloomfield Collieries Pty Limited, under agreement ID 404.</p> <p>As the haul road has not been widened, these credits are not required to be retired unless the widening occurs. If it is planned to be widened the credits must be retired prior.</p>
<b>Conservation Funding</b>				
30	<p>Within 6 months of the date of this approval, and again prior to 30 September 2011, the Proponent must provide contributions of \$20,000 to conservation projects within the Cessnock LGA, in consultation with OEH and to the satisfaction of the Secretary.</p>		Compliant	<p>Previous Audit confirmed compliance of Bloomfield Colliery in accordance with this condition (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p>
<b>Heritage</b>				
31	<p>The Proponent must prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with the OEH and the local Aboriginal community and be submitted to the Secretary for approval within 6 months of the date of this approval;</p> <p>(b) include a protocol for the ongoing consultation and involvement of Aboriginal communities in the conservation and management of Aboriginal heritage on site; and</p> <p>(c) describe the measures that would be implemented to protect Aboriginal sites on site, or if any new Aboriginal objects or skeletal remains are discovered during the project.</p> <p>The Proponent must implement the Aboriginal Cultural Heritage Management Plan as approved by the Secretary.</p>		Non-Compliant	<p>The Aboriginal Cultural Heritage Management Plan has not been revised since May 2010 and has not been reviewed and revised following MOD 1, MOD 2, MOD 3 or MOD 4 as required by Schedule 5, Condition 4. Bloomfield noted during the audit that this plan has not progressed due to a conflict in consultation with the Mindaribba Land Council who are required to be consulted in the preparation and revisions to the plan.</p> <p><b>Recommendation: It is recommended Bloomfield Colliery review and update the Aboriginal Cultural Heritage Management Plan in consultation with the Mindaribba Land Council and OEH as required and submit the plan to the Secretary for approval.</b></p> <p><b>As part of this review it is recommended Bloomfield consult with Abel to discuss the status of the regional monitoring network for Aboriginal heritage across the Abel mining area (including Bloomfield) as described in the plan and ensure annual monitoring is being conducted as outlined in the Aboriginal and Cultural Management Plan or make revisions as appropriate to account for current operations.</b></p>
<b>Historic Heritage Condition Surveys</b>				
31A	<p>Within 2 months of approval of Modification 4, the proponent must undertake condition surveys of the:</p> <p>(a) Buttai No 1 and No 2 Reservoirs; and</p> <p>(b) (b) Buttai Cemetery (Wilfred Elliot Private Cemetery), including ay memorial headstones, graves, fences and trees,</p>	<p>Buttai Reservoirs No 1 and No 2 Condition Assessment</p> <p>Buttai Cemetery Condition Assessment</p>	Compliant	<p>A Condition Assessment has been prepared by AECOM for the Buttai Reservoirs No 1 and No 2 and a separate Condition Assessment has been prepared for the Buttai Cemetery. The final versions of these reports are dated 04 October 2018 and 12 October 2018 respectively.</p> <p>The reports were prepared within 2 months of the approval date of Modification 4 (16 August 2018). The final copies of the reports were submitted to DPIE for review on the 18 October 2018.</p> <p>Bloomfield are yet to receive feedback from the Secretary.</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	To the satisfaction of the Secretary	Email Correspondence 18/10/2018		<b>Recommendation: It is recommended that Bloomfield seek confirmation from the Secretary that the requirements of this condition have been addressed to their satisfaction.</b>
<b>Historic Heritage Conservation Management Plan</b>				
31B	<p>The Proponent must prepare a Historic Heritage Conservation Management Plan for the Buttai No 1 and No 2 reservoirs and the Buttai Cemetery, to the satisfaction of the Secretary: This plan must:</p> <p>(a) be prepared by a suitably qualified and experienced person/s;</p> <p>(b) be prepared in consultation with OEH, Hunter Water, Council and relevant landowners;</p> <p>(c) be prepared in accordance with Heritage Council of NSW guidelines (where relevant);</p> <p>(d) outline the results of the condition surveys required under condition 31A of Schedule 3;</p> <p>(e) include a program for the regular monitoring of the condition of the No 1 and No 2 reservoirs throughout the life of the project; and</p> <p>(f) include a contingency plan in the case of any damage to the No 1 or No 2 reservoirs, or Buttai Cemetery caused by Modification 4.</p> <p>The Proponent must implement the Historic Heritage Conservation Management Plan as approved by the Secretary.</p>	<p>Historic Heritage Conservation Management Plan</p> <p>DPIE correspondence</p> <p>Minutes Hunter Water</p> <p>OEH (Heritage Division), Hunter Water, Cessnock Family History Group/Cessnock and District Historical Society and Cessnock City Council with correspondence letters</p>	Compliant	<p>The Historic Heritage Conservation Management Plan has been prepared by J.McDonough and M. Kiejda who have a combined experience of over 30 years in environmental impact assessment and management for mining and infrastructure projects. The plan has been reviewed by Dr Mary-Jean Sutton who has over 20 years' experience in Aboriginal and historical heritage assessment and management for infrastructure projects.</p> <p>The plan has been prepared in consultation with OEH (Heritage Division), Hunter Water, Cessnock Family History Group/Cessnock and District Historical Society and Cessnock City Council with correspondence letters dating 05 April 2019.</p> <p>The plan has been prepared in accordance with Heritage Council Guidelines as outlined in Section 2.3.</p> <p>Outline of results of condition surveys is shown in section 4.</p> <p>A monitoring program is detailed in section 5.1, which outlines monitoring requirements and process for annual inspections to be undertaken to assess the condition of the sites.</p> <p>The contingency plan for managing impacts to historic heritage items as a result of Bloomfield Colliery operations is presented as a Trigger Action Response Plan in Table 5-2 and Table 5-3 in the plan.</p> <p>The HHCMP was submitted to the Secretary in November 2019, with an updated version resubmitted in April 2021. Following submission the Department provided feedback for incorporation into the plan dated 16 July 2021 and required the feedback and additional information be provided in the plan by 2 August 2021.</p> <p>The plan was resubmitted in August 2021 and approval of the HHMP was received from DPIE (following the site audit) on 15 December 2021.</p>
<b>Visual</b>				
32	<p>The Proponent must:</p> <p>(a) take all reasonable and feasible measures to mitigate visual and off-site lighting impacts of the project; and</p> <p>(b) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Secretary.</p>		Compliant	<p>During the site visit and following review of aerial photography and plans in the EA's it is noted that the operational areas of the site are well shielded from sensitive receivers and a review of the sites complaints and incident register no complaints or incidents have been recorded with regard to visual or lighting impacts within the audit period.</p>
<b>GREENHOUSE GAS</b>				
<b>Energy Saving Action Plan</b>				
33	<p>The Proponent must prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Secretary This plan must:</p> <p>(a) be prepared in accordance with the Guidelines for Energy Savings Action Plans (DEUS, 2005), or its latest version, and be submitted to the Director-General for approval within 6 months of the</p>	<p>Energy Savings Action plan 08/09/2011</p>	Non-Compliant	<p><b>The Energy Savings Action Plan has not been submitted to the Secretary within 3 months of the approval of MOD 4 (as required by Schedule 5, Condition 4). The most recent revision of the plan was approved (version 2) by the Secretary on the 8 September 2011.</b></p> <p><b>Its noted the existing plan does not include an appropriate program to monitor the</b></p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	<p>date of this approval;</p> <p>(b) include consideration of energy use by mobile equipment;</p> <p>(c) include a program to monitor the effectiveness of measures to reduce energy use on site.</p> <p>The Proponent must implement the Energy Savings Action Plan as approved by the Secretary.</p>			<p>effectiveness of energy saving measures implemented or an effort to continually improve performance onsite.</p> <p><b>Recommendation: It is recommended that the Energy Savings Action Plan should be reviewed and revised in accordance with the requirements of this condition and submitted to the Secretary for approval. The revised plan should consider energy use by mobile equipment and include a details of a program to monitor the effectiveness of measures to reduce energy use on site</b></p>
<b>Waste Minimisation</b>				
34	<p>The Proponent must:</p> <p>(a) monitor the amount of waste generated by the project;</p> <p>(b) investigate ways to minimise waste generated by the project;</p> <p>(c) implement all reasonable and feasible measures to minimise waste generated by the project; and</p> <p>(d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary</p>	<p>Australian waste oil refineries collection records Feb 2019- Dec 2019</p> <p>Remondis collection record oct 2018 – June 2021</p> <p>Southern oil collection records</p> <p>Southern Oil collection record</p> <p>Australian Waste Oil Refineries collection record</p> <p>Australian Waste Oil Refineries collection record</p> <p>Australian Waste Oil Refineries collection reco</p> <p>Australian Waste Oil Refineries collection record</p>	Compliant	<p>Management of Waste from the Bloomfield site is undertaken by Remondis for the collection and disposal of general waste, paper and cardboard and oil filter bins.</p> <p>Waste oil is collected from the Bloomfield site by Australian Waste Oil Refineries.</p> <p>Sighted waste records for the audit period:</p> <ul style="list-style-type: none"> <li>- Australian Waste Oil Refineries collection record for the period 08 February 2019 – 17 December 2019</li> <li>- Remondis collection record for the period October 2018 – June 2021</li> <li>- Southern Oil collection record dated 11 March 2020 and 06 January 2021</li> </ul> <p>Waste Management is reported annually in the Annual Reviews in Section 4.6.</p>
<b>Schedule 4 Additional Procedures</b>				
<b>Notification of Landowners</b>				
1	<p>If the results of the monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, except where a negotiated agreement has been entered into in relation to that impact, then the Proponent must, as soon as practicable and no longer than 7 days of obtaining the monitoring results, notify the Secretary, the affected landowners and tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3 and publish the results on its website.</p>		Compliant	<p>All noise results were compliant during the audit period.</p> <p>Noise monitoring results are available on Bloomfield’s annual reviews located on their website.</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
2	If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant air quality impact assessment criteria in schedule 3, then the Proponent <b>must</b> send the relevant landowners and tenants (including tenants of mine owned properties) a copy of the NSW Health fact sheet entitled "Mine Dust and You" (and associated updates) in conjunction with the notification required in condition 1.		Complaint	A review of the 2018, 2019 and 2020 Annual Reviews identified a number of events that exceeded air quality criteria. All of these events were attributed to bushfire or regional dust events. No exceedances were identified to be attributed to the project.
Independent Review				
3	<p>If a landowner considers the project to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the <b>Secretary</b> in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the <b>Secretary</b> is satisfied that an independent review is warranted, the Proponent <b>must</b> within 2 months of the <b>Secretary's</b> decision:</p> <p>(a) consult with the landowner to determine his/her concerns;</p> <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the <b>Secretary</b>, to conduct monitoring on the land, to:</p> <p>determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and</p> <p>identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and</p> <p>(a) give the <b>Secretary</b> and landowner a copy of the independent review.</p> <p>If the <b>Secretary</b> is not satisfied that an independent review is warranted, the <b>Secretary</b> will notify the landowner in writing of that decision, and the reasons for that decision, within 21 days of the request for a review.</p>		Not triggered	This condition was not triggered during the audit period.
4	<p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent <b>must</b>:</p> <p>(a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria and conduct further monitoring to determine whether these measures ensure compliance; or</p> <p>b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the <b>Secretary</b></p> <p>If further monitoring under paragraph (a) determines that the project is complying with the relevant criteria, then the Proponent may discontinue the independent review with the approval of the <b>Secretary</b>.</p>		Not Triggered	This condition was not triggered during the audit period.
5	<p>If the independent review determines that the relevant impact assessment criteria in schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Proponent <b>must</b>, together with the relevant mine/s:</p> <p>(a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant impact assessment criteria are complied with, and conduct further monitoring to determine whether these measures ensure compliance; or</p> <p>(b) secure a written agreement with the landowner and other relevant mines to allow exceedances of the relevant impact assessment criteria in schedule 3,</p>		Not Triggered	This condition was not triggered during the audit period.

