



BLOOMFIELD COLLIERIES PTY LTD

Independent Environmental Audit of
Bloomfield Colliery

FINAL

December 2018



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Prepared by
Umwelt (Australia) Pty Limited

on behalf of
Bloomfield Collieries Pty Ltd

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Document Status

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|---------|-----------------|------------------|--------------------|------------------|
| | Name | Date | Name | Date |
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Executive Summary



Umwelt Environmental and Social Consultants (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 and Environment (DPE) for the period 1 November 2015 to 30 October 2018. The audit also assessed compliance with the conditions of the sites Environment Protection Licence (EPL), key mining authorities, management plans and other licence documents.

This audit was conducted by Daniel Sullivan (Exemplar Global International Certified Lead Auditor 113202) and Clare Naylor from Umwelt. As required by DPE Mr Ian Pankhurst (Spontaneous Combustion Specialist) was also included in the audit team to conduct a review of the site's spontaneous combustion management practices. The field visit component was completed on 30 October 2018.

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. 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 compliance audit completed in 2015 have been responded to, as described in **Section 3**.

This audit has concluded that the on the ground environmental management practices being applied at the 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 rehabilitation areas were being developed in accordance with the Mining Operations Plan 2018-2020 and maintained to a good standard with ongoing maintenance activities being undertaken as necessary to maintain previous rehabilitated areas.

A review of management plans for Bloomfield Colliery found that all plans had been revised and were approved by the Department of Planning and Environment (DPE) in December 2017.

A review of environmental incidents that have occurred since the previous audit indicated that they were all classified as low risk and included two water management incidents, one noise exceedance and a mulch fire in a rehabilitation area. It was found that not all incidents were reported to the EPA and DPE within the specified timeframes. As a result, the Bloomfield Pollution Incident Response Management Plan was reviewed and updated in November 2017 to include the Department as an automatic notification in the event of a pollution incident.

Non-compliances identified during this audit are summarised in **Section 4**. 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**.

At the time of the audit, Bloomfield staff was 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 Environmental and Social Consultants (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 Clare Naylor from Umwelt. Additional input was also provided on spontaneous combustion management by Mr Ian Pankhurst from Mining Operations Services Pty Ltd. 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 DPE 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 1 November 2015 and 30 October 2018 (the audit period). The on-site component of the IEA was conducted on 30 October 2018 (see **Appendix 3** for the IEA plan and itinerary). Some information requested by the IEA team was not available on-site at the time of the audit and was subsequently provided to the IEA team for review.

The weather conditions during the site component of this IEA were fine and sunny (temperature of 18.6°C, at 9 am and a temperature of 28.4°C at 3 pm), with moderate humidity. Winds during the audit were generally north easterly, with speeds of around 8 km/h (Maitland BoM monitoring station site 061428). In the week preceding the IEA, conditions were dry, with a total of 1.2 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 2018 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 Project Approval 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 |
| 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 the Bloomfield Project Area. Under PA 05_0136, Abel Underground Mine requires the use of Bloomfield infrastructure for the processing of extracted ROM coal including the operation of the Bloomfield CHPP and rail loading facility owned by Bloomfield.

Relationships between Bloomfield Colliery and Abel Underground Mine involve cooperation to manage the responsibility of the integrated components for both sites. Whilst Bloomfield Colliery is in cooperation with Abel for the integrated components of their operations, Bloomfield operates under PA 07_0087 and is not bound by the conditions of Abel PA 05_0136. Compliance under PA 05_0136 is not a requirement of Bloomfield Colliery and is therefore not relevant to this audit.

Further it is noted that for the duration of the audit period the Abel Underground Mine has been on care and maintenance and processed any coal through the Bloomfield infrastructure.

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 DPE 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. |
| *Not verified | Where the auditor has not been able to collect 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. In the absence of sufficient verification the auditor may in some instances be able to verify by other means (visual inspection, personal communication, etc.) that a requirement has been met. In such a situation, the requirement should still be assessed as not verified. However, the auditor could note in the report that they have no reasons to believe that the operation is non-compliant with that requirement. |
| Non- Compliant | Where the auditor has collected sufficient verifiable 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 where 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. |
| *Observation | Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance. Further observations are considered to be indicators of potential non-compliances or areas where performance may be improved. |
| Note | A statement or fact, where no assessment of compliance is required. |

Notes: DPE requested that compliance assessment descriptors denoted by * in the table above to not be used in the IEA.

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"> • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur |
| Low | | Non-compliance with: <ul style="list-style-type: none"> • potential for moderate environmental consequences, but is unlikely to occur • potential for low environmental consequences, but is likely to occur |
| *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) |

Notes: DPE requested that risk level descriptors denoted by * in the table above to not be used in the IEA.

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 – DPE 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, ML 1738 and CCL 761**
- **Appendix 5 – Bloomfield Colliery Photographic Plates.** Photographs of key site features referred to in this report
- **Appendix 6 – Spontaneous Combustion Audit Report**

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 DPE independent environmental audits for mining projects in NSW. Daniel was approved by DPE to act as the lead auditor for the project. Clare Naylor was approved by DPE to act as the environmental auditor. Mr Ian Pankhurst was approved by DPE to act as the Spontaneous Combustion Specialist. A copy of the independent audit certification form as required by the NSW Audit Guidelines is included within **Appendix 1** with the DPE 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 and Environment (DPE)
- Environment Protection Authority (EPA)
- Division of Resources and Geoscience (DRG)
- Office of Environment & Heritage (OEH)
- Crown Lands & Water Division – Natural Resources Access Regulator (NRAR)
- Cessnock City Council and Maitland City Council
- The Community Consultative Committee (CCC) Chairperson

An overview of the agency consultation is included in **Table 2.1**. Representatives from, DPE, DRG, OEH, NRAR and the CCC 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. There was no feedback received from EPA or Maitland City Council.

Table 2.1 Stakeholder Consultation

| Stakeholder | Person Contacted | Response | Where Addressed |
|-------------|---------------------------------------|--|--|
| CCC | Margaret MacDonald-Hill (Chairperson) | <ul style="list-style-type: none"> A review of complaints including actions to ensure mitigation steps undertaken are effective and minimisation/elimination of any repeat issues including night time noise management and spontaneous combustion. A review of management plans for currency and efficacy. Implementation of biodiversity offsets for currency. | Section 5, 6.2, 6.3 and Appendix 4. |
| DPE | Leah Cook (Team Leader – Compliance) | <ul style="list-style-type: none"> DPE requested a spontaneous combustion specialist to be included as part of the IEA to focus on spontaneous combustion management. They also noted that the IEA should only use compliance status descriptors such as ‘compliant’, ‘non-compliant’ or ‘not triggered’ as part of the IEA. | Section 1.3 and 2.1 |
| DRG | Daniel Adams (DRG – Inspector) | <p>The desktop audit is to consider:</p> <ul style="list-style-type: none"> Is there a current MOP in place and has it been approved by the Resources Regulator? Has the MOP been prepared in consultation with the relevant agencies as outlined in the Project Approval? Is the rehabilitation strategy as outlined in the MOP consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s)? Has the rehabilitation objectives and completion criteria as outlined in the MOP been developed in accordance with the proposed final land(s) as outlined in the Project Approval? Has a rehabilitation monitoring program been developed and implemented to assess performance against the nominated objectives and completion criteria? – verified by reviewing monitoring reports and rehabilitation inspection records. <p>The field component of the audit is to consider:</p> <ul style="list-style-type: none"> Are mining operations 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 Is rehabilitation process, including vegetation community types, consistent with the approved MOP as verified by site plans and 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 Project Approval. | Section 4, 6 and Appendix 4. |

| Stakeholder | Person Contacted | Response | Where Addressed |
|-------------|---|--|---|
| | | <ul style="list-style-type: none"> Based on visual inspection, are there 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? Are there controls to ensure topsoil management is appropriate to achieve nominated final land uses? For example, is the source of a top soil stockpile recorded to ensure it is used to achieve a specified land use outcome? <p>In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.</p> | |
| OEH | Robert Gibson (Regional Biodiversity Conservation Officer) | <ul style="list-style-type: none"> OEH recommends that the Independent Environmental Audit checks whether condition 29A in Schedule 3 – securing the biodiversity offset – has been met. OEH recommends that the Independent Environmental Audit checks the status of the Aboriginal Cultural Heritage Management Plan, as requested by consent condition 31, in Schedule 3. OEH recommends that the Independent Environmental Audit checks whether condition 19 in Schedule 3 – the preparation of a Water Management Plan – is adequate for the current project since approval of MOD 4. | Section 4, 5 and 6, and Appendix 4 |
| NRAR | Ryan Shepherd (A/Regional Management, Water Regulation (East)) | <ul style="list-style-type: none"> Assessment as to whether Bloomfield Colliery holds the required water entitlements and licences under the <i>Water Management Act 2000</i> or <i>Water Act 1912</i> (as applicable). Compliance with the conditions of any water licences and approvals held. Identification of all water storages and approvals held. Identification of all water storages for the mine and identification of their licencing status with exempt, subject to harvestable rights or regulated via a Water Access Licence. Quantification of both active and passive take by the Bloomfield Colliery from each relevant water source and a comparison against previously modelled predictions. Monitoring bores are integrated into the monitoring programme. The Aquifer Interference Policy (AIP) criteria pertaining to it are applied. Compliance against performance measures within the consent related to water sources, including the Guidelines for Controlled Activities on Waterfront Land and design and installation of creek crossings, management of clean water diversions and sediment dams, stream diversion performance measures and aquatic and riparian ecosystem performance measures. | Section 4, 6 and Appendix 4 |

| Stakeholder | Person Contacted | Response | Where Addressed |
|-------------|------------------|--|-----------------|
| | | <ul style="list-style-type: none"> Compliance with the requirements of the Water Management Plan and Extraction Plan. | |

2.3 Site Interviews and Inspections

The opening meeting was held at the Bloomfield Colliery main office commencing at 9.00 am on 30 October 2018. The list of participants is provided in **Table 2.2**.

Table 2.2 Opening Meeting Attendees

| Person | Organisation | Title |
|-----------------|------------------------------------|-----------------------------------|
| Brad Donoghue | Bloomfield | Mine Manager |
| Chris Knight | Bloomfield | Environmental Manager |
| Greg Lamb | Bloomfield | Environmental Officer |
| Daniel Sullivan | Umwelt | Lead Auditor |
| Clare Naylor | Umwelt | Auditor |
| Ian Pankhurst | Mining Operations Services Pty Ltd | Spontaneous Combustion Specialist |

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 |
| Mark Nolan | Bloomfield | Open Cut Examiner |

2.3.2 Data Collection and Verification

Where possible, documents and data collated during the audit process were reviewed whilst on-site. A number of documents were also provided to the audit team prior to the on-site component of the audit and documents that were not available during the on-site component of the audit were provided following the audit.

All information obtained during the audit process was verified by the audit team where possible. For example, statements made by site personnel were verified by viewing documentation and/or site inspections where possible. Where suitable verification could not be provided, this has been identified in the audit findings.

2.3.3 Site Inspection

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, coal handling and preparation plant laydown areas, and fuel farm
- Tailings dam
- Water management system and water infrastructure including truck re-fill station
- Rehabilitation areas on site

2.3.4 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 |
|-----------------|--------------|-----------------------|
| Chris Knight | Bloomfield | Environmental Manager |
| Greg Lamb | Bloomfield | Environmental Officer |
| Brad Donoghue | Bloomfield | Mine Manager |
| Daniel Sullivan | Umwelt | Lead Auditor |
| Clare Naylor | Umwelt | Auditor |

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

2.3.5 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"> • The Project Approval; • The Environment Protection Licence; • The Mining Leases; and • Water licences and approvals. | Section 4.0 and Appendix 4 |
| 2, 3 | The scope of the audit and the audit team (including any technical specialists) to be determined by the lead regulator. | Section 1.2 and 2.1 |
| 3.3 | The auditor team must be independent of the development being audited and audit findings must be based on verifiable evidence. | Section 2.1 and Appendix 1 |
| 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. | Section 4.0 and Appendix 4 |
| 4.2 | Consultation with key regulatory agencies prior to commencement of the audit site inspection. | Section 2.2 |
| 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"> • Introduction, providing a brief overview of the development, audit scope and objectives; • Methodology, describing the audit team, methodology applied, document reviews, site inspections and interviews; • 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 • Recommendations, identifying any opportunities for improvement identified in the audit. | 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' | Appendix 1 |
| 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 2015 Bloomfield Colliery Independent Environmental Audit (Trevor Brown & Associated, 2015) and the status of the recommendations as at 30 October 2018 are detailed in **Table 3.1**.

Table 3.1 Previous Audit Findings (non-compliances)

| Ref. | 2015 - Summary of Audit Finding (non-compliances) | 2015 – Audit Recommendations | 2018 - Bloomfield Status Update |
|--|---|---|--|
| Project Approval - Schedule 3, Condition 1 – Noise Impact Criteria | <p>Two exceedances were notified to DP&I/DP&E during the 2013 to 2015 period:</p> <ul style="list-style-type: none"> Quarterly noise monitoring (dated June 2013) exhibited an exceedance of the noise criteria at one privately owned property located to the south of the Bloomfield site on John Renshaw Drive (N daytime exceedance of 8dBA and evening 2dBA). In response to the monitoring results Bloomfield re-assessed the timing of switching from the day time dump location operations to a night time dump location that reduced exposure of the receiver to noise emitted from the waste emplacement area. Quarterly noise monitoring (dated May 2015) undertaken by SLR demonstrated a minor exceedance of the noise criteria at two privately owned properties located to the south of the site on John Renshaw Drive (M daytime exceedance 1dBA; and N evening 2dBA and night-time exceedance 6 dBLA1(1minute))). The cause of the noise exceedance was haul trucks being parked on a high stockpile dump at the end of afternoon shift. In response Bloomfield has put in place measures to prevent haul trucks being parked up on high dumps at the end of shifts. | No further actions required. | N/A |
| Project Approval - Schedule 3, Condition 14 – Blast Monitoring Program | <p><i>Administrative Non-compliance</i></p> <p>Blast Monitoring Program was prepared and submitted to the DoP on 24 February 2010. DoP provided comments on 24 April 2010 and a revised Final Blast Monitoring Program incorporating the DoP comments was submitted to DP&I on 6 Jun 2012.</p> <p>No response to the Blast Monitoring Program had been received from DP&I at the date of this audit (November 2015).</p> | It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted. | The Blast Monitoring Program was revised (dated July 2017) and was submitted to DPE on 21 September 2017 and approved on 19 December 2017. |

| Ref. | 2015 - Summary of Audit Finding (non-compliances) | 2015 – Audit Recommendations | 2018 - Bloomfield Status Update |
|---|---|--|---|
| Project Approval - Schedule 3, Condition 16 – Monitoring | <p><i>Administrative Non-compliance</i></p> <p>An Air Quality Monitoring Program was prepared in consultation with OEH and submitted to the DoP on 24 February 2010. DoP provided comments on 24 April 2010 and a revised Final Air Quality Monitoring Program incorporating the DoP comments and submitted to DP&I on 13 Mar 2012.</p> <p>No response to the Air Quality Monitoring Program had been received from DP&I at the date of this audit.</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>The Air Quality Monitoring Program was submitted to DPE on 21 September 2017. A letter from DPE dated 21 December 2017 and approved on 19 December 2017.</p> |
| Project Approval - Schedule 3, Condition 19 – Water Management Plan | <p><i>Administrative Non-compliance</i></p> <p>The Water Management Plan was prepared by 31 March 2010 in consultation with OEH (EPA) and NOW and submitted to the DoP. The Water Management Plan was revised and resubmitted on 13 March 2012. A revised Water Management Plan was submitted to DP&E on 6 June 2012.</p> <p>No response to the Water Management Plan had been received from DP&I at the date of this audit.</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>The Water Management Plan was submitted to DPE on 21 September 2017 and approved 21 December 2017.</p> <p>The Water Management Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> |
| Project Approval - Schedule 3, Condition 20 – Site Water Balance | <p><i>Administrative Non-compliance</i></p> <p>The Site Water Balance was developed by Evan and Peck as part of the Water Management Plan dated 31 March 2010.</p> <p>No response to the Water Management Plan had been received from DP&I at the date of this audit.</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan (including the Site Water Balance).</p> |

| Ref. | 2015 - Summary of Audit Finding (non-compliances) | 2015 – Audit Recommendations | 2018 - Bloomfield Status Update |
|---|---|--|--|
| Project Approval - Schedule 3, Condition 21– Erosion and Sediment Control | <p><i>Administrative Non-compliance</i></p> <p>The Erosion and Sediment Control Plan was prepared by GSS Environmental in March 2010 as part of the Water Management Plan.</p> <p>No response to the Water Management Plan had been received from DP&I at the date of this audit.</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan (including the Erosion and Sediment Control Plan).</p> |
| Project Approval - Schedule 3, Condition 22 – Surface Water Monitoring | <p><i>Administrative Non-compliance</i></p> <p>The Surface Water Monitoring Program 31 March 2010 was prepared by Evans and Peck as part of the Water Management Plan.</p> <p>No response to the Water Management Plan had been received from DP&I at the date of this audit (November 2015).</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>A letter from DPE (dated 21 December 2017) was approving the revised Water Management Plan (including the Surface Water Monitoring Program).</p> |
| Project Approval - Schedule 3, Condition 23 – Groundwater Monitoring | <p><i>Administrative Non-compliance</i></p> <p>The Groundwater Management Plan was prepared by Aquaterra for the Bloomfield Colliery as part of the Water Management Plan.</p> <p>No response to the Water Management Plan had been received from DP&I at the date of this audit.</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>No response was received from the Department.</p> <p>Bloomfield resubmitted the Water Management Plan to the Department on 14 October 2016.</p> |

| Ref. | 2015 - Summary of Audit Finding (non-compliances) | 2015 – Audit Recommendations | 2018 - Bloomfield Status Update |
|---|---|--|---|
| Project Approval - Schedule 3, Condition 24 – Surface and Groundwater Response Plan | <p><i>Administrative Non-compliance</i></p> <p>The Surface and Groundwater Response Plan was prepared by Evans and Peck as part of the Water Management Plan.</p> <p>No response to the Water Management Plan had been received from DP&I at the date of this audit.</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan (including the Groundwater Monitoring Program).</p> |
| Project Approval - Schedule 3, Condition 26 – Landscape Management Plan | <p><i>Administrative Non-compliance</i></p> <p>The Landscape Management Plan was submitted to DoP on 3 March 2010 for approval. The Landscape Management Plan was revised on 15 June 2011 and further revised and resubmitted to DP&I on 13 June 2012 (with Final Void Management Plan). A further revision of the Land Disturbance Management Plan dated 10 October 2012 was submitted to DP&I including management of Aboriginal Heritage and Permit to Disturb.</p> <p>No response to the Landscape Management Plan had been received from DP&I at the date of this audit (November 2015).</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>The Landscape Management Plan was submitted to DPE on 21 September 2017 and approved on 19 December 2017</p> |
| Project Approval - Schedule 3, Condition 27 – Rehabilitation Management Plan | <p><i>Administrative Non-compliance</i></p> <p>A draft Rehabilitation Management Plan was submitted to DoP on 28 February 2010 (i.e. within 6 months of the Project Approval) and the Rehabilitation Management Plan was revised and resubmitted on 15 June 2011. A Final Rehabilitation Management Plan was submitted to DP&I on 13 March 2012.</p> <p>No response from DP&I re the Rehabilitation Management Plan had been received by Bloomfield at the date of this audit (November 2015).</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>The Rehabilitation Management Plan was submitted to DPE on 21 September 2017 and approved on 19 December 2017</p> |

| Ref. | 2015 - Summary of Audit Finding (non-compliances) | 2015 – Audit Recommendations | 2018 - Bloomfield Status Update |
|--|---|--|---|
| Project Approval - Schedule 3, Condition 28 – Final Void Management Plan | <p><i>Administrative Non-compliance</i></p> <p>The Final Void Management Plan was prepared with the Landscape Management Plan and submitted to DP&I on 13 June 2012.</p> <p>No response to the Landscape Management Plan had been received from DP&I at the date of this audit (November 2015).</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>The Final Void Management Plan was submitted to DPE on 21 September 2017 and approved on 19 December 2017</p> |
| Project Approval - Schedule 3, Condition 29 – Mine Closure Plan | <p><i>Administrative Non-compliance</i></p> <p>The Mine Closure Plan was prepared part of the Landscape Management Plan and submitted to DoP on 28 June 2012.</p> <p>No response to the Landscape Management Plan had been received from DP&I at the date of this audit (February 2013).</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>The Mine Closure Plan was submitted to DPE on 21 September 2017 and approved on 19 December 2017</p> |
| Project Approval - Schedule 3, Condition 29B – Biodiversity Offset Management Plan | <p><i>Administrative Non-compliance</i></p> <p>The Biodiversity Offset Management Plan was prepared and submitted to DP&I on 7 November 2011 for approval.</p> <p>No response to the Biodiversity Offset Management Plan had been received from DP&I at the date of this audit (November 2015).</p> | <p>It is recommended that Bloomfield continue to consult with DP&E to obtain approval of the management plans and monitoring programs that have been prepared in accordance with the Project Approval conditions to satisfy the requirements of each condition and eliminate the Administrative Non-Compliance that is as a result of no DP&E response to the documents submitted.</p> | <p>The Biodiversity Offset Management Plan was submitted to DPE on 21 September 2017 and approved on 19 December 2017</p> |

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**.

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 |
|----------------------------------|--|------------|
| Schedule 2 Condition 2(a) | During 2016 DPE investigated an inconsistency between mining disturbance at Bloomfield Colliery and mining limits presented in the 2008 EA. This was deemed to be a non-compliance with Schedule 2, Condition 2 and in response Bloomfield entered into a Voluntary Undertaking with DPE. An official caution and acceptance of the voluntary undertaking was issued by DPE on 17 May 2017. On the date of the site component of this audit it is now considered that the project is being carried out generally in accordance with the EA, Modification 1, 2, 3 and 4 of Project Approval 07_0087. | Low |
| Schedule 2 Condition 2A | A number of non-compliances have been identified with the conditions of this approval as identified by this audit. | Low |
| Schedule 3 Condition 1 | A noise exceedance of the noise criteria was recorded during quarterly monitoring undertaken in June 2016. | Low |
| Schedule 4 Condition 1 | Noise exceedance was not notified to the Director-General and the affected landowners/tenants. | Low |
| Schedule 5 Condition 6 | Notification requirements to the secretary and other relevant agencies were not met for reportable incidents | Low |

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 with non-compliances identified and presented in **Table 4.1**. 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 it is noted that there has been one modification approved (MOD 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 |
|-----------|---|------------|
| L1.1 | 13 October 2017 - a broken pipe weld resulting in water flowing to a clean water sediment dam and discharging offsite into an intermittent drainage line known as Shamrock Creek, a tributary of Four Mile Creek. | Low |
| L2.1 | 6 January 2016 – Water discharge to Four Mile Creek exceeded the EPL concentration limits of Total Suspended Solids (TSS). 2 January 2017 – Water discharge exceeded the EPL concentration limits of Total Suspended Solids (TSS). | Low |
| R2.2 | 2 January 2017 – Water discharge exceeded the EPL concentration limits of Total Suspended Solids (TSS). Following the 2 January 2017 event, Bloomfield notified the EPA by phone on 6 January 2017, however, did not send the written report to the EPA until 12 January 2017 (not within 7 days of the incident). 27 August 2017 – During the nightshift a small fire was observed a mulch stockpile area used for mine rehabilitation. Following the incident, a written report was provided to the EPA on 4 September 2017 (not within 7 days of the incident). | Low |

As outlined in **Table 4.2** during the audit period there have been a number of incidents related to water management and the submission of late reports to the EPA.

It is noted that Bloomfield are currently undertaking a review of the water management plan, as part of the approval of MOD 4 for the Departments approval and the Pollution Incident Response Management Plan was reviewed and updated in November 2017 to ensure incident reporting requirements are documented and understood by site personnel.

4.3 Water Licence

Bloomfield hold one water licence for Bloomfield Colliery under the *Water Act 1912* being 20BL172035 which licences the abstraction of groundwater from the open pit. This licence allows for up to 500ML to be abstracted over the 5-year term of the licence. It is noted that this licence expired on 29 January 2017 and during the site visit Greg Lamb advised that a renewal application has been submitted.

During the review against the conditions of 20BL172035 evidence could not be provided to demonstrate compliance with the following conditions and as such they are have been found non-compliant:

- Condition 5 requires that a groundwater management plan to be developed and approved by DPI-Water (current groundwater management plan has not been sent to DPI-Water for approval); and
- Condition 6 outlines specific requirements that must be addressed in the groundwater management plan for DPI-Waters approval.

It is noted that Bloomfield are currently undertaking a review of the water management plan, as part of the approval of MOD 4 for the Departments approval and as such these requirements should be addressed as part of this revision.

Further 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.

4.4 Mining Authorities

A summary of the identified non-compliances against ML 1738 (including AMA1001) and CCL 761 are provided in **Table 4.3** with further details provided in the compliance tables in **Appendix 4**.

Table 4.2 Non-Compliances with ML 1738 and CCL 761

| Condition | Non-Compliance | Risk Level |
|----------------|---|------------|
| ML1738 | | |
| Condition 1(a) | While the landholders have been notified that the lease has been granted this notice did not occur within the three-month period as required. As advised by Bloomfield during the audit it was noted that this was not possible as the grant date of ML 1738 was 29 June 2016, however the granted lease was not forwarded to Bloomfield Colliery until 30 January 2017. Sighted letters sent to the relevant four landowners dated 19 July 2017. | Low |

4.4.1 Mining Operations Plan

In accordance with conditions of the relevant mining leases, a review of the Bloomfield Colliery 2018-2020 Mining Operations Plan (MOP) dated 25 September 2018 was undertaken. Bloomfield Colliery developed the MOP for the period July 2018 – December 2020 with the MOP approved by DPE on 3 October 2018.

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 and that 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 (3 October 2018) and were accepted by DPE.

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**.

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>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Noise Monitoring Program was submitted to DPE on 21 September 2017. The Noise Monitoring Program was revised 6 November 2017 and submitted to DPE and approved on 19 December 2017.</p> <p>The Noise Monitoring Program is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>Noise monitoring during the audit period has been completed as per the requirements of this plan. As noted, Appendix 4 there was one exceedance of the relevant criteria during the 2016 reporting year. With the exception of this there have been no other exceedances of the relevant noise criteria during this audit period.</p> |
| Schedule 3, Condition 14 | Blast Monitoring Program (BMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Blast Monitoring Program was submitted to DPE on 21 September 2017. The Blast Monitoring Program was revised (dated July 2017) and was submitted to DPE and approved on 19 December 2017.</p> <p>The Blast Monitoring Program is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>Blast monitoring during the audit period has been completed as per the requirements of this plan. As noted, Appendix 4 there have been no exceedances of the relevant criteria during this audit period.</p> |

| Condition | Management Plan | Status of Plan and Comments |
|--------------------------|---------------------------------------|---|
| Schedule 3, Condition 16 | Air Quality Monitoring Program (AQMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Air Quality Monitoring Program was submitted to DPE on 21 September 2017. A letter from DPE dated 21 December 2017 was sighted approving the revised Air Quality Monitoring Program.</p> <p>The Air Quality Monitoring Program is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>Air quality monitoring during the audit period has been completed as per the requirements of this plan. As noted, Appendix 4 there have been no exceedances of the relevant criteria during this audit period.</p> |
| Schedule 3, Condition 19 | Water Management Plan (WMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Water Management Plan was submitted to DPE on 21 September 2017. A letter from DPE dated 21 December 2017 was sighted approving the revised Water Management Plan.</p> <p>The Water Management Plan is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>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 AEMRs.</p> |
| Schedule 3, Condition 26 | Landscape Management Plan (LMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Landscape Management Plan was submitted to DPE on 21 September 2017. A letter from DPE dated 19 December 2017 was sighted approving the revised Landscape Management Plan.</p> <p>The Landscape Management Plan is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</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> |

| Condition | Management Plan | Status of Plan and Comments |
|--------------------------|--------------------------------------|--|
| Schedule 3, Condition 27 | Rehabilitation Management Plan (RMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Rehabilitation Management Plan was submitted to DPE on 21 September 2017. A letter from DPE dated 19 December 2017 was sighted approving the revised Rehabilitation Management Plan.</p> <p>The Rehabilitation Management Plan is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>The Rehabilitation Management Plan requires the completion of pre-clearance surveys to be conducted prior to any vegetation clearing works in advance of mining. During the audit pre-clearance survey forms were reviewed and were identified to meet the requirements of the Rehabilitation Management Plan.</p> <p>The Rehabilitation Management Plan also requires the control of weeds and feral pests. Bloomfield uses a Herbicide Record sheet to document any weed/pest control activities undertaken on site. During the audit Herbicide Record sheets were reviewed that outline the locations and type of weed species targeted for that day.</p> |
| Schedule 3, Condition 28 | Final Void Management Plan (FVMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Final Void Management Plan was submitted to DPE on 21 September 2017. A letter from DPE dated 19 December 2017 was sighted approving the revised Final Void Management Plan.</p> <p>The Final Void Management Plan is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>The Final Void Management Plan adequately addresses all requirements of this condition.</p> |
| Schedule 3, Condition 29 | Mine Closure Plan (MCP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Mine Closure Plan was submitted to DPE on 21 September 2017. A letter from DPE dated 19 December 2017 was sighted approving the revised Mine Closure Plan.</p> <p>The Mine Closure Plan is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>The Final Void Management Plan adequately addresses all requirements of this condition.</p> |

| Condition | Management Plan | Status of Plan and Comments |
|---------------------------|--|--|
| Schedule 3, Condition 29B | Biodiversity Offset Management Plan (BOMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Biodiversity Offset Management Plan was submitted to DPE on 21 September 2017. A letter from DPE dated 19 December 2017 was sighted approving the revised Biodiversity Offset Management Plan.</p> <p>The Biodiversity Offset Management Plan is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</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 undertaken. G Lamb confirmed during the audit that a recent fencing campaign has been undertaken in the offset area to secure the site (GL pers comms).</p> |
| Schedule 3, Condition 31 | Aboriginal Cultural Heritage Management Plan (ACHMP) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms).</p> <p>A letter from DPE dated 19 December 2017 indicated that the Aboriginal Cultural Heritage Management Plan had not been reviewed as it was currently with Mindaribba Land Council for consultation. During the audit C Knight and G Lamb Confirmed this was the case and that once Mindaribba's review had been completed that the revised plan would be finalised and submitted for approval.</p> <p>DPE are aware of the issue as evident in the letter dated 19 December 2017 and as such the previously approved revision of the plan is currently in use at the site.</p> |
| Schedule 3, Condition 31B | Historic Heritage Conservation Management Plan (HHCMP) | <p>The Historic Heritage Conservation Management Plan is planned to be prepared and submitted to DPE within 6 months of the approval date of Modification 4 (16 August 2018).</p> |
| Schedule 3, Condition 33 | Energy Savings Action Plan (ESAP) | <p>Sighted correspondence from G Lamb resubmitting the plan to the Department on 14 October 2016. No response has been received from DPE.</p> <p>The Energy Savings Action Plan is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>The plan adequately addresses the requirements of this condition.</p> |

| Condition | Management Plan | Status of Plan and Comments |
|----------------------------|---|--|
| Schedule 5, Condition 1 | Environmental Management Strategy (EMS) | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Environmental Management Strategy was submitted to DPE on 21 September 2017. A letter from DPE dated 19 December 2017 was sighted approving the revised Environmental Management Strategy for the project.</p> <p>The Environmental Management Strategy is currently being revised due to the approval of MOD 4 and is planned to be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>The EMS was reviewed as part of the audit and was found to adequately address the requirements of this condition.</p> |
| ML 1738 and CCL 761 | | |
| 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>It was noted and observed in the field inspection that significant progress has been made with regard to landform reestablishment throughout 2017 and 2018 particularly with regard to the backfilling of the S cut void.</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. For example, Bloomfield conduct weekly tailings dam inspections which are compiled into an annual surveillance report for the Tailings Storage Dam.

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.

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

During the audit period Bloomfield Colliery did not receive any PIN’s. There has been one Official Caution and one Show Cause received during the audit period as detailed in Error! Reference source not found..

Table 6.1 Bloomfield Colliery Orders / Notices Received During the Audit Period.

| Date | Details of Order/Notice | Current Status |
|-------------|--|---|
| 17 May 2017 | Bloomfield received an Official Caution and acceptance of Bloomfield’s Voluntary Undertaking as a result of non-compliance with Schedule 2, Condition 2 of Project Approval 07_0087. | Bloomfield has obtained a modification (MOD 4) to cover required mining at the site and are now deemed to be in compliance with Schedule 2, Condition 2 of Project Approval 07_0087 |

| Date | Details of Order/Notice | Current Status |
|------------------------|--|--|
| 12 October 2017 | Bloomfield received a Show Cause letter from DPE after failing to notify the Department as soon as practicable after Bloomfield became aware of the 2 January 2017 water discharge incident. | The Bloomfield Pollution Incident Response Management Plan was reviewed and updated to include the Department as an automatic notification in the event of a pollution incident. |

6.2.2 Reportable Incidents

The reportable environmental incidents which have occurred in the audit period as advised by Bloomfield Colliery are detailed below:

- 6 January 2016 – Water discharge to Four Mile Creek exceeded the EPL concentration limits of Total Suspended Solids (TSS) which is non-compliant with the EPL condition L2.2. The incident was reported to DPE and the EPA via the telephone on 7 January 2016. A written report was provided to the EPA and DPE on 14 January 2016 (not within 7 days of the incident) which is non-compliant with EPL condition R2.2 and Project Approval Schedule 5 Condition 6.
- June 2016 – Quarterly compliance monitoring identified an exceedance of the noise criteria at a privately owned residence at Location M John Renshaw Drive, Buttai during the night (48 dBA) period during the noise survey which is non-compliant with Project Approval Schedule 3 Condition 1. The noise exceedance which occurred in June 2016 was not notified to the Director-General and other relevant agencies as required which is non-compliant with Project Approval Schedule 4 Condition 1.
- 2 January 2017 – Water discharge exceeded the EPL concentration limits of TSS which is non-compliant with the EPL condition L2.2. Following the 2 January 2017 event, Bloomfield notified the EPA by phone on 6 January 2017, however, did not notify the Department until the written report was sent to the EPA (on 12 January 2017) which is non-compliant with EPL condition R2.2 and Project Approval Schedule 5 Condition 6. A show-cause letter was sent by the Department and Bloomfield’s response was accepted.
- 27 August 2017 – During the nightshift a small fire was observed in a mulch stockpile area used for mine rehabilitation. A grader and a water cart were dispatched to the area to control the fire and the Rural Fire Service was notified. The incident was reported to the EPA and DPE on 28 August 2017. The Rural Fire Service was satisfied that Bloomfield has handled the situation. With the exception of the emission of smoke the incident did not cause any harm to the environment. Due to the darkness the exact cause of the fire was unable to be determined. Upon further inspection it was determined that the likely cause of the fire was spontaneous combustion of the mulch material. Following the notification of the incident a written report was provided to the EPA and DPE on 4 September 2017 (not within 7 days of the incident). Sighted letter from DPE dated 5 September 2017 that DPE will take no further action at this time. This is non-compliant with EPL condition R2.2 and Project Approval Schedule 5 Condition 6.
- 13 October 2017 - a broken pipe weld resulting in water flowing to a clean water sediment dam and discharging offsite into an intermittent drainage line known as Shamrock Creek, a tributary of Four Mile Creek which is non-compliant with EPL condition L1.1.

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 are detailed below:

- 2015 – 5 complaints
- 2016 – 5 complaints
- 2017 – 4 complaints
- 2018 – 5 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 at 8 November 2018. 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

No significant heritage impacts or issues were identified during the audit period regarding Aboriginal or historic heritage management. MOD 4 included two new conditions relating to historic heritage management. The audit confirmed the Condition Assessment of the Buttai Reservoirs and the Buttai Cemetery had been completed. Bloomfield is currently drafting the Historic Heritage Conservation Management Plan which is planned to be submitted to DPE within 6 months of MOD 4 approval (16 August 2018).

The Aboriginal Cultural Heritage Management Plan had not been reviewed by DPE as it was currently with Mindaribba Land Council for consultation and review.

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. There was one exceedance of noise criteria in June 2016. Since this exceedance, 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 other 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. Two dust track units have been recently added to the air quality monitoring network 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 major rehabilitation program undertaken over the past decade has now resulted in only relatively small areas becoming available for rehabilitation each year. There has been no rehabilitation undertaken during 2018 to date and during the 2017 reporting period. During 2016 a total of 7.5 ha of land were rehabilitated during the reporting period. During 2015 a total of 4 ha of land were rehabilitated during the reporting period.

All domains will remain active throughout the term of the approved MOP (2018-2020) and therefore there are no new rehabilitation activities scheduled to be completed during the term of this MOP. The main rehabilitation for the MOP period will be general rehabilitation and land management activities of the previously rehabilitated areas including:

- Rehabilitation monitoring

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

A Rehabilitation Management Plan has been prepared for the site that outlines the objectives and approach to the rehabilitation of the Bloomfield Colliery site. Where possible Bloomfield limits the amount of area disturbed at any given time. The Rehabilitation Management Plan outlines specific monitoring requirements to assist in identify that the proposed rehabilitation objectives are being met within the specified timeframes and are being maintained appropriately. The rehabilitation performance for each reporting year is documented in the Annual Reviews (formerly Annual Environmental Management Reports).

An inspection of the active mining areas confirmed that Bloomfield Colliery is being progressively reshaped in a manner generally consistent with the final landform set out in the MOP (see **Plate 3 in Appendix 5**) and that previously rehabilitated areas are being monitored and are subject to maintenance where required (see **Plate 2 and 5 in Appendix 5**). 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.

Further 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, however material from this area may be used to rehabilitate the tailings dam in the future.

6.3.6 Biodiversity Offsets

As required by Schedule 3 Condition 29A, Bloomfield is required to establishment a suitable Biodiversity Offset Area for the project. Bloomfield Colliery is working with the Biodiversity Conservation Trust to secure a 40 Ha Biodiversity Offset Area to compensate for vegetation clearing on the mine site. The offset area 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 National Parks and Wildlife Act 1974. A conservation bond as approved by DPE has also been calculated for the project.

A Biodiversity Offset Management Plan has been prepared for the project which outlines management measures for the offset property including short term, medium term and long-term measures. In accordance with the plan, short term measures such as the establishment of fencing to prevent the uncontrolled entry of livestock has been undertaken. G Lamb confirmed during the audit that a recent fencing campaign has been undertaken in the offset area to secure the site (GL pers comms and viewed photographs of the completed fencing which included signage as required by the management plan).