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	to the satisfaction of the <a href="#">Secretary</a> . If the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the <a href="#">Secretary</a>			
<b>Schedule 5 Environmental Management, Monitoring, Reporting &amp; Auditing</b>				
<b>ENVIRONMENTAL MANAGEMENT</b>				
<b>Environmental Management Strategy</b>				
1	<p>The Proponent <b>must</b> prepare and implement an Environmental Management Strategy for the project, to the satisfaction of the <a href="#">Secretary</a>. The strategy must:</p> <p>(a) be submitted to the <a href="#">Secretary</a> for approval within 6 months of the date of this approval;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>- keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>- receive, handle, respond to, and record complaints;</li> <li>- resolve any disputes that may arise during the course of the project;</li> <li>- respond to any non-compliance; and respond to emergencies;</li> </ul> <p>(f) Include:</p> <p><a href="#">References</a> copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and a clear plan depicting all the monitoring to be carried out in relation to the project.</p> <p><a href="#">The Proponent must implement the Environmental Management Strategy as approved by the Secretary.</a></p>	Environmental Management Strategy (V7)	Compliant	<p>The Environmental Management Strategy was submitted to DPIE on 07 November 2018 which was within 3 months of the approval of MOD 4 (as required by Schedule 5, Condition 4). A letter from DPIE dated 13 July 2020 was sighted approving the revised Environmental Management Strategy for the project.</p> <p>The Environmental Management Strategy includes:</p> <ul style="list-style-type: none"> <li>- a strategic framework for environmental management of the project – page 3</li> <li>- identification of the statutory obligations of the project – page 5</li> <li>- description of the roles and responsibilities of key staff members - page 9</li> <li>- description of the procedures in place to response to complaints, disputes, non-compliances or emergencies – pages 10-11</li> <li>- reference to the monitoring required - page 10</li> </ul>
<b>Management Plan Requirements</b>				
2	<p>The Proponent <b>must</b> ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <p>a) detailed baseline data;</p> <p>(b) a description of:</p> <p>the relevant statutory requirements (including any relevant approval, licence or lease conditions);</p> <p>any relevant limits or performance measures/criteria;</p> <p>the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;</p> <p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <p>impacts and environmental performance of the project;</p> <p>effectiveness of any management measures (see (c) above);</p> <p>(e) a contingency plan to manage any unpredicted impacts and their consequences;</p> <p>(f) a program to investigate and implement ways to continually improve the environmental</p>		Non-compliant	<p>A review of the following management plans was conducted as part of the audit:</p> <ul style="list-style-type: none"> <li>- Aboriginal Cultural Heritage Management Plan (25/05/2010 V6)</li> <li>- Air Quality Management Plan (15/05/20 V9)</li> <li>- Blasting Monitoring Program (15/05/2020 V8)</li> <li>- Biodiversity Offset Management Plan (16/11/2017 V4)</li> <li>- Environmental Management Strategy (15/05/2021 V7)</li> <li>- Final Void Management Plan (18/05/2021 V6)</li> <li>- Historic Heritage Management Plan (21/04/2019 V4)</li> <li>- Landscape Management Plan (19/05/2021 V7)</li> <li>- Mine Closure Plan (19/05/2020 V7)</li> <li>- Noise Monitoring Plan (15/03/2021 V4.5)</li> <li>- Rehabilitation Management Plan (07/05/2021 V10)</li> <li>- Water Management Plan (13/08/2020 V1)</li> <li>- Energy Savings Action Plan 08/09/2011 V2)</li> </ul> <p>Majority of these Bloomfield Management Plans have been prepared in accordance with the requirements of this condition and contains:</p> <p>a) Where relevant, baseline data is included in the management plans.</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	<p>performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <p>incidents;</p> <p>complaints;</p> <p>non-compliances with statutory requirements; and</p> <p>exceedances of the impact assessment criteria and/or performance criteria; and</p> <p>(h) a protocol for periodic review of the plan.</p>			<p>b) Section detailing the Statutory requirements and any relevant approval conditions are included</p> <p>c) Section on the applicable management measures (e.g. air quality monitoring, noise monitoring etc.)</p> <p>d) monitoring programs for the parameters to be measured (e.g. quarterly sampling) to assess the impacts of the operations</p> <p>e) contingency plans are detailed in the EMS and where relevant, in the management plans</p> <p>f) Continual improvement is addressed in each management plan including exceedances and non-compliances, incidents and investigations.</p> <p>g) Systems review and continual improvement is considered in each management plan where conditions of review are outlined. The EMS also contains this detail.</p> <p><b>The Aboriginal Cultural Heritage Management Plan and Historic Heritage Management Plan have not been approved and as such cannot be assessed under this condition for more detail refer to 31 and 31B respectively for more detail. As these plans are revised in preparation for resubmission it is recommended that the revisions address the requirements for Schedule 5, Condition 2.</b></p> <p><b>The Energy Actions Saving Plan provides no evidence of an appropriate program to monitor the effectiveness of energy saving measures implemented or an effort to continually improve environmental performance onsite.</b></p> <p><b>Recommendation: It is recommended the Bloomfield colliery construct and implement a program to monitor energy saving measures in order to fulfill the requirements of Schedule 5, Condition 2</b></p>
Annual Review				
3	<p>Each year, the Proponent <b>must</b> review the environmental performance of the project to the satisfaction of the <b>Secretary</b>. This review must:</p> <p>(a) describe the works that were carried out in the past year, and the works that are proposed to be carried out over the next year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the mine complex over the past year, which includes a comparison of these results against the relevant statutory requirements, limits or performance measures/criteria;</p> <p>the monitoring results of previous years; and the relevant predictions in the <b>documents listed in condition 2 of Schedule 2</b></p> <p>(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measure will be implemented over the next year to improve the environmental performance of the project.</p>	<p>Annual Review 2018</p> <p>Annual Review 2019</p> <p>Annual Review 2020</p> <p>DPIE AR Acceptance Letter 2019</p> <p>DPIE AR Acceptance Letter 2020</p> <p>DPIE AR Acceptance Letter 2021</p>	Compliant	<p>Relevant to the audit Annual Reviews have been completed for 2018, 2019 and 2020 and include:</p> <p>a) Works carried out in the past year and proposed works</p> <p>b) Review of monitoring results and complaints</p> <p>c) Non-compliances for the reporting period</p> <p>d) Trends in monitoring data</p> <p>e) Discrepancies</p> <p>f) Proposed measures</p> <p>Sighted correspondence (n.d.) from DPIE approving the 2018 Annual Review.</p> <p>Sighted correspondence (14 May 2020) from DPIE approving the 2019 Annual Review.</p> <p>Sighted correspondence (07 July 2021) from DPIE approving the 2020 Annual Review.</p>
Revision of Strategies, Plans and Programs				
4	<p><b>Within three months of:</b></p> <p>(a) the submission of an annual review under Condition 3 above;</p> <p>(b) the submission of an incident report under Condition 6 below;</p> <p>(c) the submission of an audit report under Condition 7 below, or</p> <p>(d) any modification of the conditions of this approval (unless the conditions require otherwise),</p>		Non-compliant	<p><b>As required by this condition within 3 months of the approval of MOD 4 Bloomfield has submitted revised management plans for the majority of plans under this consent to the Secretary for approval with the exception of the Aboriginal Cultural Heritage Management Plan (dated May 2010) and the Energy Savings Action Plan (dated September 2011).</b></p>



Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	<p>the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i></p>			<p>Recommended actions to address the above are included against Schedule 3 Condition 31 and 33 respectively.</p> <p>Further it is noted that following the submission of the annual reviews and incident reports during the audit period it is not evident that management plans have been reviewed as required by (c) of this condition.</p> <p>Recommendation: It is recommended Bloomfield develop and implement an appropriate review tracking system to monitor and track plans and document reviews to demonstrate compliance with the requirements of this condition.</p>
<b>Community Consultative Committee</b>				
5	<p>Within 3 months of the date of this approval, the Proponent <b>must</b> establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Secretary The CCC must be operated in general accordance with the Department's Community Consultative Committee Guidelines: State Significant Projects (2016).</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>• The CCC is an advisory committee only.</li> <li>• In accordance with the guidelines, the committee should comprise an independent chair and appropriate representation from the Proponent, Council and the local community.</li> <li>• The CCC may also be combined with any similar CCC for the Donaldson Coal Mine or the Abel Coal Mine.</li> </ul>	CCC Meeting minutes 11 March 2019 – 21 June 2021	Compliant	<p>Confirmed that the CCC has been maintained and operated as required during the audit period with the exception of March 2020, where the meeting was cancelled due to the COVID-19 Pandemic.</p> <p>The Independent Chair appointed to the CCC is Ms Margaret MacDonald-Hill held her position of independent chair as confirmed in the previous audit. She was later proceed by Lisa Andrews who is the current Independent Chairperson from the March 2021 (meeting 33).</p> <p>Sighted CCC meeting minutes from:</p> <ul style="list-style-type: none"> <li>- 11 March 2019</li> <li>- 24 June 2019</li> <li>- 28 October 2019</li> <li>- 23 March 2020 (Meeting Cancelled)</li> <li>- 22 June 2020</li> <li>- 19 October 2020</li> <li>- 22 March 2021</li> <li>- 21 June 2021</li> </ul>
<b>Incident Reporting</b>				
6	<p>The Proponent <b>must</b> notify the Secretary and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent <b>must</b> provide the Secretary and any relevant agencies with a detailed report on the incident.</p>	Email Correspondence	<b>Non- Compliant</b>	<p>During the audit period two incidents related to uncontrolled release of water from site were reported to the Department as follows:</p> <ul style="list-style-type: none"> <li>• On 23 February 2021 during a routine inspection undertaken by DPIE two sediment dams were passively seeping water. This was notified to the Secretary EPA, RR and Maitland Council on 23 February 2021 with a detailed report provided to the Department on 2 March 2021</li> <li>• On 20 March 2021 following heavy periods of rainfall, the overland dam was passively spilling and this was notified to the Secretary, EPA, RR and Maitland Council on 22 March 2021.with a detailed report provided to the Department on 26 March 2021</li> </ul> <p><b>A third incident occurred during the audit period against the EPL:</b></p> <ul style="list-style-type: none"> <li>• On 21 March 2021 and 22 March 2021 two licenced discharges occurred following heavy rainfall with discharged water exceeding the Criteria for TSS. On 21 March 2021 the water released recorded TSS at 78mg/l (criteria 30mg/l) and on 22 March 2021 the water released recorded TSS at 74mg/l (criteria 30mg/l). This was reported to the EPA under the EPL.</li> </ul>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
				<p>This incident that was associated with the project was not reported to the Department as required by this condition.</p> <p><b>Recommendation: It is recommended that Bloomfield notify the Department and Resource Regulator of the TSS exceedances that occurred against the EPL for the Project.</b></p>
<b>Independent Environmental Audit</b>				
7	<p>Every 3 years, unless the <b>Secretary</b> directs otherwise, the Proponent <b>must</b> commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <p>(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the <b>Secretary</b>;</p> <p>(b) include consultation with the relevant agencies <b>and the CCC</b>;</p> <p>(c) assess the environmental performance of the project and assess whether it is complying with the requirements in relevant project approvals and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);</p> <p>(d) review the adequacy of strategies, plans or programs required under these approvals; and</p> <p>(e) recommend appropriate measures or actions to improve the environmental performance of the mine complex, and/or any assessment, plan or program required under these approvals.</p> <p><i>Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the <b>Secretary</b>.</i></p>		Compliant	<p>Independent Environmental Audit was conducted by Umwelt on 1 November 2021 and satisfies the requirements of this condition.</p> <p>a) Daniel Sullivan (Lead Auditor), Joshua Wheatley (Assistant Auditor), Luke Bettridge (Rehabilitation Specialist), Shane Lakmaker (Air Quality Specialist), Tim Procter (Noise Specialist), Chris Bonomini (Surface Water/Hydrology Specialist), and Arne Bishop (Biodiversity Specialist) were granted DPIE approval to conduct the Independent Environmental Audit of the Bloomfield operations in correspondence from the Department dated 27 August 2021</p> <p>b) Consultation was undertaken with DPIE, BCD, Resource Regulator, EPA, Cessnock City Council, and the CCC as part of the audit.</p> <p>c) Environmental Performance of the project was assessed against Project Approval Conditions, EPL396 conditions, Mining Lease conditions</p> <p>d) Review strategies / plans / programs for adequacy – refer to Schedule 3 Conditions 4, 14, 16, 19, 26, 29B, 31, 31B, 33 and Schedule 5 Condition 1.</p> <p>e) Measures and/or actions to improve environmental performance have been recommended as part of this audit report as referenced within these compliance tables and the main volume of the audit report (refer Section 7 of the main audit report).</p>
8	<p>Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the <b>Secretary</b>, the Proponent must submit a copy of the audit report to the <b>Secretary</b>, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the <b>Secretary</b>.</p>	Email Correspondence	Compliant	<p>Sighted submission of Independent Environmental Report to DPIE dated 10 January 2019 and other relevant NSW agencies on the 11 January 2019.</p> <p>Sighted correspondence from the DPIE dated 11 January 2019 to acknowledge receipt of the 2018 Independent Environmental Audit Report.</p>
<b>Monitoring and Environmental Audits</b>				
8A	<p>Any condition of this approval that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&amp;A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.</p> <p><i>Note: For the purposes of this condition, as set out in the EP&amp;A Act, “monitoring” is monitoring of the project to provide data on compliance with the approval or on the environmental impact of the project, and an “environmental audit” is a periodic or particular documented evaluation of the project to provide information on compliance with the approval or the environmental management or impact of the project.</i></p>		Noted	
<b>Access to Information</b>				
9	<p>From the end of 2009, the Proponent <b>must</b> make the following information publicly available on its website:</p> <p>(a) a copy of all current statutory approvals for the project;</p> <p>(b) a copy of the current environmental management strategy and associated plans and programs;</p>		Compliant	<p>Bloomfield provides the information required under this condition on its website: <a href="https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/project-approval">https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/project-approval</a></p>
			Compliant	<p>The Environmental Management Strategy and all relevant management plans are publicly available on the website</p>

Condition Number	Condition	Audit Documents	Compliance	Evidence and Comments
	(c) a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;		Compliant	Blast results and water discharge results are all publicly available on the website with noise monitoring results also available within the annual reviews.
	(d) a complaints register, which is to be updated on a monthly basis;		Compliant	Sighted 2018, 2019, 2020 and 2021 Complaints Register on the Bloomfield website.
	(e) a copy of the minutes of CCC meetings;		Compliant	Minutes from CCC meeting are available on the website including the most recent meeting held in June 2021. <a href="https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/ccc-minutes">https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/ccc-minutes</a>
	(f) a copy of any Annual Reviews (over the last 5 years);		Compliant	Annual Reviews available from 2008-2020 on the website. <a href="https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/annual-review">https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/annual-review</a>
	(g) a copy of any Independent Environmental Audit, and the Proponent's response to the recommendations in any audit; and		Compliant	A copy of the 2013, 2015 and 2018 IEA are available on the website. <a href="https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/independent-review">https://www.bloomcoll.com.au/sustainability/environmental-management/bloomfield-assessments/independent-review</a>
	(h) any other matter required by the <a href="#">Secretary</a>		Compliant	GL confirmed no further matters have been required from the Department to make publicly available.

## Statement of Commitments

SoC Number	Statement of Commitment	Compliance	Evidence and Comments
<b>1</b>	<b>General</b>		
1.1	Bloomfield Collieries Pty Limited ('Bloomfield') will carry out the proposed development generally in accordance with this Part 3A Environmental Assessment ('EA'). If there is any inconsistency between this draft Statement of Commitments and the EA, the draft Statement of Commitments will prevail to the extent of the inconsistency.	Compliant	A review of Appendix 4 of MOD 4 and a review of mining activities during the site visit indicated that mining is occurring within the project approval boundaries as defined in Appendix 4 of the MOD 4 Project Approval.
1.2	<p>Bloomfield will undertake mining within the Project Area, as defined by Figure 2 of the EA. The Project Area includes the following items and their associated mining activities:</p> <p>The current and proposed active open cut coal mining areas; The unshaped and shaped overburden dump areas within the</p> <p style="padding-left: 40px;">Project Area;</p> <p style="padding-left: 40px;">The workshop and surrounding area used for maintenance and fuel storage;</p> <p style="padding-left: 40px;">The road linking the current and proposed coal mining areas with the ROM coal stockpiles adjacent to the coal washery; and</p> <p style="padding-left: 40px;">The road linking the current and proposed coal mining areas to the workshop.</p>		
<b>2.</b>	<b>Production</b>		
2.1	A maximum of 0.88 mtpa ROM coal will be mined from the Bloomfield Mine during Stage 1 with a maximum of 1.3 mtpa ROM coal mined during Stages 2 to 4.	Compliant	Refer to Project Approval Schedule 2 Condition 6. Production Data for ROM coal indicates less than 1.3 Mtpa was mined per year during the audit period.
2.2	Active mining will occur over 4 stages, which total approximately 10 to 21 years. The final (5th) stage is the completion of site rehabilitation.	Compliant	Refer to Project Approval Schedule 2 Condition 5: Mining operations may take place on the site until 31 December 2030.
2.3	All Run-of-Mine ('ROM') coal will be transported by internal haul roads to the approved ROM coal stockpiles at the Bloomfield washery.	Compliant	All Run of Mine coal is transported by internal haul roads to the approved ROM coal stockpiles at the Coal Handling Preparation Plant.
<b>3.</b>	<b>Hours of Operation</b>		
3.1	Bloomfield Mine will operate 24 hours per day, seven days per week.	Compliant	Refer to Project Approval Schedule 2, Condition 7: The Bloomfield Colliery operates 24 hours per day, seven days per week.
<b>4.</b>	<b>Rehabilitation</b>		
4.1	All site rehabilitation, including monitoring and maintenance will be undertaken in accordance with procedures documented in the EA and the existing Bloomfield Rehabilitation Management System.	Compliant	<p>During the audit an inspection of the rehabilitation was undertaken. The inspection reviewed the status of rehabilitation undertaken on site and also considered the outcomes of rehabilitation monitoring and reports developed for the site. Rehabilitation monitoring is undertaken on a biennial basis with rehabilitation monitoring undertaken in 2019. Rehabilitation monitoring has been scheduled for completion in 2021 however was undertaken outside of the audit period.</p> <p>This audit has included a range of recommendations to revise rehabilitation documents developed by the site (refer to Conditions 25 – 30 of this audit report).</p>
4.2	Any additional rehabilitation requirements and plans for this Project will be included in the existing Bloomfield Rehabilitation Management System.		
4.3	Land that has been mined will be rehabilitated to a safe and stable form with a land capability similar to that existing prior to mining, and with a landform compatible with the surrounding landscape.	Compliant	<p>There are selected areas of rehabilitation on site where rehabilitation has progressed. There are older areas of the rehabilitation onsite which are well established and the progression of these sites towards rehabilitation relinquishment is recommended to be reviewed by Bloomfield in consultation with the NSW RR and other stakeholders as appropriate.</p> <p>In accordance with the rehabilitation objectives included in the Project Approval, there are areas on site proposed for native ecosystem re-establishment and areas proposed to be utilised for agricultural land. There are however no nominated land capability criteria identified in the completion criteria included in the MOP.</p>

SoC Number	Statement of Commitment	Compliance	Evidence and Comments
			There are also actions included in this audit report related to the final landform design, refer to actions in Condition 25. <b>Recommendation:</b> Refer to action in Condition 25A.
4.4	Post mining landform and land use plans will be developed in consultation with the landowner and with reference to the objectives of the Lower Hunter Regional Strategy (the Department, 2006).	Compliant	The post mining landform and land use plans are defined in Section 4.2.3 and Section 4.3.4 of the MOP. The final land use will include areas proposed for native ecosystem reestablishment as well as area proposed for agricultural land. The conceptual final landform is identified in Plan 4A and 4B of the MOP. Section 4.2.1 of the MOP states the majority of the mining lease area is owned by Ashtonfields Pty Ltd and any decision regarding post mining landform and land use will take the obligations under the commercial lease agreement between Bloomfield and Ashtonfields Pty Ltd (Ashtonfield Agreement). Section 4.1.1 also notes “if alternative landforms or landuse other than currently approved under the Project Approvals is required under the Ashtonfields Agreement or through the Stony Pinch Consortium that either a modification to the Project Approvals or a new approvals would be required under the Environmental Planning and Assessment Act (1979).”
<b>5.</b>	<b>Final Void</b>		
5.1	The final void will be retained for the deposition of washery reject material in accordance with the Abel Project Approval.	Not Triggered	Not triggered during audit period
5.2	Rehabilitation of the final void forms part of the Abel Project Approval. However, rehabilitation of the tailings filled void at the completion of the Abel Project will remain the responsibility of Bloomfield as outlined in the Draft Bloomfield Closure and Rehabilitation Strategy (Abel).	Not Triggered	Not triggered during audit period
<b>6.</b>	<b>Environmental Management Systems and Plans</b>		
6.1	Bloomfield’s existing environmental management systems, plans and procedures will be applied to this Project and will be amended where relevant to incorporate additional items required to manage, mitigate, or monitor impacts associated with this Project.	Compliant	The Bloomfield Colliery operates under the Bloomfield Environmental Management System and the Environmental Management Strategy prepared in accordance with Schedule 5, Condition 1 of this approval.
<b>7.</b>	<b>Environmental Monitoring and Reporting</b>		
7.1	Bloomfield will undertake ongoing environmental monitoring as detailed in this EA.	Compliant	Bloomfield has undertaken environmental monitoring in accordance with the Environmental Assessment.
7.2	Bloomfield will implement and participate in the actions required for the Integrated Environmental Monitoring Program (‘IEMP’) that forms part of the Abel Project Approval and which includes elements of the Bloomfield Project.	Compliant	Bloomfield and Abel’s noise monitoring is integrated, however both report separately.
7.3	An Annual Environmental Management Report (‘Annual Review’) will be prepared and forwarded to relevant government departments, including the Department. The Annual Review will include a summary of all monitoring undertaken during the year, including a discussion of any exceedances and responses taken to ameliorate these exceedances.	Compliant	Annual Reviews sighted for the audit period (2018, 2019 and 2020) contain monitoring summary and discussion and response of exceedances.
<b>8.</b>	<b>Consultation</b>		
8.1	Bloomfield will continue to consult with the local community throughout the life of the Project.	Compliant	A Community Consultative Committee (CCC) was established for the Project. Quarterly CCC meetings are held quarterly with the most recent meeting held in June 2021.
8.2	A specific representative of Bloomfield will be nominated and contact details provided so that members of the community may contact the mine with questions or complaints if required.	Compliant	The 24 hour Bloomfield Community and Blasting Hotline is provided on the Bloomfield Colliery website and advertised 4 times per year in accordance with Project Approval Schedule 3 Condition 11.
8.3	A record of any complaints received regarding the Project will be retained by Bloomfield for the duration of the Project.	Compliant	Sighted Complaint register which is publicly available on the website. During the audit period 16 complaints have been received regarding Bloomfield Colliery operations.
<b>9</b>	<b>Flora and Fauna</b>		

SoC Number	Statement of Commitment	Compliance	Evidence and Comments
9.1	A Flora and Fauna Management Plan will be developed and implemented prior to any clearing occurring as part of the Project.	Compliant	The Bloomfield Group Permit to Disturb (pre-clearance survey) Attachment to the Land Disturbance Management Procedure is implemented prior to any vegetation clearance that is required. The Land Disturbance Management Procedure (dated 10 October 2012) outlines the controls to be implemented to manage and record disturbance to native vegetation, minimise any associated risk to native fauna populations, and control and record disturbance to Aboriginal artefacts (if encountered). Examples of pre-clearance surveys were reviewed for: - 18 February 2016 - 14 December 2016
9.2	The existing Bloomfield pre-clearance protocol will be implemented prior to any clearing occurring as part of the Project.	Compliant	No vegetation was cleared during this audit period, pers comms G Lamb.
9.3	Bloomfield will commit to commensurate support to the value of \$20,000 for a local activity or program related to biodiversity, to be commenced within the first two years of mining.	Not Triggered	Outside audit period.
<b>10.</b>	<b>Aboriginal Heritage</b>		
10.1	An Aboriginal Heritage Management Plan ('AHMP') will be prepared in consultation with Mindaribba LALC, prior to any Project impacts occurring. This Plan will specify the policies and actions required to mitigate and manage the potential impacts of the Project on Aboriginal heritage. The plan will include:  Procedures for ongoing Aboriginal consultation and involvement; Mitigation measures for the identified and potential Aboriginal evidence; Management procedures for any previously unrecorded evidence or skeletal remains; Training for relevant staff and contractors in their roles and responsibilities under the AHMP; Review of the plan.	Compliant	The original AHMP was prepared and approved with the required timeframe (previous audits confirmed).
10.2	The AHMP will include a program of salvage to be undertaken in the Project Area with representatives of Mindaribba LALC collecting identified stone artefacts from sites B2, B16, B18, B19, B20 and B22 prior to any development impacts occurring.	Complaint	Under the existing Aboriginal Cultural Heritage Plan a program of salvage is included on page 8 under Existing Identified Aboriginal heritage.
10.3	Should any skeletal remains be detected during the Project, work in that location will cease immediately and the finds will be reported to the appropriate authorities, including the Police, OEH and Mindaribba LALC.	Not Triggered	Not triggered during audit period.
10.4	In the event that Aboriginal objects are located during the Project, a protocol to ascertain the value of such finds, in consultation with the Aboriginal community representatives and a qualified archaeologist will be implemented and used to inform any management decision. OEH will be informed of any finds using the appropriate site recording cards.	Compliant	Included on page 8-10 under Identifying Aboriginal Heritage within the Aboriginal Cultural Heritage Plan
10.5	Further consultation with and continued involvement of Mindaribba LALC will be continued through the Project, in relation to the contents and recommendations of Aboriginal Heritage studies.	Compliant	It is noted consultation with the Mindaribba LALC has continued periodically throughout the audit period (sighted email correspondence 22 October 2019). It is recommended consultation continues
<b>11.</b>	<b>Noise Management and Monitoring</b>		
11.1	A Noise Management Plan will be prepared and implemented for the Project. The Plan will include mitigation and monitoring requirements for the Project.	Compliant	Refer to Schedule 3 Condition 4 of the Project Approval.
11.2	The following noise controls will be implemented to achieve noise criteria identified in this EA: During Year 1 (End of Stage 1): The excavator and dump site will be situated in a shielded location during night-time operation; No dozer operation at the drill location will occur during night and morning shoulder periods; and The front end loader will replace the dozer at the dump site during the night-time period unless 4 dBA of noise suppression is achieved. During Year 5 (End of Stage 2): The excavator and dump site will be situated in a shielded location during night-time operation; No dozer operation at	Compliant	The current noise mitigation measures were maintained throughout Stage 2 and will continue over Stage 4 of the project to achieve noise criteria as outlined in the Noise Monitoring Plan.

SoC Number	Statement of Commitment	Compliance	Evidence and Comments
	<p>the drill location will occur during night and morning shoulder periods; and</p> <p>The front end loader will replace the dozer at the dump site during the night-time period unless 4 dBA of noise suppression is achieved.</p> <p>During Year 10 (End of Stage 4):</p> <p>The excavator and dump site will be situated in a shielded location during night-time operation; and</p> <p>No dozer operation at the drill location will occur during the night period.</p>		
11.3	Bloomfield may undertake a noise monitoring and investigation program during the Project, in consultation with <b>OEH</b> and the <b>Department</b> , to determine whether relevant noise criteria can be achieved without the use of the noise controls listed in 11.2. If such a study concludes that relevant criteria can be achieved, the above controls will be modified or removed.	Not Triggered	
11.4	Noise complaints received will be dealt with in accordance with Bloomfield's existing complaints protocol.	Compliant	<p>Bloomfield Colliery's complaint protocol is outlined in the Environmental Management Strategy. Sighted Complaints register (available on website) in compliance with the complaint protocol and records details of the complaint including:</p> <ul style="list-style-type: none"> <li>- Date and time of the complaint</li> <li>- Method by which the complaint was made</li> <li>- Details of the complainant</li> <li>- Nature of the complainant</li> <li>- Actions taken</li> </ul>
<b>12.</b>	<b>Blasting</b>		
12.1	Bloomfield will continue to consult with nearby residents regarding their blasting program, consistent with current practice and the Shot Firing and Explosives Management Plan.	Compliant	Bloomfield Colliery operates a 24 hour blast hotline and publicises blasting results on their website.
12.2	Blasting will only be undertaken during the hours of 9.00 am to 5.00 pm Monday to Saturday. Blasting will not occur on Sundays or Public Holidays.	Compliant	Sighted Blast results for the audit period and all blasting events occurred within the restricted hours.
12.3	Blasts will be designed in consideration of vibration and airblast limits, wind speed and direction.	Compliant	Refer to Schedule 3 Condition 9 of the Project Approval: Bloomfield Colliery use predictive modelling to schedule their blasts
12.4	Blast monitoring will be conducted over the life of the mine in accordance with requirements provided by the Shot Firing and Explosives Management Plan.	Compliant	Blast Monitoring is addressed in the Blast Monitoring Program.
12.5	All relevant personnel will be trained in Bloomfield's environmental obligations in relation to blasting controls.	Compliant	Sighted Employee Induction Training manual which includes blasting training as well as an induction record for all employees that have undertaken the training.
<b>13.</b>	<b>Air Quality</b>		
13.1	An Air Quality Monitoring Program will be prepared and implemented for the Project. The Air Quality Monitoring Program will include monitoring at locations as described in the EA.	Compliant	Refer to Schedule 3 Condition 16 of the Project Approval.
13.2	<p>Dust generation on the Project Area will be minimised by implementation of the following:</p> <p>All vehicles will be operated according to Mine Transport Management Plan, which requires vehicles to remain on specified routes;</p> <p>Disturbed areas will be minimised where possible;</p> <p>Dust suppression water spraying will be used on all active haul roads and stockpile areas where required;</p> <p>All mobile equipment will be maintained in good working order; Adequate stemming will be used in blast holes; and Meteorological conditions will be considered in the timing of blasts to minimise impacts of blast generated dust.</p>	Compliant	<p>Dust minimisation management measures, from include:</p> <ul style="list-style-type: none"> <li>• Use of predictive meteorological modelling software program which forecasts daily weather events, timing of operations are planned around the weather events which may exert dust impacts</li> <li>• Limiting speed limits on haul roads</li> <li>• Rehabilitation of disturbed areas following the completion of mining operations in the area</li> <li>• Utilising water carts</li> </ul>