6.3.7 Mining and Site Infrastructure Areas

The site inspection involved a walk-around the administration, workshop and hardstand areas (including the fuel farm), followed by a drive to various areas around the site operational areas including the main mining areas, rehabilitation areas, water management system and environmental monitoring network.

During the site inspection, the workshop area was found to be well maintained, with all areas managed to a high standard (see **Plate 9 in Appendix 5**). During the inspection of the workshop and maintenance area a number of 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 (see **Plate 6 in Appendix 5**).

During the site inspection the main haul roads were observed to be well maintained and watered with no dust evident on the day of the audit (see **Plate 1 in Appendix 5**).

Segregation of waste was also observed to be well managed and implemented within the workshop area (see **Plates 7 and 8 in Appendix 5**). Minimal dust emissions were observed from drills and mobile equipment during the inspection of active mining areas.

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

6.3.8 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 4 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.

During the audit period, minor non-compliances were identified in relation to water discharge limits greater than TDS limits specified in the EPL and a broken pipe weld resulting in water flowing to a clean water sediment dam and discharging offsite into an intermittent drainage line known as Shamrock Creek, a tributary of Four Mile Creek. These incidents were reported as required under the EPL.

6.3.9 Spontaneous Combustion

Mr Ian Pankhurst was endorsed by DPE as a suitable spontaneous combustion specialist for the IEA. His involvement on the IEA was to conduct a desktop review and site inspection in order to complete a review of the current spontaneous management practices at Bloomfield Colliery and identify any opportunities for improvement. A copy of his report is provided in **Appendix 6** with a summary of his key findings provided in this section.

It should be noted that there are no requirements or conditions contained within PA 07_0087, the mining authorities or EPL relating to the management of spontaneous combustion at Bloomfield Colliery. Further Bloomfield Colliery is not required to have a Spontaneous Combustion Management Plan under the requirements of the EPL, Mining Lease or Project Approval in relation to Environmental Management.

Bloomfield have developed and are implementing a Spontaneous Combustion Principal Mining Hazard Management Plan as required under the *Work Health and Safety (Mine and Petroleum Sites) Regulation 2014*. In conjunction with this management plan the Standard Work Procedure – Management of Spontaneous Combustion is implemented. From a compliance point the review of these documents is considered outside the scope of this IEA, however as DPE have requested that the audit reviews spontaneous combustion management onsite these plans have been considered in this regard in order to complete a review of the current spontaneous management practices at Bloomfield Colliery and identify any opportunities for improvement.

Mr Pankhurst was present during the site component of the audit on 30 October 2018. During this time, he conducted interviews with site personnel, reviewed documentation and undertook an inspection of active mining areas and emplacement to view areas of current and former concern.

Information gathered during Mr Pankhurst's review indicated spontaneous combustion management practices being implemented are appropriate and that Bloomfield is strongly focused on minimising and controlling spontaneous combustion occurrences onsite.

The review confirmed that Bloomfield's implementation of the Spontaneous Combustion Principal Mining Hazard Management Plan and the Standard Work Procedure – Management of Spontaneous Combustion is appropriate both in the practical assessment of spontaneous combustion out breaks and the treatment and control actions applied to spontaneous combustion outbreaks. It was also found that Bloomfield's stockpiling, processing and loading of coal as well as the method of mining and placing high risk carbonaceous material such as coal partings and reject material in the emplacement areas were appropriate.

During the site inspection an interview with Mr Mark Nolan (OCE) confirmed that partings (and other overburden with high levels of carbonaceous material) were covered with a minimum of 10 metres of material. While this was discussed onsite, a review of documentation identified that this was not documented in the existing procedures. Therefore, the documentation of this process should occur (see **Section 7**).

During the audit period an improvement notice was served on Bloomfield on 24 April 2018 following a spontaneous combustion incident in an overburden dump that had not been reported. This incident was defined as a "dangerous incident" that required reporting under Clause 179 (h) of the *Work Health and Safety (Mine and Petroleum sites) Regulation 2014*.

The incident was not classified as an environmental incident under EPL 396, Project Approval 07_0087 or Mining Lease 1738. Accordingly, from a compliance point it is noted that this incident is outside of the scope of this audit however given that DPE requested that the audit should review Spontaneous Combustion Management onsite it has been included to clarify the incident and Bloomfield's response to it regarding the sites approach to spontaneous combustion management.

Directions were provided to Bloomfield as part of the improvement notice including recommendations to be considered regarding spontaneous combustion management onsite. In this regard the Regulator directed that Bloomfield are to:

1. Review the procedures for notifiable incident response and investigation in line with the Work Health and Safety (Mines and Petroleum Sites) Regulations 2014 (WHS(MPS) Regulation 2018 amendments).
2. Train all persons involved within the management structure who holds a statutory function as nominated in the WHS(MPS) Regulation 2014 in the notifiable incident response requirements
3. Review and update the mine sites spontaneous combustion risk assessment to include emplacement areas
4. Develop safe work procedures for management of spontaneous combustion
5. Communicate and train supervisors and workers in the outcomes of the review made to the risk assessment, management plans and safe work procedures for spontaneous combustion
6. Provide the Resource Regulator with a copy of the reviewed management plan and develop safe work Procedures [sic] associated with spontaneous combustion”

For clarification regarding the Regulators directions in the April Improvement Notice (under the WHS Regulations) Mr Pankhurst confirmed as part of his review that Bloomfield has:

- reviewed and updated the mine site “Spontaneous Combustion Risk Assessment” (3 May 2018);
- developed safe work procedure in the “Management of Spontaneous Combustion SWP” (22 May 2018);
- advised that “All person who hold a statutory function were toolbox talked on Notifiable incident response requirements. This included;
 - Training in the notification of incident and injury guide provided by NSW Resource Regulator
 - Training in Regulation amendments which came into effect 13th April 2018”;
- advised that “All personnel on site were toolbox talked in the review of Risk Assessment, updated Spontaneous Combustion Management System, New safe work procedure for managing Spontaneous Combustion.”; and
- provided the Resource Regulator with a copy of the reviewed management plan and developed safe work procedures associated with spontaneous combustion.

Several improvement opportunities were identified during the review and these recommendations are provided in **Table 7.1**.

7.0 Recommendations and Conclusion

7.1 Recommendations

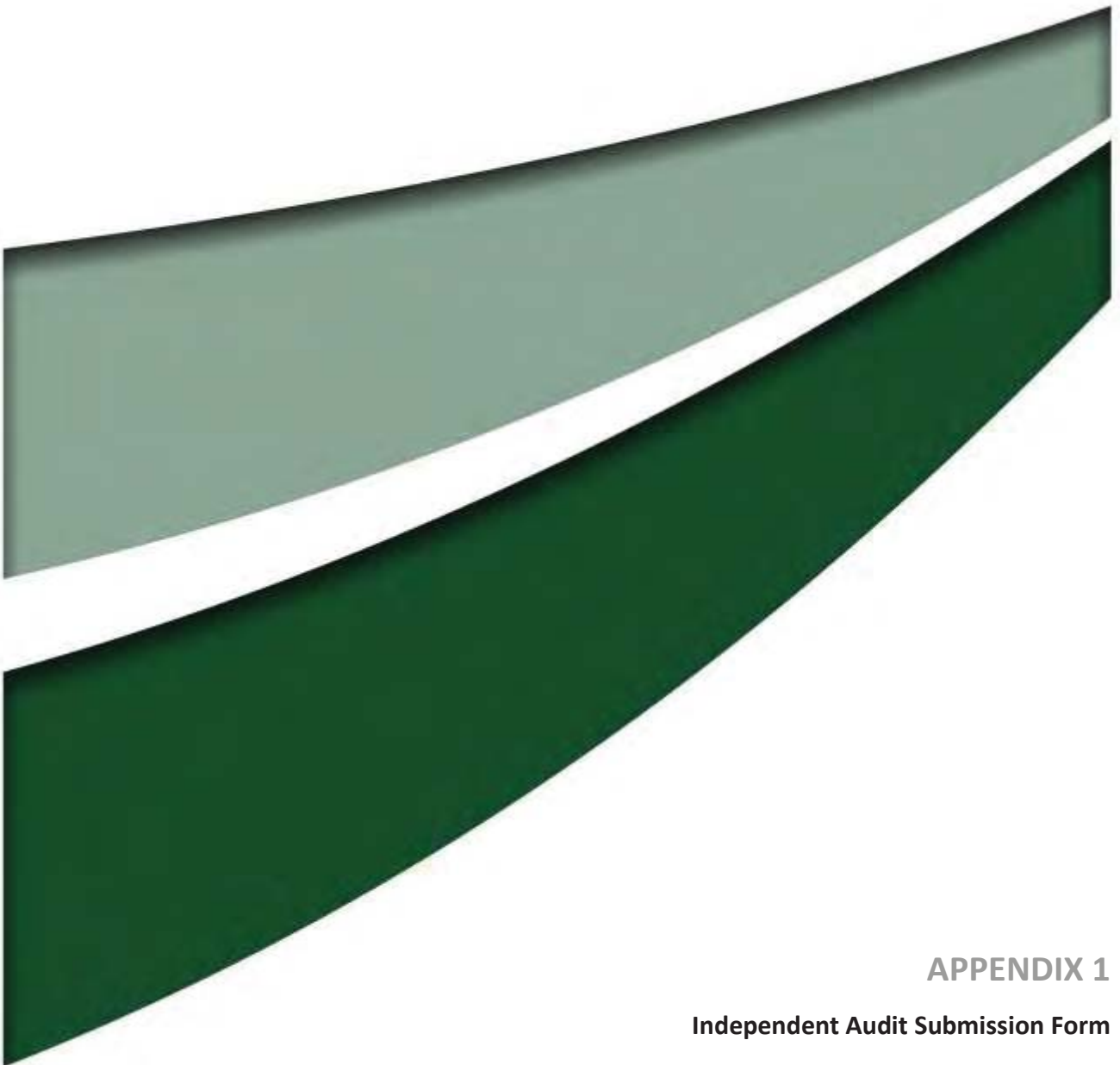
A summary of recommendations identified as an outcome of the audit process is provided in **Table 7.1**.

Table 7.1 Consolidated Recommendations

| Condition / Issue | Recommendation |
|---|---|
| PA07_0087 | |
| Schedule 2 Condition 15 | 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). |
| Schedule 3 Condition 19 | It is recommended that during the next revision of the Water Management Plan that Bloomfield consults with DoI. |
| Schedule 3 Condition 26 | During the next revision of the Landscape Management Plan (and subsequent plans required within it) consultation with DoI and Council should be undertaken. |
| Schedule 5 Condition 6 | 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. |
| Spontaneous Combustion Management | |
| 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. | |
| Upgrade existing or purchase gas monitors with both SO ₂ and H ₂ S capability with resolution to 0.1 ppm to allow monitoring of very low levels of gases and better assess any deterioration. | |
| Purchase heat gun/s to determine strata temperature (this is best done in the early morning). | |
| 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. | |
| Provide personnel with relevant information on SO ₂ and H ₂ S gases, odour impacts and relevant concentration levels, particularly for public annoyance affection. | |
| Water Licence – 20BL172035 | |
| 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. | |
| 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. | |


7.2 Conclusion

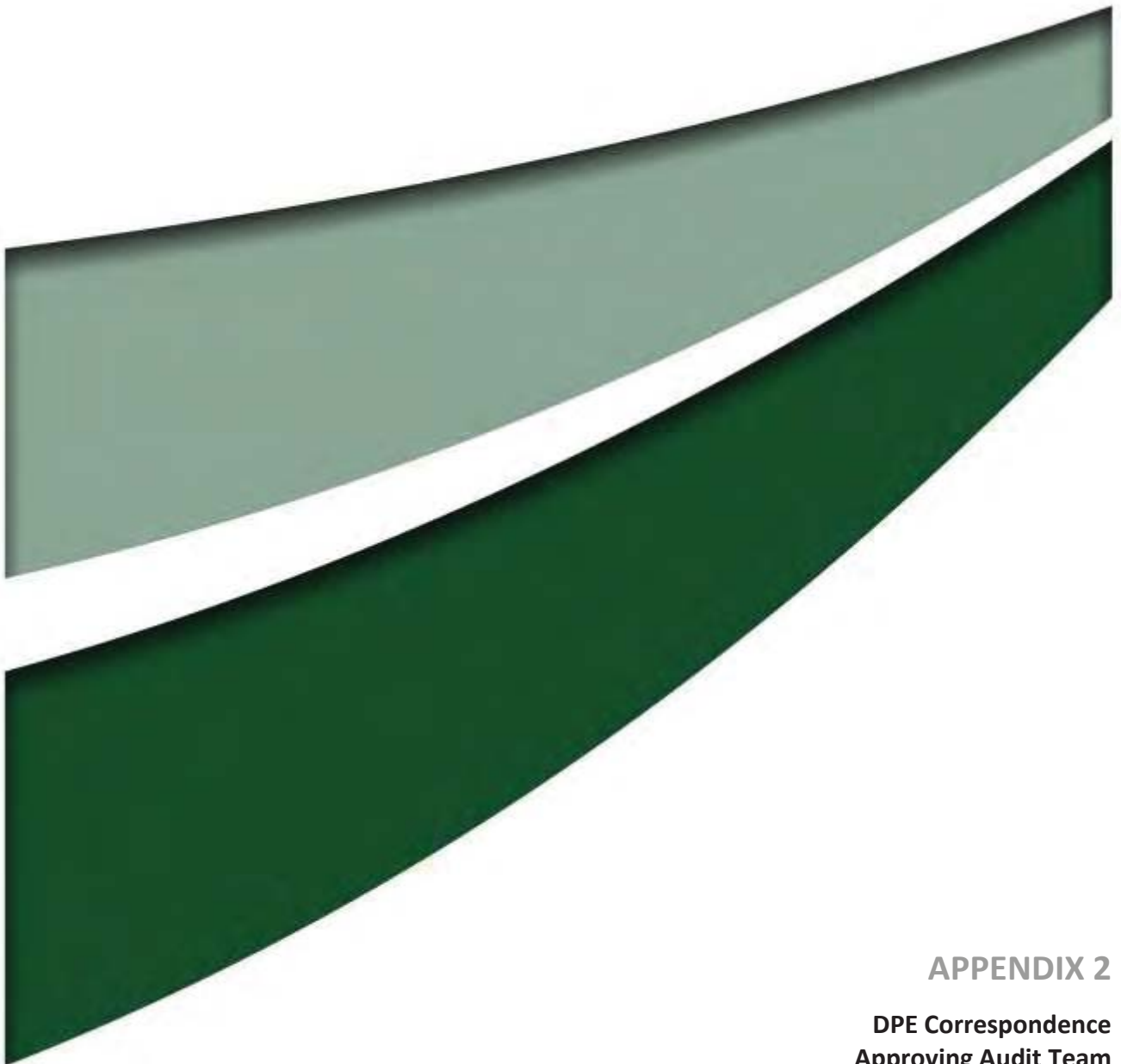
This IEA has assessed the compliance status of Bloomfield Colliery with the key approvals in place including the Project Approval for the mining operation, Mining Authorities and the EPL. The audit has identified non-compliances and where appropriate, has made recommendations to improve the compliance status of the operation.



APPENDIX 1

Independent Audit Submission Form

| Independent Audit Certification Form | |
|---|---|
| Development Name: | Bloomfield Colliery |
| Project Approval: | 07_0087 |
| Description of Development: | Operation of open cut coal mine |
| Development Address: | Four Mile Creek Road, Ashtonfield NSW |
| Independent Audit | |
| 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"> <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> <i>The findings of the audit are reported truthfully, accurately and completely;</i> <i>I have exercised due diligence and professional judgement in conducting the audit;</i> <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> <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> <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> <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> <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> <p><i>Note.</i></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: | 18 December 2018 |



APPENDIX 2

**DPE Correspondence
Approving Audit Team**



Bloomfield Colliery
PO Box 4,
EAST MAITLAND, NSW 2323

Att: Greg Lamb, Environmental Officer

Contact: Ann Hagerthy
Phone: 6575 3407
Email: ann.hagerthy@planning.nsw.gov.au
compliance@planning.nsw.gov.au
Our Ref: MP 07_0087

**Bloomfield Coal Project MP 07_0087
Independent Environmental Audit Team**

Dear Greg

Reference is made to correspondence submitted to the Department of Planning and Environment (the Department) on 24 August 2018 by Bloomfield Collieries Pty Ltd (Bloomfield) as required under Schedule 5, Condition 7, of Project Approval MP 07_0087 (the approval), as modified, requesting approval of a proposed Independent Environmental Audit (IEA) team.

The Department has considered the request, and endorses the following team:

- Daniel Sullivan – Lead Auditor
- Bridie McWhirter – Certified Environmental Auditor
- Clare Naylor – Certified Environmental Auditor

The Department also requests a specialist be proposed for the IEA team, to focus on spontaneous combustion management. Please propose a suitably experienced specialist, by **25 September 2018**, for endorsement by the Secretary.

The Department requests, under Schedule 2, Condition 4, the following:

- Please consider the Department's *Independent Audit Guideline* (2015);
- the auditor must only use the compliance status descriptors "compliant", "non-compliant", "not triggered". The terms "partial compliance", "partial non-compliance", "not verified" or "administrative non-compliance" or similar must not be used;
- the IEA period shall be from 1 November 2015 to the IEA audit inspection date, which shall be completed by 1 November 2018;
- the IEA report along with a response to any audit recommendations, shall be submitted by **10 January 2019**, or earlier if applicable.
- Ensure the response to audit recommendations addresses all non-compliances and auditor recommendations, with dates for completion of actions.

Please contact Ann Hagerthy on the details above, should you need to discuss this matter.

Yours sincerely

Leah Cook

Team Leader - Compliance

As Nominee of the Secretary

Daniel Sullivan

Subject: RE: Bloomfield Colliery Independent Environmental Audit

From: Ann Hagerthy [<mailto:Ann.Hagerthy@planning.nsw.gov.au>]
Sent: Wednesday, 10 October 2018 1:42 PM
To: Greg Lamb <glamb@bloomcoll.com.au>
Cc: Brad Donoghoe <bdonoghoe@bloomcoll.com.au>; Christopher Knight <cknight@bloomcoll.com.au>; Leah Cook <Leah.Cook@planning.nsw.gov.au>
Subject: RE: Bloomfield Colliery Independent Environmental Audit

Hi Greg,

The Department has reviewed the proposed spontaneous combustion specialist and endorses Ian Pankhurst as part of the Independent Environmental Audit (IEA) team for the IEA to be undertaken for Bloomfield Colliery.

Regards,

Ann Hagerthy, PMP
Senior Compliance Officer (Wed, Thu, Fri)
Compliance
Department of Planning & Environment | [PO Box 3145 | Singleton NSW 2330](#)
T [02 6575 3407](tel:0265753407) M [0428 976 540](tel:0428976540)
E ann.hagerthy@planning.nsw.gov.au
compliance@planning.nsw.gov.au



From: Greg Lamb <glamb@bloomcoll.com.au>
Sent: Thursday, 20 September 2018 1:12 PM
To: Ann Hagerthy <Ann.Hagerthy@planning.nsw.gov.au>
Cc: Brad Donoghoe <bdonoghoe@bloomcoll.com.au>; Christopher Knight <cknight@bloomcoll.com.au>
Subject: RE: Bloomfield Colliery Independent Environmental Audit

Ann,

In follow up to your letter dated 31 August 2018 requiring a spontaneous combustion specialist as part the audit team, attached is the profile of Ian Pankhurst of Mining Operations Services Pty Ltd. Bloomfield requests the Secretary's endorsement of Ian Pankhurst to review spontaneous combustion management as part of the Independent Environmental Audit.

Regards

Greg Lamb
Environmental Officer
Bloomfield Colliery
The Bloomfield Group - Celebrating our 80th year in Business
PO Box 4, EAST MAITLAND NSW 2323
Tele: 612 4930 2689 | Mob: 0457819211
Email: glamb@bloomcoll.com.au | Website: www.bloomcoll.com.au

From: Ann Hagerthy [<mailto:Ann.Hagerthy@planning.nsw.gov.au>]
Sent: Friday, 31 August 2018 11:36 AM
To: Greg Lamb <glamb@bloomcoll.com.au>
Cc: Christopher Knight <cknight@bloomcoll.com.au>; Leah Cook <Leah.Cook@planning.nsw.gov.au>
Subject: RE: Bloomfield Colliery Independent Environmental Audit

Hi Greg,

Attached is the Department's letter endorsing the IEA team, with a request for a specialist to be proposed by **25 September 2018**.

Regards,

Ann Hagerthy, PMP
Senior Compliance Officer (Wed, Thu, Fri)
Compliance
Department of Planning & Environment | [PO Box 3145 | Singleton NSW 2330](#)
T [02 6575 3407](#) M [0428 976 540](#)
E ann.hagerthy@planning.nsw.gov.au
compliance@planning.nsw.gov.au



From: Greg Lamb [<mailto:glamb@bloomcoll.com.au>]
Sent: Friday, 24 August 2018 10:51 AM
To: Megan Dawson <Megan.Dawson@planning.nsw.gov.au>
Cc: Christopher Knight <cknight@bloomcoll.com.au>
Subject: Bloomfield Colliery Independent Environmental Audit

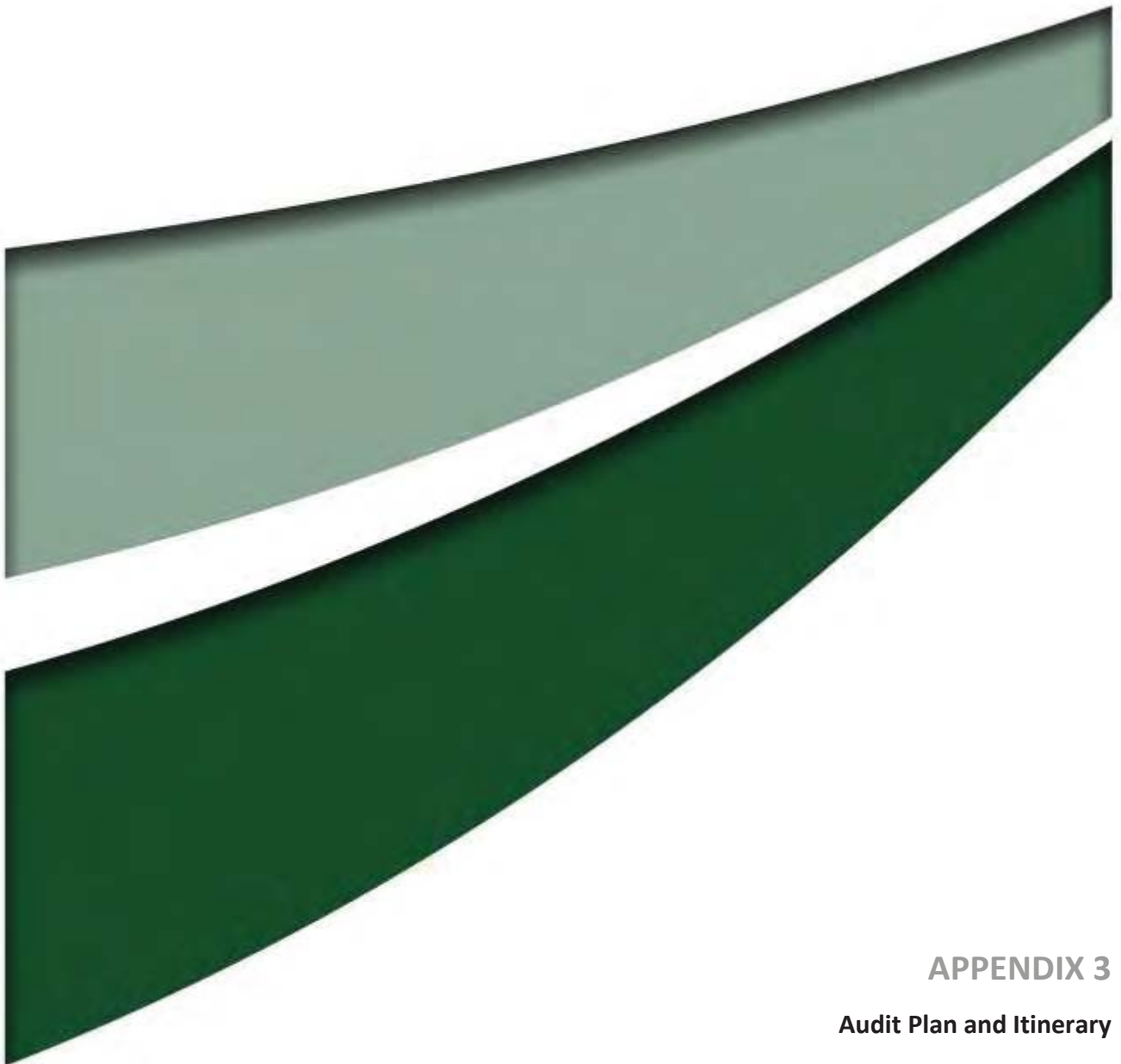
Megan,

This year Bloomfield Colliery is required to undertake an independent environmental audit in accordance with PA 07_0087 Schedule 5 Condition 7. As required under the consent the appointment of the auditor needs to be endorsed by the Secretary. Attached is the audit proposal from Umwelt (Australia) Pty Ltd. Bloomfield Colliery has not contracted Umwelt to undertake any other work besides auditing.

Bloomfield requests the Secretary's endorsement of Umwelt (Australia) Pty Ltd to conduct the Independent Environmental Audit.

Regards

Greg Lamb
Environmental Officer
Bloomfield Colliery
The Bloomfield Group - *Celebrating our 80th year in Business*
PO Box 4, EAST MAITLAND NSW 2323
Tele: 612 4930 2689 | Mob: 0457819211
Email: glamb@bloomcoll.com.au | Website: www.bloomcoll.com.au



APPENDIX 3

Audit Plan and Itinerary



Bloomfield Colliery 2018 Independent Environmental Audit Audit Plan

| | |
|-----------------|--|
| To: | Greg Lamb (Bloomfield Group) |
| From: | Daniel Sullivan (Umwelt) |
| Author: | Daniel Sullivan (Umwelt) |
| Date: | 26 October 2018 |
| Subject: | Bloomfield Colliery – 2018 Independent Environmental Audit |

Audit Period : 1 November 2015 to 30 October 2018

Site Audit Date: 30 October 2018

Auditors: Lead Auditor – Daniel Sullivan
Auditor – Clare Naylor
Spontaneous Combustion Expert – Ian Pankhurst

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;
- 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.

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.

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 and Environment (DPE) 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 1 November 2015 to 30 October 2018 against the following approvals and licences:

- PA 07_0087
- EPL 396;
- Water Licence 20BL172035
- 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) 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 DPE, the EPA, DRG, DPI – Water 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. 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 1**.

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

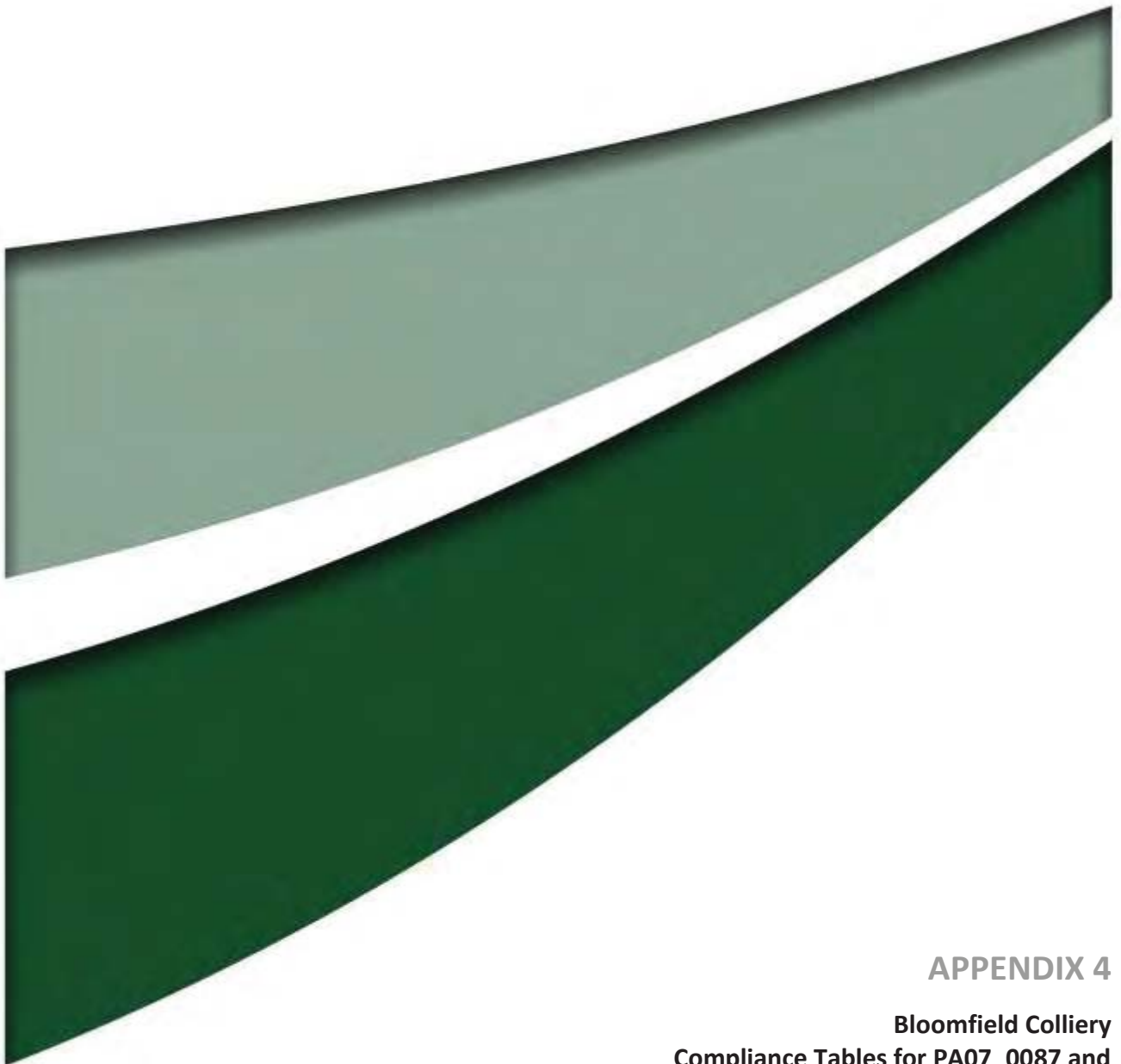
- General Manager/Mine Manager;
- Environmental Officer;
- Supervisors of operational areas visited during the site inspections; and
- Other persons identified during the course of the audit (as relevant).

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 – Indicative Itinerary for Site Inspection/Audit

| Day/Time | Description | Personnel |
|--------------------|--|---|
| 9.00am - 9.30am | Opening Meeting <ul style="list-style-type: none"> • Introductions • Purpose of Audit • Confidentiality Arrangements • Audit Process and Timing | Mine Manager, Environmental personnel and site personnel as invited by Bloomfield Group. |
| 9:30am - 10:00am | Presentation on Bloomfield Colliery Operations in the Audit Period <ul style="list-style-type: none"> • Bloomfield Group personnel to present an overview of the operations on site, including outline of environmental management system and controls | Environmental personnel |
| 10.00am - 12.00 pm | Documentation Compliance Review <ul style="list-style-type: none"> • Spontaneous combustion management audit • Review of PA 07_0087 • Mining authorities • | Environmental personnel and appropriate site personnel as required <i>Note: It is proposed to start with the conditions of approval relevant to spontaneous combustion and then allow Ian Pankhurst to continue discussions / document review with relevant personnel (to be nominated by Bloomfield)</i> |
| 12.00pm - 12.30pm | Lunch | |
| 12.30pm - 2.00pm | Documentation Compliance Review (cont) <ul style="list-style-type: none"> • EPL • Water licences • Review key EIS commitments • Review activities against EIS and MOP • Regulator issues and audit feedback • Reportable incidents and complaints • Management plans commitments review • Training and communication • Any outstanding items | Environmental personnel and appropriate site personnel as required |
| 2.00pm - 3.30pm | Field Inspection <ul style="list-style-type: none"> • Main infrastructure areas (workshop, waste segregation, oil, wash-down, storage, etc.) • Operations inspection • Areas of spontaneous combustion management • Rehabilitation areas • Monitoring network: air, noise, water, • Water & waste systems • Heritage sites • Any key private neighbour/stakeholder issues | Environmental personnel and appropriate site personnel as required |

| | | |
|------------------|---|--|
| 3.30pm - 4.00 pm | Auditors Revision and Preparation for Closeout Meeting | Audit Team Only |
| 4.00pm - 4.30 pm | Close Out Meeting <ul style="list-style-type: none"> • Overview of findings • Confirmation of outstanding items or documents required • Confirm audit review and completion process | Mine Manager, Environmental personnel and site personnel as invited by Bloomfield Group |



APPENDIX 4

**Bloomfield Colliery
Compliance Tables for PA07_0087 and
Mining Authorities**



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 | Compliance | Evidence and Comments |
|--|---|---------------|--|
| Schedule 2 – Administrative Conditions | | | |
| Obligations to Minimise Harm to the Environment | | | |
| 1. | The Proponent must 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. | 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. Generally, there were some minor reportable incidents during the audit period as described below, 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. |
| Terms of Approval | | | |
| 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) | Non-Compliant | <p>During 2016 DPE investigated an inconsistency between mining disturbance at Bloomfield Colliery and mining limits presented in the 2008 EA. This was deemed to be a non-compliance with Schedule 2, Condition 2 and in response Bloomfield entered into a Voluntary Undertaking with DPE. An official caution and acceptance of the voluntary undertaking was issued by DPE on 17 May 2017.</p> <p>The following actions have been undertaken to date in order to address the requirements of this caution:</p> <ul style="list-style-type: none"> - No mining was conducted in the area as defined in Annexure A of the Departments letter (dated 17 May 2017) between May 2017 and the issuance of MOD 4 in August 2018. - Bloomfield has obtained a modification (MOD 4) to cover required mining at the site. - Training was undertaken 8 August 2017 in respect of the Environmental Planning and Assessment Act 1979 and compliance with it. Sighted Attendance record for ‘Enforceable undertaking for EP&A Act Training conducted at Woody’s Café and Conference Centre at 10am on 8 August 2017. - An EU audit (report dated December 2017) has been undertaken as an action of the voluntary undertaking by Bloomfield as accepted by the Department. <p>On the date of the site component of this audit it is now considered that the project is being carried out generally in accordance with the EA, Modification 1, 2, 3 and 4 of Project Approval 07_0087.</p> |
| | (b) Biodiversity Offset Strategy; and | Compliant | <p>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>).</p> <p>The project is being carried out in accordance with the Biodiversity Offset Strategy including the completion of some short term management measures for the offset area such as the establishment of fencing to provide security and prevent the uncontrolled entry of livestock.</p> <p>The current status of progress against this is assessed further as relevant under Schedule 3 Conditions 29A, 29B and 29C.</p> |

| Condition Number | Condition | Compliance | Evidence and Comments |
|------------------|---|----------------------|---|
| | (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 were identified for the SOCs |
| 2A | The Proponent must carry out the project in accordance with the conditions of this approval. | Non-Compliant | The Bloomfield Colliery development is being carried out generally in accordance with the conditions of Project Approval 07_0087. Non-Compliant conditions have been identified during the audit period and are identified in this table and in the main Audit Report in more detail |
| 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. | Compliant | Bloomfield has revised and submitted all management plans which have not been approved within the past year in accordance with letter correspondence from the Department dated 4 July 2017 requesting Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms) including: <ul style="list-style-type: none"> - Noise Monitoring Program - Blast Monitoring Program - Landscape Management Plan - Rehabilitation Management Plan - Final Void Management Plan - Mine Closure Plan - Biodiversity Offset Management Plan - Environmental Management Strategy - Air Quality Monitoring Program - Water Management Plan <p>The management plans were submitted to DPE on 21 September 2017 via email and approved on 19 and 21 December 2017 (sighted approval letters dated 19 and 21 December).</p> <p>A letter from DPE dated 31 August 2018 requested under this condition that the following matters are considered during the independent environmental audit (this audit):</p> <ul style="list-style-type: none"> - Please consider the Department's <i>Independent Audit Guideline (2015)</i> - The auditor must only use the compliance status descriptors "complaint", "non-compliant", "not triggered". The terms "partial Compliance", "partial non-compliance", "not verified", or "administrative non-compliance" or similar must not be used - The IEA period shall be from 1 November 2015 to the IEA audit inspection date shall be completed by 1 November 2018 - The IEA report along with a response to any audit recommendations, shall be submitted by 10 January 2019, or earlier if applicable - Ensure the response to audit recommendations addresses all non-compliances and auditor recommendations, with dates for completion of actions. <p>The audit has considered and addressed the matters requested by DPE as above.</p> |

| Condition Number | Condition | Compliance | Evidence and Comments |
|---|---|---------------|--|
| Limits of Approval | | | |
| 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. | Compliant | Sighted Production Data (23 October 2018) indicating Run-of-Mine coal extracted from 'The Wall' in 2015 to 2018 was less than 1.3 million tonnes: July 2015-July 2016 – 1,181,169 million tonnes July 2016-July 2017 – 1,110,310 million tonnes July 2017 – July 2018 – 1,110,457 million tonnes |
| Hours of Operation | | | |
| 7 | Project operations may take place 24 hours per day, 7 days per week. | Noted | |
| Management Plans/Monitoring Programs | | | |
| 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 must 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. | Compliant | Bloomfield has revised and submitted all management plans which have not been approved within the past year in accordance with letter correspondence from the Department dated 4 July 2017 requesting Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms) including: <ul style="list-style-type: none"> - Noise Monitoring Program - Blast Monitoring Program - Landscape Management Plan - Rehabilitation Management Plan - Final Void Management Plan - Mine Closure Plan - Biodiversity Offset Management Plan - Environmental Management Strategy - Air Quality Monitoring Program - Water Management Plan <p>The management plans were submitted to DPE on 21 September 2017 via email and approved on 19 and 21 December 2017 (sighted approval letters dated 19 and 21 December).</p> <p>During the audit it was confirmed (GL pers comms) that all management plans are currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval within 3 months of the MOD 4 approval date (16 August 2018) which is before 16 November 2018.</p> |
| 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. |