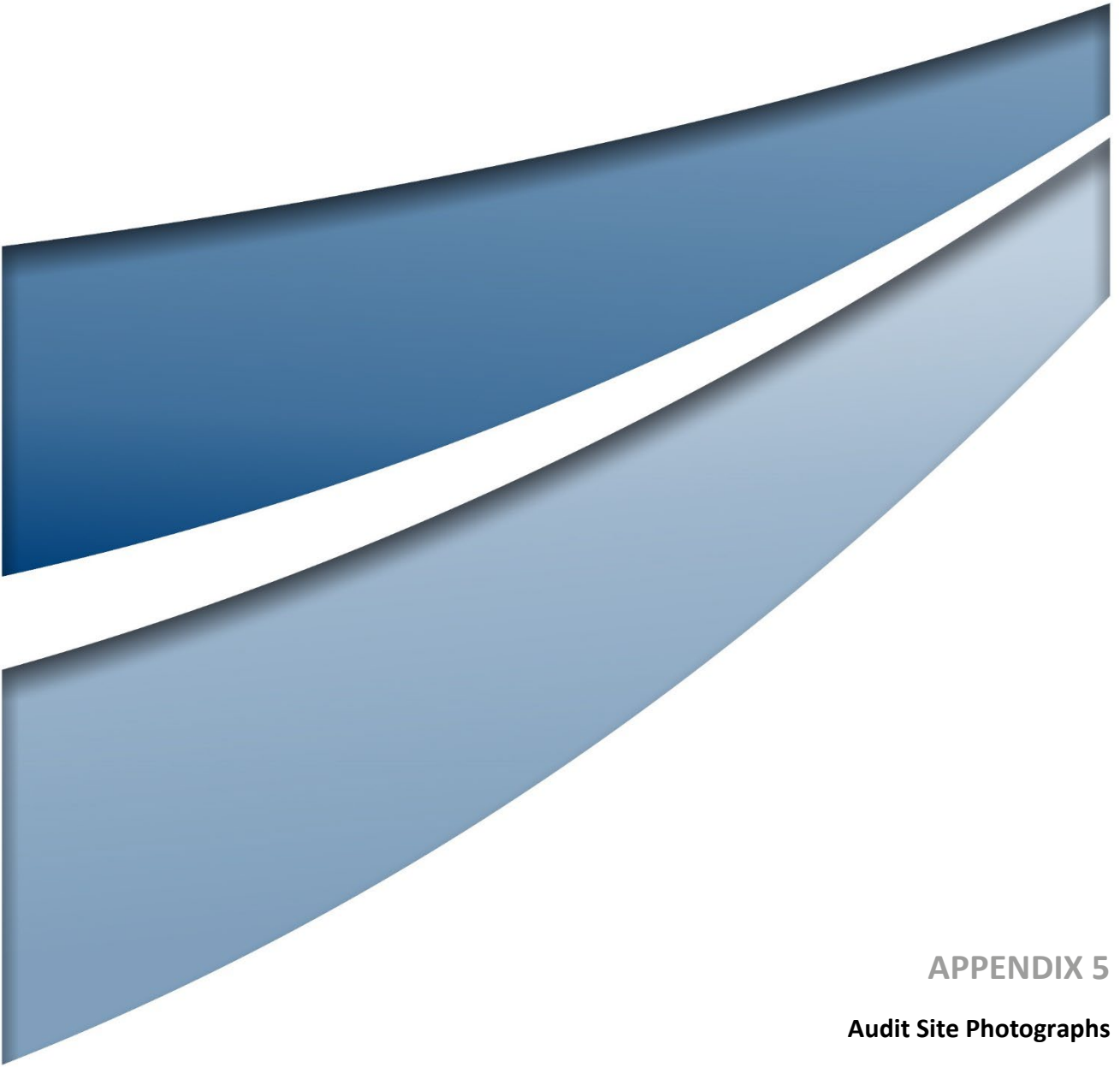
SoC Number	Statement of Commitment	Compliance	Evidence and Comments
			<p>Additional evidence that the proponent is operating Bloomfield mine to minimise dust generation and impacts was as follows:</p> <ul style="list-style-type: none"> <li>• Weather forecasts are being discussed at pre-shift meetings (samples of pre-shift meeting slides were viewed)</li> <li>• The water cart fill point is appropriately positioned for access to the main haul roads</li> <li>• Dust management is being communicated to staff through current induction and training materials</li> <li>• No dust related complaints for the audit period</li> <li>• Stemming is documented in the blast management strategy</li> <li>• Haul roads are being managed and maintained in a manner to minimise dust generation</li> <li>• Progressive rehabilitation is being carried out –</li> </ul>
<b>14.</b>	<b>Greenhouse Gas Monitoring and Energy Efficiency</b>		
14.1	Bloomfield will assess the viability of improving energy efficiency and reducing greenhouse gas emissions from its operations, including the mining fleet, stationary equipment and mining processes.	Compliant	During the audit period relevant measures for improving energy efficiency and reducing GHG emissions include the continued replacement of diesel generators with electrical power sources.
14.2	Bloomfield will monitor greenhouse gas emissions in accordance with the requirements of the current EEO and Greenhouse Challenge Plus programs and comply with any reporting requirements under the <i>NGER Act 2007</i> .	Compliant	Bloomfield undertakes annual reporting requirements in accordance with <i>NGER Act 2007</i> . Sighted receipts for the submission of <i>NGER</i> reports for the 2018-2019 reporting period (29 September 2019), 2019-2020 reporting period (16 October 2020) and the 2019-2020 reporting period (16 September 2021).
<b>15.</b>	<b>Surface Water Management</b>		
15.1	Surface water management for the Project will be undertaken in accordance with Bloomfield's existing Environmental Water Management System ('EWMS'). The EWMS will be modified to address the additional requirements for this Project provided in the Draft Water Management Plan ( <b>Appendix H</b> ).	Compliant	Refer to Schedule 3 Condition 19 of the Project Approval. The most recent version of the WMP was approved by DPIE on 2 September 2020.
15.2	An Erosion and Sediment Control Plan will be prepared that will form part of the EWMS.	Compliant	Refer to Schedule 3 Condition 21 of the Project Approval. The Erosion and Sediment Control Plan is part of the WMP approved by DPIE on 2 September 2020.
<b>16.</b>	<b>Surface Water Monitoring Program</b>		
16.1	Bloomfield's existing EWMS incorporates a Surface Water Monitoring Program which will be implemented for this Project and updated to include the additional monitoring point proposed for this Project in consultation with <b>Dol</b> .	Compliant	Refer to Schedule 3 Condition 22 of the Project Approval. The Surface Water Monitoring Program is part of the WMP approved by DPIE on 2 September 2020.
16.2	A response/mitigation procedure will be developed as part of the EWMS for unforeseen surface or groundwater impacts being detected during the Project.	Compliant	Refer to Schedule 3 Condition 22 of the Project Approval. The Surface Water Monitoring Program and Groundwater Monitoring Program has Trigger Action Response Plans for potential impacts that have been anticipated
<b>17.</b>	<b>Groundwater Monitoring</b>		
17.1	Bloomfield's existing EWMS will incorporate a Groundwater Monitoring Program, developed in consultation with <b>Dol</b> .	Compliant	Refer to Schedule 3 Condition 23 of the Project Approval. The Groundwater Monitoring Program is part of the WMP approved by DPIE on 2 September 2020.
<b>18.</b>	<b>Visual Amenity</b>		
18.1	Visual impacts of the Bloomfield Mine will be mitigated by the following strategies:	Compliant	Rehabilitation of the southern boundary on John Renshaw Drive has



SoC Number	Statement of Commitment	Compliance	Evidence and Comments
	<p>Rehabilitation of the southern boundary of the Project Area adjacent to John Renshaw Drive will be given priority during the early stages of mining;</p> <p>Mobile directional lighting in active mine areas will be directed away from neighbouring properties and roadways; and</p> <p>Complaints regarding lighting will be investigated by Bloomfield during the relevant shift.</p>		<p>progressed and wattle is growing in the area. At the site of site inspection there was no visibility of the mine from the southern boundary.</p> <p>No complaints regarding lighting have occurred during the audit period.</p>
18.2	Tree areas will be incorporated into rehabilitation to assist the visual blending of overburden dumps with the surrounding landscape.	Compliant	Trees have been incorporated into rehabilitation.
<b>19.</b>	<b>Staff Training</b>		
19.1	Bloomfield will ensure that all personnel receive training in their responsibilities to mitigate, manage and monitor potential environmental impacts.	Compliant	Sighted Employee induction records containing environmental training on Environmental objectives and targets, policy, compliance etc.
<b>20.</b>	<b>Integration with Other Mining Operations – Roles &amp; Responsibilities</b>		
0	Bloomfield will implement and participate in the actions required for the Integrated Environmental Monitoring Program ('IEMP') that forms part of the Abel Project Approval and which includes elements of the Bloomfield Project.	Compliant	Noise monitoring at Bloomfield Colliery is conducted in accordance with Abel Underground Coal Integrated Environmental Monitoring Program.
20.2	Bloomfield is responsible for the operation, maintenance and monitoring of all water management systems and structures within its Project Area.	Compliant	Bloomfield conduct weekly tailings dam inspections. Annual surveillance reports are completed for the Tailings Storage Dam and a more comprehensive report is completed every 5 years (GL pers comms).
20.3	Rehabilitation of the final void forms part of the Abel Project Approval. However, rehabilitation of the tailings filled void at the completion of the Abel Project will remain the responsibility of Bloomfield as outlined in the Draft Bloomfield Closure and Rehabilitation Strategy (Abel).	Noted	
<b>21.</b>	<b>Community Enhancement Fund</b>		
21.1	Bloomfield will establish a Community Enhancement Fund (CEF) that will provide a range of practical commitments to local community projects and contributions to the local community.	Compliant	Refer to Schedule 2 Condition 14 of the Project Approval.
21.2	<p>The CEF will comprise two components:</p> <p>Within two years of the Bloomfield Mine being approved, \$180,000 will be provided by Bloomfield for a local infrastructure project within Cessnock Local Government Area, to be determined in consultation with Cessnock City Council.</p> <p>Over a period of ten years from the date of the Bloomfield Mine being approved, \$320,000 will be provided by Bloomfield for a community welfare based charity/s focussed within the Cessnock LGA, to be determined in consultation with Cessnock City Council.</p>	Compliant	Refer to Schedule 2 Condition 14 of the Project Approval.