| Condition Number | Condition | Compliance | Evidence and Comments |
|---|---|---------------|---|
| Structural Adequacy | | | |
| 11 | <p>The Proponent must 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.</p> <p><i>Notes: Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.</i></p> <p><i>Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.</i></p> | Not Triggered | No alterations/new buildings or structures have been constructed (GL pers comms). |
| Demolition | | | |
| 12 | The Proponent must 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. | Not Triggered | No demolition work has occurred at Bloomfield colliery during the audit period (GL as pers comms). |
| Operation of Plant and Equipment | | | |
| 13 | <p>The Proponent must ensure that all plant and equipment used on site is:</p> <p>(a) maintained in a proper and efficient condition; and</p> <p>(b) operated in a proper and efficient manner.</p> | Compliant | <p>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.</p> <p>Sighted Mining Operations Management System containing all Bloomfield's maintenance, engineering and induction checklists.</p> <p>Sighted completed Maintenance Service Sheets which cover all elements of mechanical maintenance and actions/comments as needed for plant:</p> <ul style="list-style-type: none"> - Water cart 31/07/17 and 10/10/18 - 793C Off Highway Truck 09/07/17 and 10/10/18 - D11 Dozer 26/07/17 and 18/10/18 |
| Community Enhancement Fund | | | |
| 14 | <p>The Proponent must establish a Community Enhancement Fund of a minimum of \$500,000 and implement expenditure from that fund to the satisfaction of the Secretary. Proposals for expenditure from the fund must:</p> <p>(a) be prepared by the Proponent in consultation with Council and the CCC and be submitted to the Secretary for approval by 31 December 2009;</p> <p>(b) be expended over the ten calendar years 2010-2019; and</p> <p>(c) a minimum of \$180,000 on local infrastructure projects within Cessnock LGA, to be commenced no later than 30 September 2011; and</p> | 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. | Compliant | Sighted invoices paid yearly to 'Youth off the Streets' charity for \$32,000 per year paid on 24/03/2016, 19/04/2017 and 15/06/2018. |
| Evidence of Consultation | | | |
| 15 | <p>Where conditions of this approval require consultation with an identified party, the Proponent must:</p> <p>(a) consult with the relevant party prior to submitting the subject document to the Secretary for approval; and</p> <p>(b) provide details of the consultation undertaken including:</p> <ul style="list-style-type: none"> • the outcome of that consultation, matters resolved and unresolved; and • details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed the matters not resolved. | Compliant | <p>This condition came into effect with MOD 4 on 16 August 2018 and no documents that require consultation have been submitted to DPE since this time. Currently, all management plans have the approval letter from DPE approving the plan attached as an appendix apart from the Aboriginal Cultural Heritage Management Plan. During the audit G Lamb and C Knight confirmed that once Mindaribba's review of the plan had been completed that the revised plan would be finalised and submitted for approval.</p> <p>DPE are aware of the issue status of this revised plan as evident in the letter dated 19 December 2017 and as such the previously approved revision of the plan is currently being implemented at the site.</p> <p>Bloomfield advised that they have not gone back to all of the listed agencies for consultation over the revised management plans (as submitted 21 September 2017 and approved by DPE on 19 and 21 December 2017) where there have only been minor changes.</p> <p>Bloomfield advised that the revised management plans have been provided directly to DPE for approval.</p> |

| Condition Number | Condition | Compliance | Evidence and Comments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------------------------------|---|----------|----------|----------|------------------------------|--|-----------------------|----------|----------|----------|----------|----------|----------|----|----|----|----|----|----|----|-------------------------|----|----|----|----|----|----|----|-----------------------------|----|----|----|----|----|----|----|-------------------------|----|----|----|----|----|----|----|-----------------------------|----|----|----|----|----|----|----|------------------------------|----|----|----|----|----|----|----|------------------------------|----|----|----|----|----|----|----|----------------------|---------------|---|
| | | | 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 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). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Applicability of Guidelines | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Compliance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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. | Compliant | A copy of the employee induction PowerPoint presentation was sighted on 23 October 2018. 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". A copy of the employee PowerPoint induction record was sighted on 30 October 2018. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schedule 3 – Specific Environmental Conditions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NOISE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Noise Impact Assessment Criteria | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | <p>The Proponent must 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><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 colspan="2">Day</th> <th colspan="2">Evening</th> <th colspan="2">Night</th> <th rowspan="2">Location and Locality</th> </tr> <tr> <th>LAeq(15)</th> <th>LAeq(15)</th> <th>LAeq(15)</th> <th>LAeq(15)</th> <th>LAeq(15)</th> <th>LAeq(15)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>35</td> <td>35</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>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>45</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>35</td> <td>35</td> <td>45</td> <td>H Mt Vincent Rd, Louth Park</td> </tr> <tr> <td>35</td> <td>35</td> <td>35</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> <td>L Kilsbarny Ave, Ashtonfield</td> </tr> <tr> <td>48</td> <td>39</td> <td>39</td> <td>37</td> <td>46</td> <td>46</td> <td>46</td> <td>M John Renshaw Drive, Buttai</td> </tr> <tr> <td>43</td> <td>42</td> <td>42</td> <td>35</td> <td>45</td> <td>45</td> <td>45</td> <td>N Lings Road, Buttai</td> </tr> </tbody> </table> <p>Notes: 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 | | Evening | | Night | | Location and Locality | LAeq(15) | LAeq(15) | LAeq(15) | LAeq(15) | LAeq(15) | LAeq(15) | 40 | 35 | 35 | 35 | 35 | 35 | 45 | E Browns Rd, Black Hill | 42 | 35 | 35 | 35 | 35 | 35 | 45 | F Black Hill Rd, Black Hill | 43 | 39 | 42 | 37 | 45 | 45 | 45 | G Buchanan Rd, Buchanan | 35 | 35 | 35 | 35 | 35 | 35 | 45 | H Mt Vincent Rd, Louth Park | 35 | 35 | 35 | 35 | 35 | 35 | 45 | L Kilsbarny Ave, Ashtonfield | 48 | 39 | 39 | 37 | 46 | 46 | 46 | M John Renshaw Drive, Buttai | 43 | 42 | 42 | 35 | 45 | 45 | 45 | N Lings Road, Buttai | Non-Compliant | <p>Noise monitoring is conducted in accordance with the Noise Monitoring Program. Noise monitoring results during the audit period 1 November 2015-30 October 2018 demonstrate general compliance with the operational noise impact assessment criteria. One exceedance occurred during the audit period:</p> <ul style="list-style-type: none"> Quarterly monitoring undertaken by SLR consulting in June 2016 demonstrated a minor exceedance of the noise criteria at a privately owned residence at Location M John Renshaw Drive, Buttai during the night (48 dBa) period during the noise surveys. The cause of the exceedance was the operation of the dozer and drill rigs in an exposed/elevated location. Bloomfield was notified immediately and ceased operation of the plant resulting in noise emissions falling below the development consent criteria. <p>Since this exceedance, 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 other noise exceedances have occurred during the audit period.</p> |
| Morning shoulder LAeq(15) | Day | | Evening | | Night | | Location and Locality | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LAeq(15) | LAeq(15) | LAeq(15) | LAeq(15) | LAeq(15) | LAeq(15) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 35 | 35 | 35 | 35 | 35 | 45 | E Browns Rd, Black Hill | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 35 | 35 | 35 | 35 | 35 | 45 | F Black Hill Rd, Black Hill | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | 39 | 42 | 37 | 45 | 45 | 45 | G Buchanan Rd, Buchanan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 35 | 35 | 35 | 35 | 35 | 45 | H Mt Vincent Rd, Louth Park | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 35 | 35 | 35 | 35 | 35 | 45 | L Kilsbarny Ave, Ashtonfield | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | 39 | 39 | 37 | 46 | 46 | 46 | M John Renshaw Drive, Buttai | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | 42 | 42 | 35 | 45 | 45 | 45 | N Lings Road, Buttai | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Condition Number | Condition | Compliance | Evidence and Comments |
|----------------------------------|---|------------|--|
| Cumulative Noise Criteria | | | |
| 2 | <p>The Proponent must 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>L_{Aeq}(11 hour) 50dB(A) – Morning shoulder and Day;</i></p> <p><i>L_{Aeq}(4 hour) 45 dB(A) – Evening; and</i></p> <p><i>L_{Aeq}(9 hour) 40 dB(A) – Night.</i></p> | Compliant | Quarterly Noise Monitoring Reports and Annual Reviews provide detail on the noise impact of the Project on surrounding receivers and has demonstrated general compliance with the cumulative noise criteria with the exception of June 2016 exceedance as discussed above. |
| Continuous Improvement | | | |
| 3 | <p>The Proponent must:</p> <p>(a) implement all reasonable and feasible noise mitigation measures;</p> | Compliant | Bloomfield Colliery's predictive meteorological modelling software program was updated in 2016 to include 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>(b) investigate ways to reduce the noise generated by the project; and</p> | Compliant | <p>During the audit it was confirmed that after the June 2016 noise exceedance, the site implemented operational controls to ensure noise was minimised through not parking or starting machinery at the top of the pit. Plant is now parked and started down in the pit to reduce start-up noise (BD pers comms).</p> <p>As part of MOD 4, Bloomfield Colliery engaged SLR to undertake a NVIA for the proposed project to identify any potential noise impacts. Operational noise levels were predicted to meet the relevant project specific and PA 07.0087 noise levels at all receiver locations under calm and prevailing weather conditions provided existing noise management practices are implemented as appropriate.</p> |
| | <p>(c) Report on these investigations and the implementation and effectiveness of these measures in the <i>Annual Review</i>, to the satisfaction of the <i>Secretary</i></p> | Compliant | <p>2016 Annual Review for Bloomfield Colliery reports on the implementation and effectiveness of the upgrade to the predictive meteorological modelling software program.</p> <p>The 2017 Annual Review outlines the performance of operational noise for the operating year in Section 3.10 and also describes the upgrades that occurred in 2016.</p> |
| Monitoring | | | |
| 4 | <p>The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the <i>Secretary</i>. The Program must :</p> <p>(a) be prepared in consultation with EPA and be submitted to the <i>Secretary</i> for approval within 6 months of the date of this approval; and</p> <p>(b) include:</p> <ul style="list-style-type: none"> - 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 <p>The Proponent must implement the Noise Monitoring Program as approved by the <i>Secretary</i>.</p> | Compliant | <p>The Noise Monitoring Program was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Noise Monitoring Program was submitted to DPE on 21 September 2017 (sighted email correspondence 31 October 2018). The Noise Monitoring Program was revised 6 November 2017 and submitted to DPE and approved on 19 December 2017.</p> <p>Sighted correspondence (dated 23 April 2010) with the EPA (formerly DECC) for the preparation of the original plan.</p> <p>The plan includes a description of monitoring measures (unattended and attended) in Section 4. Section 5 of the plan outlines noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval.</p> <p>The Noise Monitoring Program is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>During the audit period, noise monitoring has been undertaken in accordance with the Noise Monitoring Program and the results reported annually in the AEMR.</p> |

| Condition Number | Condition | Compliance | Evidence and Comments | | | | | | | | |
|---|---|---|--|--|----------------------|-----|---|-----|----|-----------|--|
| BLASTING AND VIBRATION | | | | | | | | | | | |
| Airblast Overpressure Limits | | | | | | | | | | | |
| 5 | <p>The Proponent <i>must</i> 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.</p> <table border="1"> <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 rowspan="2">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% | Compliant | <p>Blast results for the Bloomfield Colliery indicate between the audit period (1 November 2015 to 30 October 2018), four blasts exceeded 115 dB, however none of these were greater than 5% if the total number of blasts in a 12 month period.</p> <p>One blast (1% of total shots) exceeded 115dB blast overpressure for the 2015 period. Two exceedances occurred during the 2016 period equalling 3% of total shots for the 2016 period. One blast 1.8% of total shots exceeded the 115 dB blast overpressure during the 2017 period.</p> <p>No blasts exceeded 120 dB blast overpressure limits during the audit period.</p> |
| 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% | | | | | | | | | |
| Ground Vibration Impact Assessment Criteria | | | | | | | | | | | |
| 6 | <p>The Proponent <i>must</i> 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.</p> <table border="1"> <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>5</td> <td rowspan="2">5% of the total number of blasts in a 12 month period</td> </tr> <tr> <td>10</td> <td>0%</td> </tr> </tbody> </table> | Table 3: Ground vibration impact assessment criteria | | Peak particle velocity (mm/s) | Allowable Exceedance | 5 | 5% of the total number of blasts in a 12 month period | 10 | 0% | Compliant | <p>Blast results indicate no blasts exceeded the 5mm/sec or 10mm/sec ground vibration limits during the audit period (1 November 2015 to 30 October 2018).</p> |
| Table 3: Ground vibration impact assessment criteria | | | | | | | | | | | |
| Peak particle velocity (mm/s) | Allowable Exceedance | | | | | | | | | | |
| 5 | 5% of the total number of blasts in a 12 month period | | | | | | | | | | |
| 10 | | 0% | | | | | | | | | |
| Blasting Hours and Frequency | | | | | | | | | | | |
| 7 | The Proponent <i>must</i> carry out blasting on site only between 9 am and 5 pm Monday to Saturday. No blasting is allowed on Sundays and Public Holidays. | 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: | 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. | | | | | | | | |
| | (a) 2 blasts a day; and (b) 5 blasts a week, averaged over a 12 month period. | | | | | | | | | | |
| Operating Conditions | | | | | | | | | | | |
| 9 | <p>During mining operations on site, the Proponent <i>must</i> implement best blasting practice to:</p> <p>(a) protect the safety of people, property, public infrastructure, and livestock; and</p> <p>(b) minimise the dust and fume emissions from blasting at the project, to the satisfaction of the Secretary.</p> | Compliant | <p>The Blast Monitoring Program outlines on page 6 the use of predictive modelling system to plan for the timing of their blasts to occur during periods of low winds.</p> <p>Terroc Monitoring system has been installed.</p> <p>The Air Quality Monitoring Program outlines on Page 5 the dust minimisation management measures used at Bloomfield Colliery.</p> <p>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:</p> <ul style="list-style-type: none"> - 23 February 2018 - 29 February 2018 | | | | | | | | |
| 10 | The Proponent <i>must</i> 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. | Compliant | Blast monitoring results for the audit period confirm blasting was not undertaken within 500 metres of any privately-owned land. | | | | | | | | |
| Public Notice | | | | | | | | | | | |
| 11 | <p>The Proponent <i>must</i>:</p> <p>(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 Secretary;</p> | 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>). | | | | | | | | |

| Condition Number | Condition | Compliance | Evidence and Comments |
|---------------------------------|---|---------------|---|
| | (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 currently operates a blasting hotline ((02) 4930 2680). |
| | (c) advertise the blasting hotline number in a local newspaper at least 4 times each year; and | | Bloomfield Colliery advertises the blasting hotline in Maitland Mercury and Cessnock Advertiser. Sighted invoice dated 30/06/2017 and advertisement containing blasting hotline and environmental enquiries line |
| | (d) publish an up-to-date blasting schedule on its website, to the satisfaction of the Director-General. | | Confirmed up to date on the website during this audit. The most recent blasting information and schedule on the website is for week commencing 26 October 2018. |
| Property Inspections | | | |
| 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 must: | | |
| | within 2 months of receiving this request commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, 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. | | |
| Property Investigations | | | |
| 13 | If any landowner of privately-owned land within 2 kilometres of blasting operations, or any other landowner nominated by the Secretary, 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 Secretary 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 must repair the damages to the satisfaction of the Secretary. | | |
| | If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution. | | |
| Blast Monitoring Program | | | |
| 14 | The Proponent must prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Secretary. This program must: | Compliant | The Blast Monitoring Program was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>). |
| | (a) be submitted to the Director General for approval within 6 months of the date of this approval; and | | Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Blast Monitoring Program was revised (dated July 2017) and was submitted to DPE on 21 September 2017 and approved on 19 December 2017. |
| | (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. | | The Blast Monitoring Program is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 as required (GL pers comms). During the audit period, blast monitoring has been undertaken in accordance with the Blast Monitoring Program and the results reported annually in the AEMR. |

| Condition Number | Condition | Compliance | Evidence and Comments | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|--|-----------|--|--------|--------------------------|--|---------|------------------------|--|--------|-------------------------|--|---------|------------------------|------------------------------------|--------|--------------------------|-----------------------------|--------|---|-----------|---|
| AIR QUALITY | | | | | | | | | | | | | | | | | | | | | | | | |
| Impact Assessment Criteria | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | <p>The Proponent must 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>Table 4: Air quality criteria</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>a,c 25 µg/m³</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>b 50 µg/m³</td> </tr> <tr> <td>Particulate matter < 2.5 µm (PM_{2.5})</td> <td>Annual</td> <td>a,c 8 µg/m³</td> </tr> <tr> <td>Particulate matter < 2.5 µm (PM_{2.5})</td> <td>24 hour</td> <td>b 25 µg/m³</td> </tr> <tr> <td>Total suspended particulates (TSP)</td> <td>Annual</td> <td>a,c 90 µg/m³</td> </tr> <tr> <td>^a Deposited dust</td> <td>Annual</td> <td>^b 2 g/m²/month ^a 4 g/m²/month</td> </tr> </tbody> </table> <p>Notes: ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources). ^b Incremental impact (i.e. incremental increase in concentrations due to the project on its own). ^c Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary. ^d 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 ₁₀) | Annual | a,c 25 µg/m ³ | Particulate matter < 10 µm (PM ₁₀) | 24 hour | b 50 µg/m ³ | Particulate matter < 2.5 µm (PM _{2.5}) | Annual | a,c 8 µg/m ³ | Particulate matter < 2.5 µm (PM _{2.5}) | 24 hour | b 25 µg/m ³ | Total suspended particulates (TSP) | Annual | a,c 90 µg/m ³ | ^a Deposited dust | Annual | ^b 2 g/m ² /month ^a 4 g/m ² /month | Compliant | <p>Air Quality Monitoring results during the audit period (1 November 2015- 30 October 2018) demonstrate compliance with all impact assessment criteria under this condition as outlined in the 2015, 2016 and 2017 Annual Reviews.</p> <p>The PM2.5 monitoring requirement has come into effect on 16 August 2018 and therefore there is no available data to review within the audit period. Greg Lamb confirmed during the audit that monitoring devices are currently being updated to include capability to monitor PM2.5.</p> |
| Pollutant | Averaging Period | Criterion | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 10 µm (PM ₁₀) | Annual | a,c 25 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 10 µm (PM ₁₀) | 24 hour | b 50 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 2.5 µm (PM _{2.5}) | Annual | a,c 8 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | |
| Particulate matter < 2.5 µm (PM _{2.5}) | 24 hour | b 25 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | |
| Total suspended particulates (TSP) | Annual | a,c 90 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | |
| ^a Deposited dust | Annual | ^b 2 g/m ² /month ^a 4 g/m ² /month | | | | | | | | | | | | | | | | | | | | | | |
| Monitoring | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | <p>The Proponent must 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"> 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 an air quality monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this approval. <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 and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Air Quality Monitoring Program was submitted to DPE on 21 September 2017. A letter from DPE dated 21 December 2017 was sighted and confirmed approval of the revised Air Quality Monitoring Program.</p> <p>The previous audit confirmed the plan was prepared in consultation with OEH (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>The Air Quality Monitoring Program includes:</p> <ul style="list-style-type: none"> 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 (page 5) complaints procedure is provided (page 7) analysis of monitoring results and investigation and reporting exceedances are provided (page 7) <p>The Air Quality Monitoring Program is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 as required (GL pers comms).</p> <p>During the audit period, air quality monitoring has been undertaken in accordance with the approved Air Quality Monitoring Program and the results reported annually in the AEMR.</p> | | | | | | | | | | | | | | | | | | | | | |

| Condition Number | Condition | Compliance | Evidence and Comments |
|----------------------------------|--|------------|---|
| Meteorological Monitoring | | | |
| 17 | During the project, the Proponent must 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 Secretary . | Compliant | A continuous meteorological station is located on site and monitors rainfall, temperature, relative humidity, wind speed and wind direction. A field calibration report was sighted dated 26 July 2018 for the meteorological station. |
| 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 must 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). | Compliant | Mine water is discharged in accordance with conditions P1, L2 and L3 of EPL 396. These conditions allow discharge of 40ML of mine water per day, within water quality limits, dependent on rainfall. A review of the discharge records from 2016, 2017, 2018 has identified all mine water discharged from site was either 40ML or less per day. |
| Water Management Plan | | | |
| 19 | The Proponent must prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with EPA and DoI and be submitted to the Secretary for approval within 6 months of the date of this approval; (b) be prepared by suitably qualified expert/s whose appointment/s have been approved by the Secretary ; and (c) include: <ul style="list-style-type: none"> • a Site Water Balance; • an Erosion and Sediment Control Plan; • a Surface Water Monitoring Plan; • a Ground Water Monitoring Program; and • a Surface and Ground Water Response Plan. The Proponent must implement the Water Management Plan as approved by the Secretary . | Compliant | The Water Management Plan was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates). Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Water Management Plan was submitted to DPE on 21 September 2017 (viewed email from GL to DPE). A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan. The Water Management Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms). Provided that significant changes and updates to the plan are required it is recommended that during the next revision of this plan that Bloomfield consults with DoI. Appendix A of the Water Management Plan includes correspondence dated 17 November 2009 with DPE approving Andy Fulton of Aqua Terra Pty Ltd and Steve Perrens of Evans & Peck Pty Ltd to prepare the original Water Management Plan. The Water Management Plan includes: <ul style="list-style-type: none"> - A Site Water Balance in Part B and in full in Appendix B - An Erosion and Sediment Control Plan in Part C and in full in Appendix C - A Surface Water Monitoring Plan in Part D and in full in Appendix D - A Ground Water Monitoring Program in Part E and in full in Appendix E - A surface and Ground Water Response Plan in Part F and in full in Appendix E During the audit period, water management has been undertaken in accordance with the Water Management Plan and the results reported annually in the AEMR. |
| Site Water Balance | | | |
| 20 | The Site Water Balance must: (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 (b) describe measures to minimise water use by the project. | Compliant | A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan (including the Site Water Balance). The approved site water balance (included as Part B and Appendix B of the Water Management Plan) was reviewed and found to adequately address the requirements of (a) and (b). The site water balance outlines measures implemented at site to reduce water usage such as the recovery and re-use of water from tailings dam to dust suppression and coal processing. The Water Management Plan (including the Site Water Balance) is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms). |

| Condition Number | Condition | Compliance | Evidence and Comments |
|--|---|------------|--|
| Erosion and Sediment Control | | | |
| 21 | <p>The Erosion and Sediment Control Plan must:</p> <ul style="list-style-type: none"> (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; (b) identify activities that could cause soil erosion and generate sediment; (c) describe measures to minimise soil erosion and the potential for transport of sediment downstream; (d) describe the location, function and capacity of erosion and sediment control structures; and (e) describe what measures would be implemented to maintain the structures over time | Compliant | <p>A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan (including the Erosion and Sediment Control Plan).</p> <p>The approved erosion and sediment control plan (included as Part C and Appendix C of the Water Management Plan) was reviewed and adequately addressed (a) to (e). During the site visit progressive rehabilitation was observed to be occurring where possible such and the establishment of re-vegetated areas.</p> <p>The Water Management Plan (including the Erosion and Sediment Control Plan) is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> |
| Surface Water Monitoring | | | |
| 22 | <p>The Surface Water Monitoring Program must include:</p> <ul style="list-style-type: none"> (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the project; (b) surface water and stream health impact assessment criteria; (c) a program to monitor the impact of the project on surface water flows, water quality and stream health; and (d) reporting procedures for the results of the monitoring program | Compliant | <p>A letter from DPE (dated 21 December 2017) was approving the revised Water Management Plan (including the Surface Water Monitoring Program).</p> <p>The approved Surface Water Monitoring Program (included as Part D and Appendix D of the Water Management Plan) was reviewed and adequately addressed (a) to (d). The results of the surface water monitoring program are reported annually in the AEMR.</p> <p>The Water Management Plan (including the Surface Water Monitoring Plan) is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> |
| Groundwater Monitoring | | | |
| 23 | <p>The Groundwater Monitoring Program must include:</p> <ul style="list-style-type: none"> (a) further development of the regional and local groundwater model; (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); (c) groundwater impact assessment criteria; (d) a program to monitor the impact of the project on groundwater levels, yield, quality, groundwater dependent ecosystems and riparian vegetation; (e) procedures for the verification of the groundwater model; and (f) reporting procedures for the results of the monitoring program and model verification. | Compliant | <p>A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan (including the Groundwater Monitoring Program).</p> <p>The approved Ground Water Monitoring Program (included as Part E and Appendix E of the Water Management Plan) was reviewed and adequately addressed (a) to (f). The results of groundwater monitoring are reported annually in the AEMR.</p> <p>The Water Management Plan (including the Groundwater Management Plan) is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</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"> (a) investigate, notify and mitigate any exceedances of the surface water, stream health and ground water impact assessment criteria; (b) compensate landowners of privately-owned land whose water supply is adversely affected by the project; and (c) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation. | Compliant | <p>A letter from DPE (dated 21 December 2017) was sighted approving the revised Water Management Plan (including the Surface and Groundwater Response Plan).</p> <p>The approved Surface and Ground Water Monitoring Program (included as Part F of the Water Management Plan) was reviewed and adequately addressed (a) to (c).</p> <p>The Water Management Plan (including the Surface and Groundwater Response Plan) is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> |

| Condition Number | Condition | Compliance | Evidence and Comments | | | | | | | | | | | | | | |
|--|--|------------|-----------------------|---|---|--|---|--------------------------------------|--|--|--|----------------|---|-------------|--|-----------|---|
| LANDSCAPE MANAGEMENT | | | | | | | | | | | | | | | | | |
| Rehabilitation Objectives and Commitments | | | | | | | | | | | | | | | | | |
| 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"> Safe, stable and non-polluting Fit for the intended post-mining land use/s </td> </tr> <tr> <td>Areas proposed for native ecosystem re-establishment</td> <td> <ul style="list-style-type: none"> Restore self-sustaining native woodland ecosystems characteristic of vegetation communities found in the local area. <ul style="list-style-type: none"> Establish areas of self-sustaining: <ul style="list-style-type: none"> riparian habitat, within any diverted and/or re-established creek lines and retained water features; potential habitat for threatened flora and fauna species; and wildlife corridors, as far as is reasonable and feasible. </td> </tr> <tr> <td>Areas proposed for agricultural land</td> <td> <ul style="list-style-type: none"> Establish/restore grassland areas to support sustainable agricultural activities Achieve the nominated land capability classification </td> </tr> <tr> <td>Other land affected by the development</td> <td> <ul style="list-style-type: none"> Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native plant species (unless DRG agrees otherwise) </td> </tr> <tr> <td>Final Landform</td> <td> <ul style="list-style-type: none"> Stable and sustainable for the intended post-mining land use/s Integrated with surrounding natural landforms Incorporate micro-relief and drainage lines that are consistent with surrounding topography, to the greatest extent practicable Maximise surface water drainage to the natural environment (excluding final void catchment) </td> </tr> <tr> <td>Final voids</td> <td> <ul style="list-style-type: none"> Designed as long term groundwater sinks to maximise ground water flows across back filled pits to the final void Minimise to the greatest extent practicable: <ul style="list-style-type: none"> the size and depth of final voids; the drainage catchment of final voids; any high wall instability risk; and the risk of flood interaction </td> </tr> </tbody> </table> | Feature | Objective | All areas of the site affected by the project | <ul style="list-style-type: none"> Safe, stable and non-polluting Fit for the intended post-mining land use/s | Areas proposed for native ecosystem re-establishment | <ul style="list-style-type: none"> Restore self-sustaining native woodland ecosystems characteristic of vegetation communities found in the local area. <ul style="list-style-type: none"> Establish areas of self-sustaining: <ul style="list-style-type: none"> riparian habitat, within any diverted and/or re-established creek lines and retained water features; potential habitat for threatened flora and fauna species; and wildlife corridors, as far as is reasonable and feasible. | Areas proposed for agricultural land | <ul style="list-style-type: none"> Establish/restore grassland areas to support sustainable agricultural activities Achieve the nominated land capability classification | Other land affected by the development | <ul style="list-style-type: none"> Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native plant species (unless DRG agrees otherwise) | Final Landform | <ul style="list-style-type: none"> Stable and sustainable for the intended post-mining land use/s Integrated with surrounding natural landforms Incorporate micro-relief and drainage lines that are consistent with surrounding topography, to the greatest extent practicable Maximise surface water drainage to the natural environment (excluding final void catchment) | Final voids | <ul style="list-style-type: none"> Designed as long term groundwater sinks to maximise ground water flows across back filled pits to the final void Minimise to the greatest extent practicable: <ul style="list-style-type: none"> the size and depth of final voids; the drainage catchment of final voids; any high wall instability risk; and the risk of flood interaction | Compliant | <p>As reported in the previous Annual Reviews, the major rehabilitation program undertaken over the past decade has now resulted in only relatively small areas becoming available for rehabilitation each year.</p> <p>There has been no rehabilitation undertaken during 2018 to date and during the 2017 reporting period. This was largely due to the voluntary undertaking which did not allow Bloomfield to expand the open cut mining area during this period. No mining has been undertaken in the area as defined in Annexure A of the Departments letter dated 17 May 2017.</p> <p>It was noted and observed in the field inspection that significant progress has been made with regard to landform reestablishment throughout 2017 and 2018 particularly with regard to the backfilling of the S cut void. GL explained that once final landform is achieved in this area that it is planned to be shaped and rehabilitated.</p> <p>As reported in the annual reviews for the audit period during 2016 a total of 7.5 ha of land were rehabilitated during 2015 a total of 4 ha of land were rehabilitated.</p> <p>Areas that have been rehabilitated were observed during the site visit and were generally in accordance with objectives listed in Table 5 noting that most rehabilitation has occurred prior to the approval of MOD 4 (and the update of Table 5).</p> |
| Feature | Objective | | | | | | | | | | | | | | | | |
| All areas of the site affected by the project | <ul style="list-style-type: none"> Safe, stable and non-polluting Fit for the intended post-mining land use/s | | | | | | | | | | | | | | | | |
| Areas proposed for native ecosystem re-establishment | <ul style="list-style-type: none"> Restore self-sustaining native woodland ecosystems characteristic of vegetation communities found in the local area. <ul style="list-style-type: none"> Establish areas of self-sustaining: <ul style="list-style-type: none"> riparian habitat, within any diverted and/or re-established creek lines and retained water features; potential habitat for threatened flora and fauna species; and wildlife corridors, as far as is reasonable and feasible. | | | | | | | | | | | | | | | | |
| Areas proposed for agricultural land | <ul style="list-style-type: none"> Establish/restore grassland areas to support sustainable agricultural activities Achieve the nominated land capability classification | | | | | | | | | | | | | | | | |
| Other land affected by the development | <ul style="list-style-type: none"> Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native plant species (unless DRG agrees otherwise) | | | | | | | | | | | | | | | | |
| Final Landform | <ul style="list-style-type: none"> Stable and sustainable for the intended post-mining land use/s Integrated with surrounding natural landforms Incorporate micro-relief and drainage lines that are consistent with surrounding topography, to the greatest extent practicable Maximise surface water drainage to the natural environment (excluding final void catchment) | | | | | | | | | | | | | | | | |
| Final voids | <ul style="list-style-type: none"> Designed as long term groundwater sinks to maximise ground water flows across back filled pits to the final void Minimise to the greatest extent practicable: <ul style="list-style-type: none"> the size and depth of final voids; the drainage catchment of final voids; any high wall instability risk; and the risk of flood interaction | | | | | | | | | | | | | | | | |

| Condition Number | Condition | Compliance | Evidence and Comments | | | | | | | | | | |
|---|---|-------------------------|---|---|---|--------------------------|--|---------------|--|-----------|--|--|--|
| | <table border="1"> <tr> <td>Creek restoration works</td> <td> <ul style="list-style-type: none"> Engineered to be hydraulically and geomorphologically stable Incorporate erosion control measures based on vegetation and engineering revetments Incorporate structures for aquatic habitat Revegetate with suitable native species </td> </tr> <tr> <td>Surface infrastructure of the development</td> <td> <ul style="list-style-type: none"> To be decommissioned and removed, unless DRG agrees otherwise </td> </tr> <tr> <td>Rehabilitation materials</td> <td> <ul style="list-style-type: none"> 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 </td> </tr> <tr> <td>Water quality</td> <td> <ul style="list-style-type: none"> Water retained on the site is fit for the intended post-mining land use/s Water discharged from the site is suitable for receiving waters and fit for aquatic ecology and riparian vegetation </td> </tr> <tr> <td>Community</td> <td> <ul style="list-style-type: none"> Ensure public safety Minimise adverse socio-economic effects associated with mine closure </td> </tr> </table> | Creek restoration works | <ul style="list-style-type: none"> Engineered to be hydraulically and geomorphologically stable Incorporate erosion control measures based on vegetation and engineering revetments Incorporate structures for aquatic habitat Revegetate with suitable native species | Surface infrastructure of the development | <ul style="list-style-type: none"> To be decommissioned and removed, unless DRG agrees otherwise | Rehabilitation materials | <ul style="list-style-type: none"> 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 | Water quality | <ul style="list-style-type: none"> Water retained on the site is fit for the intended post-mining land use/s Water discharged from the site is suitable for receiving waters and fit for aquatic ecology and riparian vegetation | Community | <ul style="list-style-type: none"> Ensure public safety Minimise adverse socio-economic effects associated with mine closure | | |
| Creek restoration works | <ul style="list-style-type: none"> Engineered to be hydraulically and geomorphologically stable Incorporate erosion control measures based on vegetation and engineering revetments Incorporate structures for aquatic habitat Revegetate with suitable native species | | | | | | | | | | | | |
| Surface infrastructure of the development | <ul style="list-style-type: none"> To be decommissioned and removed, unless DRG agrees otherwise | | | | | | | | | | | | |
| Rehabilitation materials | <ul style="list-style-type: none"> 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 | | | | | | | | | | | | |
| Water quality | <ul style="list-style-type: none"> Water retained on the site is fit for the intended post-mining land use/s Water discharged from the site is suitable for receiving waters and fit for aquatic ecology and riparian vegetation | | | | | | | | | | | | |
| Community | <ul style="list-style-type: none"> Ensure public safety Minimise adverse socio-economic effects associated with mine closure | | | | | | | | | | | | |
| 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>A Rehabilitation Management Plan has been prepared for the site that outlines the objectives and approach to the rehabilitation of the Bloomfield Colliery site. No rehabilitation activities were undertaken during the 2017 reporting period or to date during 2018 largely as a result of the voluntary undertaking issued 17 May 2017.</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. Minor gully erosion was observed in a historically rehabilitated area, however material from this area may be used to rehabilitate the tailings dam in the future.</p> <p>It was noted and observed in the field inspection that significant progress has been made with regard to landform reestablishment throughout 2017 and 2018 particularly with regard to the backfilling of the S cut void. GL explained that once final landform is achieved in this area that it is planned to be shaped and rehabilitated.</p> | | | | | | | | | | |
| Landscape Management Plan | | | | | | | | | | | | | |
| 26 | <p>The Proponent must prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the Secretary and DRG. This plan must:</p> <p>(a) be prepared in consultation with OEH, Dol and Council by suitably qualified expert/s whose appointment/s have been approved by the Secretary; and</p> <p>(b) include a:</p> <ul style="list-style-type: none"> Rehabilitation Management Plan to be submitted to the Director-General for approval within 6 months of the date of this approval; Final Void Management Plan to be submitted to the Director-General for approval by 30 June 2012; and Mine Closure Plan to be submitted to the Director-General for approval by 30 June 2012. <p>The Proponent must implement the Landscape Management Plan as approved by the Secretary.</p> | Compliant | <p>The Landscape Management Plan was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Landscape Management Plan was submitted to DPE on 21 September 2017. A letter from DPE (dated 19 December 2017) was sighted approving the revised Landscape Management Plan.</p> <p>John Hindmarsh and Keren Halliday were approved by the Director-general on 16 December 2009 (sighted letter) to prepare the plan.</p> <p>The original Landscape Management Plan was prepared in consultation with OEH (sighted email correspondence dated 28 April 2010). At the time of the preparation of the original management plan consultation with Dol and Council was not required. It is noted that following approval of MOD 4 it is now required.</p> | | | | | | | | | | |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | | | <p>In this regard it is recommended that OEH, DoI and Council are consulted with during the next revision of the plan.</p> <p>The Landscape Management Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</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> <p>minimising and rehabilitating disturbed areas;</p> <p>protecting vegetation and soil outside the disturbance areas;</p> <p>undertaking pre-clearance surveys;</p> <p>managing impacts on fauna;</p> <p>landscaping the site to minimise visual impacts;</p> <p>conserving and reusing topsoil;</p> <p>collecting and propagating seed for rehabilitation works;</p> <p>salvaging and reusing material from the site for habitat enhancement;</p> <p>controlling weeds and feral pests;</p> <p>controlling access; and bushfire management;</p> <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> | Compliant | <p>The Rehabilitation Management Plan was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Rehabilitation Management Plan was submitted to DPE on 21 September 2017. A letter from DPE (dated 19 December 2017) was sighted approving the revised Rehabilitation Management Plan.</p> <p>The Rehabilitation Management Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>The Rehabilitation Management Plan requires the completion of pre-clearance surveys will be conducted prior to any vegetation clearing works in advance of mining. During the audit pre-clearance survey forms were reviewed and were identified to meet the requirements of the Rehabilitation Management Plan. Reviewed forms were dated:</p> <ul style="list-style-type: none"> - 18 February 2016 - 14 February 2016 <p>The Rehabilitation Management Plan also requires the control of weeds and feral pests. Bloomfield uses a Herbicide Record sheet to document any weed/pest control activities undertaken on site. During the audit Herbicide Record sheets were reviewed that outline the locations and type of weed species targeted for that day. Reviewed forms were dated:</p> <ul style="list-style-type: none"> - 18 May 2018 - 17 May 2018 - 16 May 2018 - 15 May 2018 - 14 May 2018 |
| Final Void Management | | | |
| 28 | <p>The Final Void Management Plan must:</p> <p>(a) justify the final location and future use of the final void;</p> <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:</p> <p>minimise any potential adverse impacts associated with the final void; and</p> <p>manage and monitor the potential impacts of the final void</p> | Compliant | <p>The Final Void Management Plan was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Final Void Management Plan was submitted to DPE on 21 September 2017. A letter from DPE (dated 19 December 2017) was sighted approving the revised Final Void Management Plan.</p> <p>The Final Void Management Plan adequately addresses (a) to (c) as required by this condition.</p> <p>The Final Void Management Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> |
| Tailings Dam Embankment | | | |
| 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 | |