SoC Number	Statement of Commitment (07_0087 MOD 1)	Compliance	Evidence and Comments
1 General			
1.1	<p>Bloomfield Collieries will carry out the proposed development generally in accordance with the Section 75W Environmental Assessment ('EA') and the Part3A Environmental Assessment (07_0087).</p> <p>If there is any inconsistency between this draft Statement of Commitments and the EA, the Statement of Commitments will prevail to the extent of the inconsistency.</p>	Compliant	<p>The Bloomfield Colliery development is being carried out generally in accordance with the Project Approval 07_0087.</p> <p>No non-compliances against the SOC have been identified during the audit period.</p>
1.2	<p>Bloomfield will undertake mining and rehabilitation activities within the Project Area as defined by the Schedule of Land (Figure 8). The proposed Modification Activities include:</p> <ul style="list-style-type: none"> <li>Upgrade and use of Wattle Tree Drive as an alternative haul route (Area A);</li> <li>Additional overburden emplacement and rehabilitation - east of Save a Mile Haul Road (Area B)</li> <li>Additional out-of-pit landform reshaping and rehabilitation – northern and south-eastern areas (Area C and E)</li> </ul> <p>Construction of a corridor and overhead powerline from an existing powerline onto the open cut mine site, together with some clearing for an associated infrastructure area (Area D)</p>	Compliant	<p>Wattle Tree Drive (Area A) was upgraded but never used as a Haul Road due to the visibility and risk of noise disturbance.</p> <p>East of Save a Mile Haul Road (Area B) was approved and is utilised.</p> <p>Additional out-of-pit landform reshaping and rehabilitation – northern and south-eastern areas (Area C and E) was approved and is utilised.</p>
2. Hours of Operation and Operational Controls			
2.1	<p>Bloomfield Mine will operate 24 hours per day seven days per week except for the proposed Modification Activities.</p> <p>No Modification Activities will occur during the night-time period (10.00pm-6.00am). To manage noise from the various Modification Activities the following hours of operation will be followed:</p> <ul style="list-style-type: none"> <li><u>Wattle Tree Drive construction (Area A) and Powerline Corridor (Area D)</u> <ul style="list-style-type: none"> <li>a. Construction hours (for the powerline corridor and construction of Wattle Tree Drive) will between the hours of 7.00am and 6.00pm Monday to Friday and 8.00am to 1.00pm Saturdays.</li> <li>b. A bund will be constructed adjacent to Wattle Tree Drive and trees will be planted to screen this area, thereby minimising aesthetic impacts and stray light.</li> </ul> </li> <li><u>East of Save-a-Mile haul road (Area B)</u> <ul style="list-style-type: none"> <li>c. Daytime operations (7.00am to 6.00pm Mondays to Saturdays, 8.00am to 6.00pm Sundays) will be in the southern part of the dump to raise the dump and provide screening for the evening (6.00pm-10.00pm) and morning shoulder (6.00am-7.00am) operations.</li> <li>d. The height of the overburden emplacement area will be limited to an RL of 100 metres</li> <li>e. During evening and morning shoulder periods, the following controls will be in place: <ul style="list-style-type: none"> <li>i. the drill and clearing dozer will be worked in a shielded location; dumping will only occur in the northern part of the dump;</li> </ul> </li> </ul> </li> </ul>	Not Triggered	All activities were completed outside the audit period.

SoC Number	Statement of Commitment (07_0087 MOD 1)	Compliance	Evidence and Comments
	<p>ii. the dozer will only operate in a shielded location in the northern part of the dump;</p> <p>iii. an earthen bund will be constructed in the approved dumping area to the south of the existing haul road to a minimum height of 80 metres RL; and</p> <p>iv. There will be no coal haulage from S-Cut during the morning shoulder period.</p> <p><u>Northern area (Area C)</u></p> <p>f. Dumping and rehabilitation during the daytime period only.</p> <p><u>South-eastern area (Area E)</u></p> <p>g. Dumping and rehabilitation during the daytime period only (7.00am to 6.00pm Mondays to Saturdays, 8.00am to 6.00pm Sundays)</p> <p>h. Dumping will be restricted to a maximum of 70 hours of work; and</p> <p>i. A front end loader will replace the dozer at the Area E dump once the emplacement reaches an RL of 52 metres.</p>		
<b>3. Ecology</b>			
3.1	A pre-clearing protocol to protect any threatened species using trees within the powerline clearing area will be implemented during construction of the corridor.	Not Triggered	Not triggered during audit period
3.2	The identified nesting tree adjacent to the powerline clearing area will be protected during construction of the powerline and associated infrastructure to prevent accidental damage by machinery.	Not Triggered	Not triggered during audit period.
3.3	Bloomfield will commit to providing a biological offset to compensate for the loss of native vegetation. The offset will be agreed with and designed to satisfy the requirements of the Department of Planning and generally be consistent with OEH's "Principles for the use of biodiversity offsets in NSW".	Compliant	Bloomfield Colliery has committed to biological offset areas. Previous Audit confirmed compliance of this commitment. ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).
3.4	Bloomfield will commit to providing \$20,000 towards the Stanford Merthyr Conservation Project being managed by the Land and Property Management Group within 6 months of Director General's approval of the modification.	Compliant	Previous Audit confirmed compliance of this commitment. ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).
<b>4. Water Management</b>			
4.1	The existing water drainage channel to Lake Kennerson will be re-routed around the disturbance area prior to commencement of works in the south-eastern area	Compliant	Previous Audit confirmed compliance of this commitment. ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).
4.2	Diversion banks and sediment control measures will be provided at the toe of the proposed batter of the emplacement area adjacent to Save-a-Mile haul road prior to works commencing to protect downstream areas	Compliant	Previous Audit confirmed compliance of this commitment. ( <i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i> ).



**APPENDIX 5**  
**Audit Site Photographs**



**Plate 1 – S Cut Highwall Rehabilitation undertaken in 2020**



**Plate 2 – Historical rehabilitation undertaken in approximately 2010 (Vicinity of Rehabilitation Monitoring Location 10)**



**Plate 3 – Creek Cut mining area shaped in preparation for rehabilitation in Qtr 1 2022**



**Plate 4 – Subsoil material emplaced for spreading – rehabilitation to be undertaken Qtr 1 2022 (Area as also Shown in Plate 3)**



**Plate 5 – Topsoil Stockpiles onsite**



**Plate 6 – Subsoil Stockpiles onsite**



**Plate 7 – Active Mining Area Open Pit “S” Cut**



**Plate 8 – Initial stage of capping on the tailings dam**





**Plate 9 – Tailings dam**



**Plate 10 – Waste hydrocarbon containment area**



**Plate 11 – Workshop**



**Plate 12 – Hydrocarbon storage facility**



Plate 13 – Fuel Farm



Plate 14 – Coal Preparation Plant Area



**Plate 15 – Bunding installed around rail loading facility area**



**Plate 16 – Sediment basins installed around the rail loading facility**



**Plate 17 – Bunding installed on road surrounding rail loading facility**



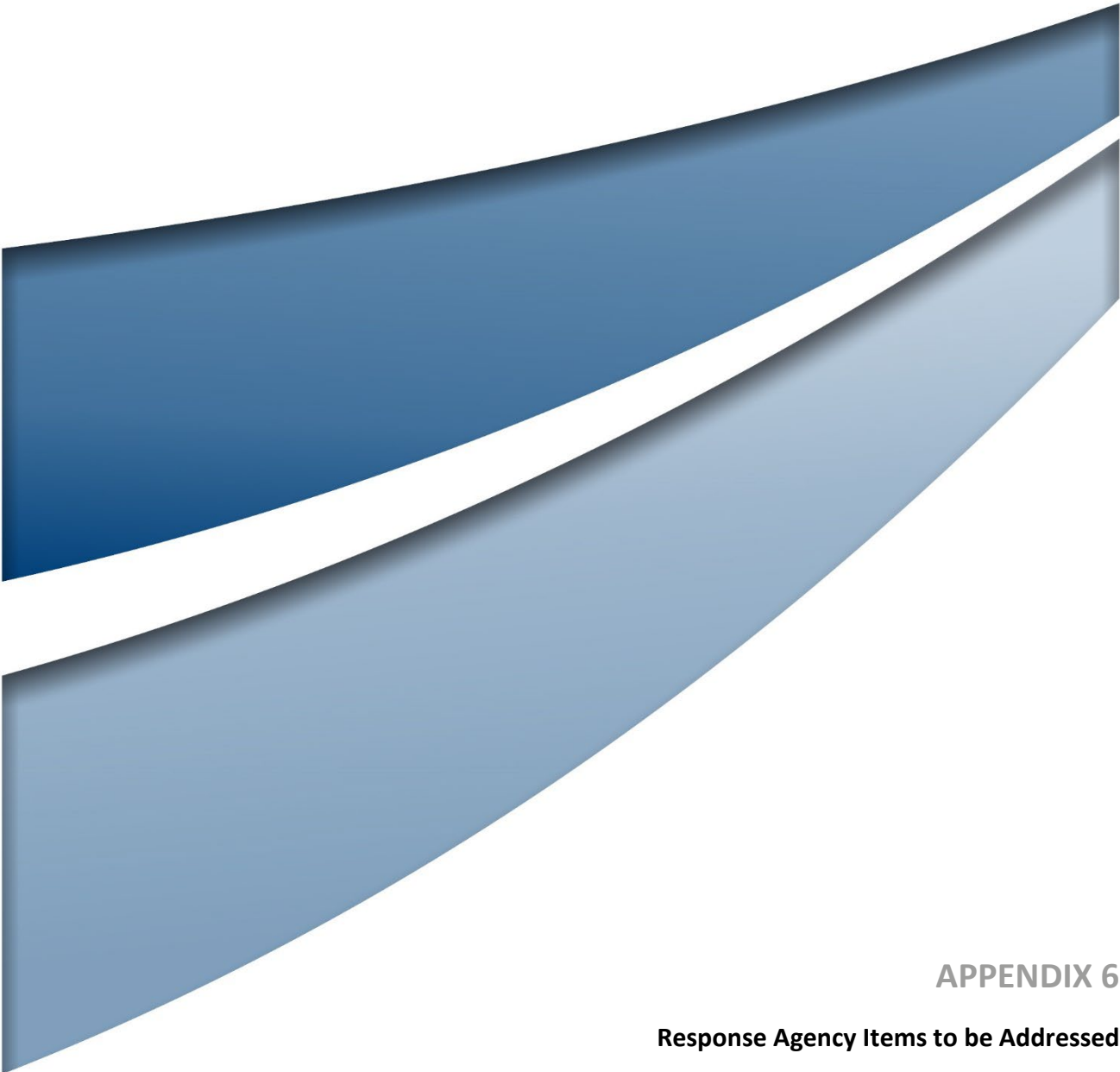
**Plate 18 – Bunding installed on road surrounding rail loading facility**