| Condition Number | Condition | Compliance | Evidence and Comments |
|---|--|------------|--|
| Mine Closure Plan | | | |
| 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> | Compliant | <p>The Mine Closure Plan was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Mine Closure Plan was submitted to DPE on 21 September 2017. A letter from DPE (dated 19 December 2017) was sighted approving the revised Mine Closure Plan.</p> <p>The Mine Closure Plan adequately addresses the (a) to (f) as required by this condition.</p> <p>The Mine Closure Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> |
| Biodiversity Offsets | | | |
| 29A | <p>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.</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> <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>Email correspondence (dated 10 August 2018) with the NSW Biodiversity Conservation Trust (BCT) was sighted confirming the offsite area and to secure this land under Part 4, Division 12 of the <i>National Parks and Wildlife Act 1974</i>. The BCT has indicated that they are currently finalising a policy on the mechanism to secure offset sites and will confirm the next steps required with Bloomfield once this policy has been finalised.</p> <p>A letter from DPE (dated 26 September 2018) was sighted approving the re-calculated conservation bond of \$113,740 for the project.</p> |
| Biodiversity Offset Management Plans | | | |
| 29B | <p>By 31 December 2011, the Proponent must prepare and implement a Biodiversity Offset Management Plan to the satisfaction of the Secretary. This plan must:</p> <p>(a) be generally consistent with OEH's "Principles for the use of biodiversity offsets in NSW";</p> <p>(b) include:</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"> -revegetation and regeneration, including (where relevant) establishment of canopy, sub- canopy, understorey and ground cover; -appropriate protection, conservation and management of native vegetation and faunal habitat; -controlling weeds and feral pests; -management of public access; and -bushfire management. <p>The Proponent must implement the Biodiversity Offset Management Plan as approved by the Secretary.</p> | Compliant | <p>The Biodiversity Offset Management Plan was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Biodiversity Offset Management Plan was submitted to DPE on 21 September 2017. A letter from DPE (dated 19 December 2017) was sighted approving the revised Biodiversity Offset Management Plan.</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"> - Short, Medium and Long-term Measures (pages 6-7); - Performance and Completion Criteria (page 7); - Description of the measures that would be implemented within the Biodiversity Offset Area for: <ul style="list-style-type: none"> o Regeneration (page 7); o Protection, Conservation and Management (page 8); o Weeds and Feral Pests (page 8); o Public Access (page 8); o Bushfire Management (page 8) |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | | | In accordance with the plan, short term measures such as the establishment of fencing to prevent the uncontrolled entry of livestock has been undertaken. G Lamb confirmed during the audit that a recent fencing campaign has been undertaken in the offset area to secure the site (GL pers comms). Additionally, G Lamb advised that the first round of annual weed and pest control is planned to be conducted on 14 December 2018 (which is within 12 months of the management plan being approved). The Biodiversity Offset Management Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms). |
| Conservation Bond | | | |
| 29C | <p>Within 6 months of the approval of the Biodiversity Offset Management Plan, the Applicant must 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 must be determined by:</p> <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> | Compliant | <p>The Biodiversity Offset Management Plan was approved by DPE on 19 December 2017. A letter from DPE (dated 26 September 2018) was sighted approving the re-calculated conservation bond of \$113,740 for the project which as stated in the letter was required to be lodged by 17 October 2018.</p> <p>Bloomfield lodged the conservation bond with the Department on 15 October 2018. Viewed <i>Unconditional Undertaking from Liberty International Underwriters</i> dated 15 October 2018 which covered the required amount of \$113,740 and listed the Department as the beneficiary for the conservation bond.</p> |
| Biodiversity Credits | | | |
| 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> | Not Triggered | |
| Conservation Funding | | | |
| 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> |
| Heritage | | | |
| 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> | Compliant | <p>The Aboriginal Cultural Heritage Management Plan was submitted and approved by DPE within the required timeframe as confirmed by the previous Audit (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms).</p> <p>A letter from DPE dated 19 December 2017 indicated that the Aboriginal Cultural Heritage Management Plan had not been reviewed as it was currently with Mindaribba Land Council for consultation. During the audit C Knight and G Lamb Confirmed this was the case and that once Mindaribba's review had been completed that the revised plan would be finalised and submitted for approval.</p> |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | | | DPE are aware of the status of this revised plan as evident in the letter dated 19 December 2017 and as such the previously approved revision of the plan is currently being implemented at the site. Page 7 and Page 13 describe the consultation undertaken with the Aboriginal communities regarding the project. Page 7 describes the on-site management of Aboriginal heritage and Page 8 describes the measures to be implemented if new Aboriginal objects are uncovered. |
| Historic Heritage Condition Surveys | | | |
| 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 any memorial headstones, graves, fences and trees,</p> <p>To the satisfaction of the Secretary</p> | Compliant | <p>A Condition Assessment has been prepared by AECOM for the Buttai Reservoirs No 1 and 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 will be submitted to DPE for review and approval (GL pers comm).</p> |
| Historic Heritage Conservation Management Plan | | | |
| 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> | Not Triggered | The Historic Heritage Conservation Management Plan is planned to be prepared and submitted to DPE within 6 months of the approval date of Modification 4 (16 August 2018)(GLpers comm) |
| Visual | | | |
| 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 | 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. |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| GREENHOUSE GAS | | | |
| Energy Saving Action Plan | | | |
| 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 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. The Proponent must implement the Energy Savings Action Plan as approved by 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> <p>Sighted correspondence from G Lamb resubmitting the plan to the Department on Friday 14 October 2016. No response has been received from DPE.</p> <p>The Energy Savings Action Plan is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> <p>The plan adequately addresses the requirements of (a) to (c) of this condition.</p> |
| Waste Minimisation | | | |
| 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> | 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. 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"> - Australian Waste Oil Refineries collection record for the period 1 July 2015 – 30 June 2016 - Remondis collection record for the period July 2016 – June 2017 - Southern Oil collection record for the period January 2017 – December 2017 <p>Waste Management is reported annually in the Annual Reviews in Section 2.6.</p> |
| Schedule 4 Additional Procedures | | | |
| Notification of Landowners | | | |
| 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> | Non-Compliant | <p>The noise exceedance which occurred June 2016 (refer Schedule 3Condition 1) was not notified to the Director-General and the affected landowners/tenants. All noise results following the exceedance were compliant during the audit period.</p> <p>Noise monitoring results are available on Bloomfield's website at: http://www.bloomcoll.com.au/bloomfield/bfield/ManagementPlans/tabid/236/Default.aspx</p> |
| 2 | <p>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 must 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.</p> | Not Triggered | <p>A review of the 2015, 2016 and 2017 Annual Reviews identified air quality criteria all below the nominated criteria. This condition was not triggered during the audit period.</p> |
| 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 Secretary in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Secretary is satisfied that an independent review is warranted, the Proponent must within 2 months of the Secretary's decision:</p> <p>(a) consult with the landowner to determine his/her concerns;</p> | Not Triggered | <p>This condition was not triggered during the audit period.</p> |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, 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 Secretary and landowner a copy of the independent review.</p> <p>If the Secretary is not satisfied that an independent review is warranted, the Secretary 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> | | |
| 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 must:</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 Secretary</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 Secretary.</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 must, 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, to the satisfaction of the Secretary.</p> <p>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 Secretary</p> | Not Triggered | This condition was not triggered during the audit period. |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| Schedule 5 Environmental Management, Monitoring, Reporting & Auditing | | | |
| ENVIRONMENTAL MANAGEMENT | | | |
| Environmental Management Strategy | | | |
| 1 | <p>The Proponent must prepare and implement an Environmental Management Strategy for the project, to the satisfaction of the Secretary. The strategy must:</p> <p>(a) be submitted to the Secretary 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"> - keep the local community and relevant agencies informed about the operation and environmental performance of the project; - receive, handle, respond to, and record complaints; - resolve any disputes that may arise during the course of the project; - respond to any non-compliance; and respond to emergencies; <p>(f) Include:</p> <p>References 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>The Proponent must implement the Environmental Management Strategy as approved by the Secretary.</p> | Compliant | <p>Previous Audit confirmed compliance of Bloomfield Colliery in submission of the Environmental Management Strategy to the Director General however no response from the Department had been received at the time of audit. (<i>Independent Environmental Audit Bloomfield Colliery November 2015 Trevor Brown and Associates</i>).</p> <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms). The Environmental Management Strategy was submitted to DPE on 21 September 2017. A letter from DPE dated 19 December 2017 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"> - a strategic framework for environmental management of the project – page 3 - identification of the statutory obligations of the project – page 5 - description of the roles and responsibilities of key staff members - page 9 - description of the procedures in place to respond to complaints, disputes, non-compliances or emergencies – pages 9-11 - reference to the monitoring required - page 10 <p>The Environmental Management Strategy is currently being revised due to the approval of MOD 4 and will be submitted to DPE for approval before 16 November 2018 (GL pers comms).</p> |
| Management Plan Requirements | | | |
| 2 | <p>The Proponent must 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 performance of the project over time;</p> | Compliant | <p>A review of the following management plans was conducted as part of the audit:</p> <ul style="list-style-type: none"> - Aboriginal Cultural Heritage Management Plan - Air Quality Management Plan - Blasting Monitoring Program - Biodiversity Offset Management Plan - Environmental Management Strategy - Final Void Management Plan - Landscape Management Plan - Mine Closure Plan - Noise Monitoring Plan - Rehabilitation Management Plan - Water Management Plan - Energy Savings Action Plan <p>Each 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> <p>b) Section detailing the Statutory requirements and any relevant approval conditions are included</p> |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | <p>(g) a protocol for managing and reporting any 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>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> |
| Annual Review | | | |
| 3 | <p>Each year, the Proponent must review the environmental performance of the project to the satisfaction of the Secretary. 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; the monitoring results of previous years; and the relevant predictions in the documents listed in condition 2 of Schedule 2</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> | Compliant | <p>Relevant to the audit period Annual Environmental Management Reports (AEMRs) (now Annual Reviews) have been completed for 2015, 2016 and 2017 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 (21 March 2016) from DPE acknowledging receipt of the 2015 Annual Review, however no formal approval letter from DPE was provided (GL pers com).</p> <p>Sighted correspondence (4 July 2017) from DPE approving the 2016 Annual Review.</p> <p>Sighted correspondence (25 September 2018) from DPE approving the 2017 Annual Review.</p> |
| Revision of Strategies, Plans and Programs | | | |
| 4 | <p>Within three months of:</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), 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>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.</p> | Compliant | <p>Correspondence from the Department dated 4 July 2017 requested Bloomfield to revise and submit all management plans for approval by the 30 September 2017 (GL pers comms).</p> <p>Letters from DPE were sighted approving the revised plans on 19 December 2017 and 21 December 2017 with the exception of the Aboriginal Cultural Heritage Management Plan (refer to Schedule 3 Condition 31).</p> <p>Note that the Energy Savings Action Plan was not revised in 2017.</p> <p>G Lamb confirmed that all management plans are currently being revised and will be submitted to DPE for review and approval within 3 months of the MOD 4 approval date (expected to be submitted prior to 16 November 2018).</p> |
| Community Consultative Committee | | | |
| 5 | <p>Within 3 months of the date of this approval, the Proponent must 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"> The CCC is an advisory committee only. In accordance with the guidelines, the committee should comprise an independent chair and appropriate representation from the Proponent, Council and the local community. | Compliant | <p>Confirmed that the CCC has been maintained and operated as required during the audit period. The Independent Chair appointed to the CCC is Ms Margaret MacDonald-Hill</p> <p>Sighted CCC meeting minutes from:</p> <ul style="list-style-type: none"> 30 November 2015 16 May 2016 22 August 2016 28 November 2016 1 May 2017 28 August 2017 |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | <p>* The CCC may also be combined with any similar CCC for the Donaldson Coal Mine or the Abel Coal Mine.</p> | | <ul style="list-style-type: none"> - 5 March 2018 - 18 June 2018 |
| Incident Reporting | | | |
| 6 | <p>The Proponent must 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 must provide the Secretary and any relevant agencies with a detailed report on the incident.</p> | Non-Compliant | <ul style="list-style-type: none"> - The following reportable incidents occurred during the audit period: 6 January 2016 – Water discharge to Four Mile Creek exceeded the EPL concentration limits of Total Suspended Solids (TSS). The incident was reported to DPE and the EPA on 7 January 2016. A written report was provided to the EPA and DPE on 14 January 2016 (not within 7 days of the incident). - The noise exceedance which occurred June 2016 (refer Schedule 3, Condition 1) was not notified to the Director-General and other relevant agencies as required. - 2 January 2017 – Water discharge exceeded the EPL concentration limits of Total Suspended Solids (TSS). Following the 2 January 2017 event, Bloomfield notified the EPA by phone on 6 January 2017, however did not notify the Department until the written report was sent to the EPA (on 12 January 2017). A show-cause letter was sent by the Department and Bloomfield's response was accepted. The Department provided a recommendation to Bloomfield to update any emergency management plan and PIRMP to include the notification requirements and contact details in the event of an incident. - 27 August 2017 – During the nightshift a small fire was observed in a mulch stockpile area used for mine rehabilitation. A grader and a water cart were dispatched to the area to control the fire and the Rural Fire Service was notified. The incident was reported to the EPA and DPE on 28 August 2017. The Rural Fire Service was satisfied that Bloomfield has handled the situation. With the exception of the emission of smoke the incident did not cause any harm to the environment. Due to the darkness the exact cause of the fire was unable to be determined. Upon further inspection it was determined that the likely cause of the fire was spontaneous combustion of the mulch material. Following the notification of the incident a written report was provided to the EPA and DPE on 4 September 2017 (not within 7 days of the incident). Sighted letter from DPE dated 5 September 2017 that DPE will take no further action at this time. |
| Independent Environmental Audit | | | |
| 7 | <p>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:</p> <p>(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;</p> <p>(b) include consultation with the relevant agencies and the CCC;</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 Secretary.</i></p> | Compliant | <p>Independent Environmental Audit was conducted by Umwelt on 30 October 2018 and satisfies the requirements of this condition.</p> <p>a) Daniel Sullivan (Lead Auditor), Clare Naylor (Auditor) and Ian Pankhurst (Spontaneous Combustion Specialist) were granted DPE approval to conduct the Independent Environmental Audit of the Bloomfield operations in correspondence from the Department dated 31 August 2018.</p> <p>b) Consultation was undertaken with DP&E, DoI, OEH, DRG, EPA, Cessnock City Council, Maitland 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> |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| 8 | Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary, 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 Secretary. | Compliant | Sighted correspondence from the Department dated 28 January 2016 to acknowledge receipt of the 2015 Independent Environmental Audit Report. |
| Monitoring and Environmental Audits | | | |
| 8A | 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&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit. <i>Note: For the purposes of this condition, as set out in the EP&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> | Noted | |
| Access to Information | | | |
| 9 | From the end of 2009, the Proponent must make the following information publicly available on its website: | Compliant | Bloomfield provides the information required under this condition on its website: http://www.bloomcoll.com.au/ApprovalsPlansandReports/BloomfieldColliery/Approvals/tabid/235/Default.aspx |
| | (a) a copy of all current statutory approvals for the project; | Compliant | The Environmental Management Strategy and all relevant management plans are publicly available on the website |
| | (b) a copy of the current environmental management strategy and associated plans and programs; | Compliant | Blast results, noise monitoring results, and water discharge results are all publicly available on the website. |
| | (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 | Sighted 2016, 2017 and 2018 Complaints Register on the Bloomfield website. |
| | (d) a complaints register, which is to be updated on a monthly basis; | Compliant | Minutes from CCC meeting are available on the website including the most recent meeting held in June 2018. http://www.bloomcoll.com.au/bloomfield/bfield/Environment/ccc/tabid/239/Default.aspx |
| | (e) a copy of the minutes of CCC meetings; | Compliant | Annual Reviews available from 2008-2017 on the website. http://www.bloomcoll.com.au/bloomfield/bfield/ManagementPlans/tabid/236/Default.aspx |
| | (f) a copy of any Annual Reviews (over the last 5 years); | Compliant | A copy of the 2013 and 2015 IEA are available on the website. http://www.bloomcoll.com.au/bloomfield/bfield/ManagementPlans/tabid/236/Default.aspx |
| | (g) a copy of any Independent Environmental Audit, and the Proponent's response to the recommendations in any audit; and | Compliant | GL confirmed no further matters have been required from the Department to make publicly available. |
| | (h) any other matter required by the Secretary | Not Triggered | |

| SoC Number | Statement of Commitment | Compliance | Evidence and Comments |
|------------|---|---------------|---|
| 1 | General | | |
| 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 | 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: The current and proposed active open cut coal mining areas; The unshaped and shaped overburden dump areas within the Project Area; The workshop and surrounding area used for maintenance and fuel storage; The road linking the current and proposed coal mining areas with the ROM coal stockpiles adjacent to the coal washery; and The road linking the current and proposed coal mining areas to the workshop. | | |
| 2. | Production | | |
| 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 1.3mtpa 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. |
| 3. | Hours of Operation | | |
| 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. |
| 4. | Rehabilitation | | |
| 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 | All site rehabilitation has been undertaken in accordance with the Rehabilitation Management Plan which was developed under Project Approval Schedule 3, Conditions 26 and 27. |
| 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 | 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. |
| 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 | 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. |
| 5. | Final Void | | |
| 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 |

| SoC Number | Statement of Commitment | Compliance | Evidence and Comments |
|------------|--|---------------|--|
| 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 |
| 6. | Environmental Management Systems and Plans | | |
| 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. |
| 7. | Environmental Monitoring and Reporting | | |
| 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 (2015, 2016 and 2017) contain monitoring summary and discussion and response of exceedances. |
| 8. | Consultation | | |
| 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 2018. |
| 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 publically available on the website. During the audit period 15 complaints have been received regarding Bloomfield Colliery operations. |
| 9 | Flora and Fauna | | |
| 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 for within ML1738 for mining or coal washing operations during the 2017 reporting period. Approximately 3 Ha of vegetation was cleared for Bloomfield mining operations during the 2016 reporting period. Pre-clearance surveys were reviewed for 18 February 2016 and 14 December 2016. No vegetation was cleared for Bloomfield mining or coal washing operations during the reporting period. Examples of pre-clearance surveys were reviewed for: - 18 February 2016 - 14 December 2016 |

| SoC Number | Statement of Commitment | Compliance | Evidence and Comments |
|------------|--|---------------|---|
| 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. |
| 10. | Aboriginal Heritage | | |
| 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 | Refer to Schedule 3 Condition 31 of the Project Approval. |
| 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. | Compliant | Refer to Schedule 3 Condition 31 of the Project Approval. |
| 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 | Refer to Schedule 3 Condition 30 of the Project Approval. |
| 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 | G Lamb confirmed consultation with Mindaribba Land Council is ongoing (refer to Condition 30) |
| 11. | Noise Management and Monitoring | | |
| 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 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. | Compliant | The current noise mitigation measures will be maintained throughout Stage 2 (likely to be completed in 2019) and 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 |
|------------|---|---------------|--|
| | During Year 10 (End of Stage 4): The excavator and dump site will be situated in a shielded location during night-time operation; and No dozer operation at the drill location will occur during the night period. | | |
| 11.3 | Bloomfield may undertake a noise monitoring and investigation program during the Project, in consultation with OEH and the Department, 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 | 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: - Date and time of the complaint - Method by which the complaint was made - Details of the complainant - Nature of the complainant - Actions taken |
| 12. | Blasting | | |
| 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. |
| 13. | Air Quality | | |
| 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 | Dust generation on the Project Area will be minimised by implementation of the following: All vehicles will be operated according to Mine Transport Management Plan, which requires vehicles to remain on specified routes; Disturbed areas will be minimised where possible; Dust suppression water spraying will be used on all active haul roads and stockpile areas where required; 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. | Compliant | Dust minimisation management measures utilised at Bloomfield Colliery include: - 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 - Limiting speed limits on haul roads - Rehabilitation of disturbed areas following the completion of mining operations in the area - Utilising water carts |