**Plate 19 – Overland Dam**



**Plate 20 – Overland Dam**



## APPENDIX 6

### Response Agency Items to be Addressed

## Appendix 6 – Response to agency advice and items to be addressed by the audit

Item	Regulator	Comment	Site Inspection Comment
1	Biodiversity Conservation Division	BCD recommends that the Independent Audit checks whether Schedule 3, Condition 29A – securing the biodiversity offset – has been met	This has been included as part of the Biodiversity Assessment which has been conducted as part of the audit.
2	Biodiversity Conservation Division	BCD recommends that the audit reviews the effectiveness of the measures of Performance Indicators and Completion criteria in areas of native ecosystem re-establishment. Objectives of the consent state that the rehabilitation to native ecosystems is to be self-sustaining, with species characteristic of native vegetation communities found in the local area, and in which ecosystem function has been restored. However, Appendix A 'Completion Criteria' of the Bloomfield Mining Operations (Bloomfield Colliery) Rehabilitation Management Plan (dated 07 May 2021) contains no details about which vegetation communities are being targeted for recreation; what success looks like in relation to tree recruitment, canopy species diversity and composition, or how ecosystem function is being measured. Further, no details are provided on the location of plots in the rehabilitation areas and analogue sites, or the data that is being measured there. The provision of such information would help quantify the Performance Indicators and Completion	<p>There has been no consultation undertaken with BCD in regard to the development of the completion criteria for the operation. The completion criteria has been included in the RMP.</p> <p>Bloomfield confirmed during the site inspection that there are no specific vegetation communities being targeted for the final land use. It was also verified by reviewing the relevant EA's that support the approval that no areas of native ecosystem are proposed and for this reason the objectives included in the consent (Table 5, Schedule 3 Condition 25) that refer to rehabilitation to native ecosystems are not considered relevant to Bloomfield's rehabilitation requirements.</p> <p>In accordance with the rehabilitation objectives included in the Project Approval (which refers to rehabilitation having to be consistent with the commitments made in the EIS, Bloomfield has committed to rehabilitate the land to create a stable, undulating landscape with a mix of pasture and tree areas suitable for grazing and general habitat as described in the EIS for Modification 4. In this regard there are no commitments to specific vegetation communities in the MOP.</p> <p>The audit has identified that there are inconsistent performance indicators and completion criteria included across a range of existing and approved Bloomfield documents including the RMP, MOP and Closure Plan.</p> <p>A summary of the rehabilitation monitoring undertaken is included in the sites Annual Review, however the Annual Review does not include the rehabilitation monitoring methodology. The rehabilitation monitoring methodology is included in Section 8.1 of the MOP with the Biennial Rehabilitation Report including figures which identify the location of rehabilitation and analogue sites.</p> <p>The Bloomfield Colliery 2019 Rehabilitation Monitoring Report identified 26 monitoring locations which</p>



Item	Regulator	Comment	Site Inspection Comment
		Criteria for native ecosystem re-establishment.	<p>included a number of rehabilitation sites within the vegetation type “Rehabilitation – Pasture” and “Rehabilitation – Trees over pasture”. The rehabilitation monitoring locations have been established within vegetation of various ages on the site with rehabilitation from 1980 – 2016. There will be additional rehabilitation locations required to be established in 2021 to enable monitoring of rehabilitation which was established in 2020. Whilst there are 26 monitoring locations there are only two analogue locations one for “Pasture” and another for analogue for “Native Forest”. Given a range of the completion criteria are reliant on comparison of rehabilitation monitoring locations to analogue locations, Bloomfield are to review whether additional analogue sites are required. It is recommended that the need for additional analogue monitoring locations is considered as part of the review of performance indicators and completion criteria as referenced below.</p> <p><b>Recommendation: It is noted that the performance indicators / completion criteria are different in the MOP, Rehabilitation Management Plan (RMP) and Closure Plan for the site. The performance indicators and completion criteria are to be included in revised versions of the documents which are to be developed in accordance regulators authorities as required by the respective Project Approval Conditions.</b></p> <p><b>Recommendation: Land capability criteria are to be developed and included in the relevant Rehabilitation Management Plan documents for the site.</b></p>
3	Resources Regulator	Review relevant mining leases and exploration licences as agreed with Resources Regulator	Review of compliance against these has occurred and no non compliances were identified.
4	Resources Regulator	Undertake an assessment of compliance against the conditions of title related to environmental management	Review of compliance against these has occurred and has been reported on in the report as relevant.

Item	Regulator	Comment	Site Inspection Comment
5	Resources Regulator	Verify that there is a current Mining Operations Plan (MOP) in place, and it has been approved by the Regulator – review compliance against any conditions of approval of the MOP	<p>Bloomfield Colliery developed the MOP for the period January 2021 – December 2023, with the MOP approved by NSW Resources Regulator on 17 December 2021 for the period 17 December 2021 to 30 September 2021. Within subsequent correspondence on 30 August 2021, the NSW RR determined that the MOP was approved from 30 August 2021 until 2 July 2022.</p> <p>The MOP includes a range of further studies which are required to be undertaken to obtain additional knowledge which is required for mine closure planning These studies include a Closure Execution Plan, a Landform and Rehabilitation Assessment and a Water Study.</p> <p>The scope of the works required to be undertaken are detailed in Section 8.2.2 of the MOP and are noted as being scheduled for completion in the December Qtr 2021, however at the time of the audit these studies had not been completed.</p> <p>The final landform is included in Figure 1 of Appendix 4 of the Project Approval (which provides the Conceptual Final Landform for the operation). This figure from the Project Approval is consistent with Figure 4B of the MOP, which also provides the conceptual final landform for the operations. It is however noted that following Bloomfield submission of the MOP in January 2021, that a revised MOP was prepared to include additional studies which include the completion of a Landform and Rehabilitation Assessment. This assessment includes an objective of confirming if the historical and current landform is consistent with the approved operations. This work is required to be completed by Bloomfield to enable a determination of whether the historical and current landform is consistent with the approved landform.</p> <p><b>Recommendation: The MOP is recommended to be updated to include the outcomes of the range of specialist studies which have been committed to as part of the June 2021 MOP. The studies included in Section 8.2.2 and Table 20 of the MOP include a Closure Execution Plan, Landform and Rehabilitation Assessment. These studies are due for completion December 2021. At the time of the audit these studies had not been completed.</b></p>

Item	Regulator	Comment	Site Inspection Comment
6	Resources Regulator	Undertake a critical review of the MOP, including an assessment of its compatibility with the description of operations contained in the planning approval. In particular:	A review of the MOP has been undertaken with commentary provided in the following rows.
		<ul style="list-style-type: none"> <li>Review the rehabilitation strategy as outlined in the MOP to determine if it is consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s)</li> </ul>	<p>A revision of the MOP is recommended to align the material production and rehabilitation scheduling in the MOP to the proposed production and rehabilitation schedules for the operation. Currently, the MOP has been developed based on maximum production rates however given the proximity of the operation to mine closure the operation should develop a revised MOP to reflect the proposed operational and rehabilitation schedules, as the existing operations are not being undertaken consistent with the production schedules detailed in the MOP.</p> <p>Bloomfield confirmed during the site inspection that there are no specific vegetation communities being targeted for the final land use. Further, as noted above, there are inconsistent performance indicators and completion criteria included across a range of existing and approved Bloomfield documents including the RMP, MOP and Closure Plan.</p> <p>During the MOP term 2021 – 2023, there are 39 ha of rehabilitation scheduled to be completed in 2023.</p> <p><b>Recommendation: In conjunction with the completion of the proposed mitigation measures as detailed Table 20 of the MOP, it is recommended Bloomfield align the material of production and rehabilitation scheduling in the MOP to the proposed production and rehabilitation schedules to achieve the final landform.</b></p>
		<ul style="list-style-type: none"> <li>Review the rehabilitation objectives and completion criteria as outlined in the MOP to determine if they have been developed in accordance with the proposed final land use(s) as outlined in the Project Approval</li> </ul>	<p>Refer to Item 2 in this table.</p> <p><b>Recommendation: Refer to item 2 of this table</b></p>

Item	Regulator	Comment	Site Inspection Comment
7	Resources Regulator	Review the development and implementation of any rehabilitation monitoring programs to assess performance against the nominated objectives and completion criteria – verified by reviewing monitoring reports and rehabilitation inspection records	<p>The current rehabilitation monitoring program is detailed in Section 8.1 of the MOP. The rehabilitation monitoring program aligns with the completion criteria required to be monitored as defined by the Project Approval. It is also noted that neither the rehabilitation monitoring program or grazing land monitoring comments on the utilisation of water management structures for grazing. The monitoring methodology utilised on site is also included in Appendix B of the Rehabilitation Management Plan with a Site Monitoring Sheet included within Appendix C of the RMP.</p> <p>The Project Approval identifies the objectives for areas proposed for agricultural land including the achievement of the nominated land capability classification identified in the MOP or RMP completion criteria. There are however no land capability classification criteria identified in the RMP or the MOP. During the audit an inspection of the rehabilitation was undertaken. The inspection reviewed the status of rehabilitation undertaken on site and also considered the outcomes of rehabilitation monitoring reports. Rehabilitation monitoring is undertaken on a biennial basis with rehabilitation monitoring undertaken in 2019. Rehabilitation monitoring has been scheduled for completion in 2021 however was undertaken outside of the audit period.</p> <p>During the audit period the following rehabilitation was undertaken:</p> <ul style="list-style-type: none"> <li>• 2020 S Cut High Wall (5 hectares – September 2020)</li> <li>• 2021 Train Loader (0.6 hectare – May 2021)</li> </ul> <p>Site based forms completed when the 2020 and 2021 rehabilitation were reviewed.</p> <p>The Bloomfield Colliery 2019 Rehabilitation Monitoring Report identified 27 monitoring locations which included a number of rehabilitation sites within the vegetation type “Rehabilitation – Pasture” and “Rehabilitation – Trees over pasture”. The rehabilitation monitoring locations have been established within vegetation of various ages on the site within rehabilitation from 1980 – 2016. There will be additional rehabilitation locations required to be established in 2021 to enable monitoring of rehabilitation which was established in 2020. Whilst there are 27 monitoring locations there are only two analogue locations, one for “Pasture” and another for analogue for “Native Forest”. Given a range of the completion criteria are reliant on comparison of rehabilitation monitoring locations to analogue locations, Bloomfield are to review whether additional analogue sites are required. It is recommended that the need for additional analogue monitoring locations is considered as part of the review of performance indicators and completion criteria as referenced below.</p>

Item	Regulator	Comment	Site Inspection Comment
			<p>During the site visit, historical rehabilitation was observed to be effective with vegetation cover established that contains minimal weed species. Gully erosion was observed in a historically rehabilitated area, and a rehabilitation plan for the completion of rectification works has been included as an action within this report.</p> <p><b>Recommendation: As noted above, there are inconsistent rehabilitation performance indicators and completion criteria included in the approved RMP, MOP and Closure Plan for the site. Following the clarification of the performance indicators and completion criteria, the monitoring program implemented at site is to be reviewed to ensure it aligns to the performance indicators and completion criteria.</b></p>
8	Resources Regulator	Determine if a rehabilitation care and maintenance program has been developed and implemented based on the outcomes of monitoring program – verified by reviewing Annual Rehabilitation Programs or similar documentation	<p>During the audit period rehabilitation records were provided for the following rehabilitation works, with rehabilitation maintenance sheets sighted for the following:</p> <ul style="list-style-type: none"> <li>• 2018 K Cut West Paddock – (10 hectares direct seeding January 2018)</li> <li>• 2018 X Cut – Blue Lagoon (10 hectares February 2018)</li> <li>• 2018 X Cut – (20 hectares direct seeding September 2018)</li> <li>• 2020 K Cut -1 (7.5 ha September 2020)</li> <li>• 2020 K Cut -2 (2.5 ha fertiliser application)</li> </ul> <p>It was determined during the site audit that there is no formal program for the completion of rehabilitation maintenance. Rehabilitation maintenance is undertaken in an unstructured manner based on observations from the Site Environmental team. The rehabilitation maintenance inspection and works program is to be detailed in the MOP, with clarification of how the outcomes of the inspections undertaken by site personnel will be utilised in the development of rehabilitation maintenance programs. The MOP update is also to include how the outcomes of the biennial rehabilitation monitoring will be utilised to determine whether there are any rehabilitation maintenance works required to be completed at site.</p> <p><b>Recommendation: The rehabilitation maintenance inspection and works program is to be detailed in the MOP, with clarification of how the outcomes of the site inspection undertaken by site personnel will be utilised in the development of rehabilitation maintenance programs. The MOP update is also to include how the outcomes of the biennial rehabilitation monitoring will be utilised to determine whether there are any rehabilitation maintenance works required to be completed at site.</b></p>

Item	Regulator	Comment	Site Inspection Comment
9	Resources Regulator	Confirm that mining operations are being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary – to be verified by site plans and site inspection	<p>A revision of the MOP is recommended to align the material production and rehabilitation scheduling in the MOP to the proposed production and rehabilitation schedules for the operation. Currently, the MOP has been developed based on maximum production rates however given the proximity of the operation to mine closure the operation should develop a revised MOP to reflect the proposed operational and rehabilitation schedules, as the existing operations are not being undertaken consistent with the production schedules detailed in the MOP.</p> <p>Mining production is being undertaken at a rate which is slower than the predicted schedules in the MOP.</p> <p><b>Recommendation as detailed above in action 6: Following the completion of the specialist studies as detailed Table 20 of the MOP, Bloomfield to confirm whether the material balances completed for the site align to the production schedule and final landform.</b></p>
10	Resources Regulator	Confirm that rehabilitation progress is consistent with the approved MOP as verified by site plans and a site inspection. This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in the Project Approval	<p>The final landform is included in Figure 1 of Appendix 4 of the Project Approval (which provides the Conceptual Final Landform for the operation). This figure from the Project Approval is consistent with Figure 4B of the MOP, which also provides the conceptual final landform for the operations. It is however noted that following Bloomfield submission of the MOP in January 2021, that a revised MOP was prepared to include additional studies which include the completion of a Landform and Rehabilitation Assessment, which includes an objective of confirming if the historical and current landform is consistent with the approved operations. This work is required to be completed by Bloomfield to enable a determination of whether the historical and current landform is consistent with the conceptual final landform in the Project Approval.</p> <p><b>Refer to Recommendation for Item 5, 6 and Item 9.</b></p>
11	Resources Regulator	Based on a visual inspection, determine if there are any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation outcomes	<p>Site personnel (Greg Lamb) stated that there are no significant areas of rehabilitation which is not meeting criteria. The rehabilitation maintenance undertaken at the site is discussed at the rows above.</p> <p>Rehabilitation monitoring undertaken during the audit period included:</p> <ul style="list-style-type: none"> <li>• Bloomfield Grazing and Land Monitoring Report 2019 - 2020</li> <li>• Rehabilitation Monitoring Report 2019</li> </ul> <p>The location of monitoring plots is shown in Plan 1 of the Grazing and Land Monitoring Report. The</p>

Item	Regulator	Comment	Site Inspection Comment
			<p>report concluded that “ground cover levels across all paddocks (both Native and Rehabilitation pastures) were maintained above the minimum 70% described by NSW Department of Primary industries. Considering the drought conditions occurring during this period, where ground cover would be expected to decline significantly, the stability of pastures on both rehabilitation and native areas has maintained remarkably well.”</p> <p>The Rehabilitation Monitoring Report 2019 included monitoring of 26 sites across the operation. This included 24 rehabilitated sites and two analogue sites. Table 2.1 of the monitoring report includes the name, location, slope and age of rehabilitation at each of the monitoring locations. The monitoring locations have also been shown in Figure 2.2 of the report. The report concluded “the majority of sites in the mid and upper storeys appeared to be in good health and exhibited signs of natural regeneration, despite prolonged drought conditions.” Some minor areas of weed infestation were identified throughout and the management recommendations were included in the report. A total of four priority weeds were identified across rehabilitation sites and these included Fireweed, Lantana, Pampas grass and Coolatai grass.</p> <p>During the field inspection, there was one location where rehabilitation appears to have failed and this is discussed in Section 6.3.5 of the audit report. The rehabilitation failure relates to the establishment of gullying at U Cut to the South of the existing tailings dam. A rehabilitation plan is to be developed to identify how rehabilitation of this area will be undertaken.</p> <p><b>Recommendation : Bloomfield to develop a rehabilitation plan for the remediation of the gullying observed to the south of U Cut Tailings Dam. Refer to photographs in Section 6.3.5 of the Audit Report.</b></p>
12	Resources Regulator	Review the site’s soil and materials management practices in relation to the stripping, stockpiling, and reuse of soil and other materials for rehabilitation.	There is capping material required to cap the tailings dam onsite, with topsoil material required for the completion of rehabilitation works required on site. The MOP is required to be updated to include a detailed review of the final landform on the site and how the material balances align to the final landform. Section 3.3.6 of the MOP notes that a topsoil balance will be calculated and reported in the Annual Review.

Item	Regulator	Comment	Site Inspection Comment
			<p>During the site inspection site personnel advised that there was not currently any topsoil stripping being undertaken at site. The sites soil and material management processes are detailed in the MOP and the Rehabilitation Management Plan. During the site inspection the existing topsoil / subsoil stockpiles for the site were observed in the field.</p> <p>The RMP states topsoil stockpiles are to be no higher than 3 metres, during the audit Bloomfield personnel confirmed pers comms G Lamb that topsoil stockpiles are less than three metres however there are clay stockpiles on site higher than 3 metres.</p> <p>Subsoil and topsoil stockpiles observed in the field were observed to have no signage and were poorly demarcated with no demarcation present at any of the subsoil or topsoil stockpile locations. Following the site inspection, Bloomfield provided copies of site drawing files to detail the location and approximate volumes of capping and topsoil material, however the volumes were unable to be verified.</p> <p><b>Recommendation: Site capping material balances to be reviewed following the finalisation of the tailings dam capping strategy. The topsoil balances are also to be reviewed to confirm whether adequate topsoil material is available for the completion of rehabilitation works onsite. If adequate topsoil is not available to achieve the nominated 100 mm placement of topsoil across remaining rehabilitation areas, identify priority utilisation areas or strategies to achieve successful rehabilitation relinquishment utilising the reduced topsoil volumes.</b></p> <p><b>Recommendation: Topsoil and capping materials are to be demarcates and signposted in the field, with the volumes and quality of the material to be recorded as part of the site data management system.</b></p>
13	Department of Planning, Industry and Environment	Consider Abel Consent (MP 05_0136) as relevant to infrastructure that is used and managed by Bloomfield	Addressed in the Audit report and in Appendix 4



Item	Regulator	Comment	Site Inspection Comment
14	Department of Planning, Industry and Environment	Review Bloomfield Management Plans and how they consider and manage operations in Abel Consent areas	<p>During the review of the noise, air and water monitoring programs undertaken by Bloomfield it became evident locations within the Abel Consent Area are not appropriately covered in these plans. Since Abel is currently in care and maintenance phase, leaves a gap in the operations and environmental management of the site.</p> <p><b>It is recommended the audit specific management plans including noise, air and water monitoring programs to be revised to consider Bloomfield operations within Abel's consent areas.</b></p>
15	Department of Planning, Industry and Environment	Review Noise management in the Abel infrastructure area and monitoring	<p>Shared infrastructure which forms part of Abels Consent Area that is also utilised by Bloomfield is not currently captured in Bloomfield's noise monitoring program.</p> <p><b>It recommended these areas be included in the revision of the noise monitoring program.</b></p>
16	Department of Planning, Industry and Environment	Surface water management in this area and across the site (confirming closed and captured)	<p>During the audit period water was not currently being actively captured and managed within the rail loading facility. On 23 February 2021 during a routine inspection undertaken by DPIE two sediment dams were passively seeping water. This was notified to DPIE, EPA, RR and Maitland Council on 23 February 2021 with a detailed report provided to the EPA on 2 March 2021.</p> <p>During the site visit it was confirmed that bunds and sediment have been installed and this area is now part of Bloomfield closed water management system.</p>