| SoC Number | Statement of Commitment | Compliance | Evidence and Comments |
|------------|--|------------|---|
| 14. | Greenhouse Gas Monitoring and Energy Efficiency | | |
| 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 2016-2017 reporting period (3 October 2017) and the 2017-2018 reporting period (26 October 2010). |
| 15. | Surface Water Management | | |
| 15.1 | Surface water management for the Project will be undertaken in accordance with Bloomfield's existing Environmental Water Management System ('EWMS'). The EMWS will be modified to address the additional requirements for this Project provided in the Draft Water Management Plan (Appendix H). | Compliant | Refer to Schedule 3 Condition 19 of the Project Approval. The revised Water Management Plan was approved by DPE on 21 December 2017. |
| 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. Erosion Sediment Control plan forms part of Bloomfield Colliery's Water Management Plan. |
| 16. | Surface Water Monitoring Program | | |
| 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 DoI. | Compliant | Refer to Schedule 3 Condition 22 of the Project Approval. Surface Water Monitoring Program is included in Bloomfield Colliery's Water Management Plan. |
| 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. Surface Water Monitoring Program is included in Bloomfield Colliery's Water Management Plan. |
| 17. | Groundwater Monitoring | | |
| 17.1 | Bloomfield's existing EWMS will incorporate a Groundwater Monitoring Program, developed in consultation with DoI. | Compliant | Refer to Schedule 3 Condition 23 of the Project Approval. Groundwater Monitoring Program is included in Bloomfield Colliery's Water Management Plan. |
| 18. | Visual Amenity | | |
| 18.1 | Visual impacts of the Bloomfield Mine will be mitigated by the following strategies: Rehabilitation of the southern boundary of the Project Area adjacent to John Renshaw Drive will be given priority during the early stages of mining; Mobile directional lighting in active mine areas will be directed away from neighbouring properties and roadways; and Complaints regarding lighting will be investigated by Bloomfield during the relevant shift. | Compliant | Rehabilitation of the southern boundary on John Renshaw Drive has progressed and wattle is growing in the area. In the future, there will be no visibility of the mine from the southern boundary. No complaints regarding lighting have occurred during the audit period. |
| 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. |
| 19. | Staff Training | | |
| 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. |
| 20. | Integration with Other Mining Operations – Roles & Responsibilities | | |
| 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). Sighted latest 5 yearly inspection report prepared by Bashi & Associates Pty Ltd on 15 May 2018. |

| SoC Number | Statement of Commitment | Compliance | Evidence and Comments |
|------------|---|------------|---|
| 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 | |
| 21. | Community Enhancement Fund | | |
| 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 | The CEF will comprise two components: 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. 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. | 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> <p>Upgrade and use of Wattle Tree Drive as an alternative haul route (Area A);</p> <p>Additional overburden emplacement and rehabilitation - east of Save a Mile Haul Road (Area B)</p> <p>Additional out-of-pit landform reshaping and rehabilitation – northern and south-eastern areas (Area C and E)</p> <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> <p><u>Wattle Tree Drive construction (Area A) and Powerline Corridor (Area D)</u></p> <p>a. Construction hours (for the powerline corridor and construction of Wattle Tree Drive) will be between the hours of 7.00am and 6.00pm Monday to Friday and 8.00am to 1.00pm Saturdays.</p> <p>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.</p> <p><u>East of Save-a-Mile haul road (Area B)</u></p> <p>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.</p> <p>d. The height of the overburden emplacement area will be limited to an RL of 100 metres</p> <p>e. During evening and morning shoulder periods, the following controls will be in place:</p> <p>i. the drill and clearing dozer will be worked in a shielded location; dumping will only occur in the northern part of the dump;</p> | Not Triggered | <p>All activities were completed outside the audit period.</p> |

| SoC Number | Statement of Commitment (07_0087 MOD 1) | Compliance | Evidence and Comments |
|----------------------------|--|---------------|---|
| | <ul style="list-style-type: none"> ii. the dozer will only operate in a shielded location in the northern part of the dump; 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 iv. There will be no coal haulage from S-Cut during the morning shoulder period. <p><u>Northern area (Area C)</u></p> <ul style="list-style-type: none"> f. Dumping and rehabilitation during the daytime period only. <p><u>South-eastern area (Area E)</u></p> <ul style="list-style-type: none"> g. Dumping and rehabilitation during the daytime period only (7.00am to 6.00pm Mondays to Saturdays, 8.00am to 6.00pm Sundays) h. Dumping will be restricted to a maximum of 70 hours of work; and i. A front end loader will replace the dozer at the Area E dump once the emplacement reaches an RL of 52 metres. | | |
| 3. Ecology | | | |
| 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>). |
| 4. Water Management | | | |
| 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>). |



Mining Authorities Compliance Tables – Bloomfield Colliery

| ML 1738 | | | |
|--|---|---------------|---|
| Condition Number | Condition | Compliance | Evidence and Comments |
| Mining Lease Conditions 2013 | | | |
| 1 Notice to Landholders | | | |
| 1a) | Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice. | Non-Compliant | While the landholders have been notified that the lease has been granted this notice did not occur within the three month period as required. As advised by Bloomfield during the audit it was noted that this was not possible as the grant date of ML 1738 was 29 June 2016, however the granted lease was not forwarded to Bloomfield Colliery until 30 January 2017. Sighted letters sent to the relevant four landowners dated 19 July 2017. |
| 1b) | If there are ten (10) or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required. | Not Triggered | There are less than 10 landholders |
| 2 Rehabilitation | | | |
| 2 | Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister. | Not Triggered | Site visit confirmed Bloomfield Colliery is being progressively rehabilitated in a manner generally consistent with the final landform set out in the EA, subsequent modifications and the MOP. Operations at the site are still ongoing and rehabilitation is still ongoing. |
| 3 Mining Operations Plan and Annual Rehabilitation Report | | | |
| 3 a) | The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. | Compliant | DPE have approved the 2018-2020 MOP (sighted letter from DPE dated 3 October 2018). The 2018-2020 MOP was reviewed and activities on site are generally being undertaken in accordance with the approved MOP. It was noted and observed in the field inspection that significant progress has been made with regard to landform reestablishment throughout 2017 and 2018 particularly with regard to the backfilling of the S cut void. GL explained that once final landform is achieved in this area that it is planned to be shaped and rehabilitated. |
| 3 b) | The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: i) identifies areas that will be disturbed; ii) details the staging of specific mining operations, mining purposes and prospecting; iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and v) reflects the conditions of approval under: • the <i>Environmental Planning and Assessment Act 1979</i> ; • the <i>Protection of the Environment Operations Act 1997</i> ; and • any other approvals relevant to the development including the conditions of this mining lease. | Compliant | The MOP addresses the following elements in the below sections: i) The plans in Section 11 of the MOP identify areas that will be disturbed during the MOP period. ii) Details of proposed mining activities are outlined in Section 2 iii) Environmental management is outlined in Section 3 and post mining land use is outlined in Section 4 iv) Section 3 v) Section 1.2 |
| 3 c) | The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment | Compliant | The MOP approval letter (dated 3 October 2018) specifies that DPE considers the MOP has been prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013. Section 1 of the MOP also references that it has been prepared in accordance with ESG3: Mining Operations Plan (MOP) Guidelines September 2013. |
| 3 d) | The lease holder may apply to the Minister to amend an approved MOP at any time. | Noted | |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| 3 e) | <p>It is not a breach of this condition if:</p> <p>i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the <i>Environmental Planning and Assessment Act 1979</i>, the <i>Protection of the Environment Operations Act 1997</i>, the <i>Mine Health and Safety Act 2004/Coal Mine Health and Safety Act 2002</i> and Mine Health and Safety Regulation 2007/Coal Mine Health and Safety Regulation 2006 or the <i>Work Health and Safety Act 2011</i>; and</p> <p>ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.</p> | Noted | |
| 3 f) | <p>The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister.</p> <p>The report must:</p> <p>i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP;</p> <p>ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and</p> <p>iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment</p> <p><i>Note: The Rehabilitation Report replaces the Annual Environmental Management Report.</i></p> | Compliant | <p>Annual Reviews have been prepared for 2015, 2016 and 2017. Sighted correspondence (21 March 2016) from DPE acknowledging receipt of the 2015 Annual Review, however no formal approval letter from DPE is available.</p> <p>Sighted correspondence (4 July 2017) from DPE approving the 2016 Annual Review. Sighted correspondence (25 September 2018) from DPE approving the 2017 Annual Review.</p> <p>The AEMR reports on:</p> <p>i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP – Section 5</p> <p>ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and – Confirmed AEMRs during the audit period were submitted prior to the grant anniversary date (29 June). 2015 AEMR submitted on 21 March 2016, 2016 AEMR submitted on 23 March 2017 and 2017 AEMR submitted on 20 March 2018 (sighted email correspondence)</p> <p>iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment - Section 1 references the guidelines the AEMR is prepared in accordance with</p> |
| 4 Non-Compliance Report | | | |
| 4 a) | The lease holder must notify the Department upon becoming aware of any breaches of the conditions of this mining lease or breaches of the Mining Act or Regulations. | Noted | |
| 4 b) | Notifications under condition 4(a) must be provided in the form specified on the Department's website within seven (7) days of the mining lease holder becoming aware of the breach. | Noted | |
| 5 Environmental Incident Report | | | |
| 5 | The lease holder must provide environmental incident notifications and reports to the Secretary no later than seven (7) days after those environmental incident notifications and reports are provided to the relevant authorities under the Protection of the Environment Operations Act 1997. | Compliant | <ul style="list-style-type: none"> - 6 January 2016 – Water discharge to Four Mile Creek exceeded the EPL concentration limits of Total Suspended Solids (TSS). The incident was reported to DPE and the EPA on 7 January 2016. A written report was provided to the EPA and DPE on 14 January 2016 - 2 January 2017 – Water discharge exceeded the EPL concentration limits of Total Suspended Solids (TSS). Following the 2 January 2017 event, Bloomfield notified the EPA by phone on 6 January 2017, however, did not notify the Department until the written report was sent to the EPA (on 12 January 2017). A show-cause letter was sent by the Department and Bloomfield's response was accepted. The Department provided a recommendation to Bloomfield to update any emergency management plan and PIRMP to include the notification requirements and contact details in the event of an incident. - 27 August 2017 – During the nightshift a small fire was observed in a mulch stockpile area used for mine rehabilitation. A grader and a water cart were dispatched to the area to control the fire and the Rural Fire Service was notified. The incident was reported to the EPA and DPE on 28 August 2017. The Rural Fire Service was satisfied that Bloomfield has handled the situation. With the exception of the emission of smoke the incident did not cause any harm to the environment. Due to the darkness the exact cause of the fire was unable to be determined. Upon further inspection it was determined that the likely cause of the fire was spontaneous combustion of the mulch material. Following the notification of the incident a written report was provided to the EPA and DPE on 4 September 2017. Sighted letter from DPE dated 5 September 2017 that DPE will take no further action at this time. |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| 6 Extraction Plan | | | |
| 6 a) | <p>In this condition:</p> <p>i) approved Extraction Plan means a plan, being:</p> <p>A. an extraction plan or subsidence management plan approved in accordance with the conditions of a relevant development consent and provided to the Secretary; or</p> <p>B. a subsidence management plan relating to the mining operations subject to this lease:</p> <ul style="list-style-type: none"> • submitted to the Secretary on or before 31 December 2014; and • approved by the Secretary. <p>ii) relevant development consent means a development consent or project approval issued under the <i>Environmental Planning & Assessment Act 1979</i> relating to the mining operations subject to this lease.</p> | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 6 b) | The lease holder must not undertake any underground mining operations that may cause subsidence except in accordance with an approved Extraction Plan. | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 6 c) | The lease holder must ensure that the approved Extraction Plan provides for the effective management of risks associated with any subsidence resulting from mining operations carried out under this lease. | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 6 d) | <p>The lease holder must notify the Secretary within 48 hours of any:</p> <p>i) incident caused by subsidence which has a potential to expose any person to health and safety risks;</p> <p>ii) significant deviation from the predicted nature, magnitude, distribution, timing and duration of subsidence effects, and of the potential impacts and consequences of those deviations on built features and the health and safety of any person; or</p> <p>iii) significant failure or malfunction of a monitoring device or risk control measure set out in the approved Extraction Plan addressing:</p> <p>A. built features;</p> <p>B. public safety; or</p> <p>C. subsidence monitoring.</p> | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 7 Resource Recovery | | | |
| 7 | The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible. | Noted | |
| 8 Group Security | | | |
| 8 | <p>The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future.</p> <p>The amount of the security deposit to be provided as a group security has been assessed by the Minister at \$13,969,000.</p> <p>The leases covered by the group security include:</p> <p>Consolidated Coal Lease 761 (Act 1973)</p> <p>This group security is extended to apply to this lease.</p> | Compliant | <p>The rehabilitation security bond currently held by Bloomfield for ML 1738 was updated on 3 October 2018. The new security deposit is determined to be \$26,336,000.</p> <p>A deed of security deposit bond (dated 30 October 2018) was reviewed for an amount of \$26,336,000.</p> |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| 9 Cooperation Agreement | | | |
| 9 | <p>The lease holder must make every reasonable attempt, and be able to demonstrate its attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as:</p> <ul style="list-style-type: none"> • access arrangements • operational interaction procedures • dispute resolution • information exchange • well location • timing of drilling • potential resource extraction conflicts; and • rehabilitation issues. | Not Triggered | No overlapping title exists. |
| 10 Prescribed Dam | | | |
| 10 a) | Notwithstanding any MOP, the lease holder must not mine within any part of the lease area which is within the notification area of the Bloomfield U Cut Tailings Dam without the prior written approval of the Minister and subject to any conditions stipulated. | Not Triggered | No mining in this area during audit period. |
| 10 b) | <p>Where the lease holder desires to mine within the notification area he or she must:</p> <ol style="list-style-type: none"> i) at least twelve (12) months before mining is to commence or such lesser time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and ii) provide such information as the Minister may direct. | Not Triggered | No mining in this area during audit period. |
| 10 c) | <p>The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with.</p> <p>This sub-paragraph is complied with if:</p> <ol style="list-style-type: none"> i) the Dams Safety Committee as constituted by Section 7 of the <i>Dams Safety Act 1978</i> and the owner of the dam have been notified in writing of the desire to mine referred to in paragraph (b). ii) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. iii) the Director-General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal. iv) the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make any such recommendations; and v) where the Dams Safety Committee has made recommendations the approval is in terms that are: <ul style="list-style-type: none"> • in accordance with those recommendations; or • - where the Minister does not accept those recommendations or any of them - in accordance with a determination under subparagraph (ii) of this paragraph. vi) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam: <ul style="list-style-type: none"> • as determined by agreement between the Minister and the Minister administering the <i>Dams Safety Act 1978</i>; or • in the event of failure to reach such agreement - as determined by the Premier. | Not Triggered | No mining in this area during audit period. |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| 10 d) | The Minister, on notice from the Dams Safety Committee, may at any time or times: i) cancel any approval given where a notice pursuant to Section 18 of the <i>Dams Safety Act 1978</i> is given. ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed. | Not Triggered | No mining in this area during audit period. |
| Exploration Reporting | | | |
| | <p>Note: <i>Exploration Reports (Geological and Geophysical)</i></p> <p>The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the <i>Mining Act 1992</i> and in accordance with clause 57 of the <i>Mining Regulation 2010</i>.</p> <p>Reports must be prepared in accordance with <i>Exploration Reporting: A guide for reporting on exploration and Prospecting in New South Wales</i> (Department of Trade and Investment; Regional Infrastructure and Services 2010).</p> | Compliant | <p>The Department approved combined reporting for ML 1738 and CCL 761 and revised reporting date of 20 December 2017 in correspondence dated 27 June 2017. Viewed exploration reports for the 2015-2016 and 2016-2017 periods. The 2015-2016 report was submitted on 19 December 2017 and the 2016-2017 report was submitted on 19 March 2018. The email correspondence noted the reports had been assessed and accepted by DPE for archiving.</p> |

ML 1738 – Ancillary Mining Activity (AMA1001)

| Condition Number | Condition | Compliance | Evidence and Comments |
|--|---|---------------|--|
| Schedule A | | | |
| 1 Rehabilitation | | | |
| 1 | The lease holder must rehabilitate the land described in Schedule C that is or may be affected by the carrying out of the ancillary mining activity(s). | Not Triggered | Site visit confirmed Bloomfield Colliery is being progressively rehabilitated in a manner generally consistent with activities described in Schedule C. Operations at the site are still ongoing and rehabilitation is still ongoing. |
| 2 Mining Operations Plan and Annual Rehabilitation Report | | | |
| 2.1 | Condition 3 of Mining Lease 1738 relevant to the Mining Operations Plan (MOP) and Annual Rehabilitation Report applies to the ancillary mining activity(s). | Noted | |
| 2.2 | The lease holder must update the MOP to incorporate the carrying out of the ancillary mining activity(s) and submit the updated MOP to the Minister for approval within 45 days of this variation. | Compliant | The MOP was originally submitted on 24 August 2018 (which was within the 45 days as required) Following this additional information was requested by the Department in correspondence dated 14 September and requested that the MOP be resubmitted with this additional information by 15 October 2018. The revised MOP was submitted to DPE on 26 September 2018. DPE approved the 2018-2020 MOP (signed letter from DPE dated 3 October 2018). The 2018-2020 MOP included this variation. |
| Schedule B | | | |
| 1 | The activities prescribed as ancillary mining activities by clause 7 of the <i>Mining regulation 2016</i> , listed below: The maintenance and use of dams associated with the water management (excluding Possum's Puddle) | Compliant | The maintenance and use of dams is undertaken in accordance with the Water Management Plan for the project and any water use is reported annually in the AEMR. |
| 2 | The maintenance and use of drains associated with water management. | Compliant | The maintenance and use of drains is undertaken in accordance with the Water Management Plan for the project. |
| 3 | The removal, stockpiling and depositing of ore. | Compliant | The removal, stockpiling and depositing of ore is undertaken in accordance with the Rehabilitation Management Plan for the project and reported in the AEMR. |
| 4 | The removal, stockpiling and depositing of overburden associated with closure and final rehabilitation. | Compliant | The removal, stockpiling and depositing of overburden is undertaken in accordance with the Rehabilitation Management Plan for the project and reported in the AEMR. |
| Schedule C | | | |
| 1 | The Land described in the attached survey plan M27454, with Ancillary Mining Activity Reference Number AMA1001, dated 29 January 2018, which is not embraced by the lease plan M27339 attached to Mining Lease 1738. | Compliant | |

CCL 761

Note following grant of ML 1738, CCL 761 only covers small remanent areas (~9ha). The areas it covers are not associated with current approved open cut operations.

| Condition Number | Condition | Compliance | Evidence and Comments |
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| Mining Lease Conditions 2010 | | | |
| 1 Notice to Landholders | | | |
| 1a) | Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice. | Not Triggered | Not triggered during the audit period. |
| 1b) | If there are ten (10) or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area. | Not Triggered | Less than ten landholders. |
| 2 Environmental Harm | | | |
| 2 a) | The lease holder must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of any activities under this lease. | 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. Generally, there were some minor reportable incidents during the period, 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. |
| 2 b) | For the purposes of this condition: i) environment means components of the earth, including: A. land, air and water, and B. Any layer of the atmosphere, and C. Any organic or inorganic matter and any living organism, and D. Human-made or modified structures and areas, And includes interacting natural ecosystems that include components referred to in paragraphs A – C. ii) Harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution, contributes to the extinction or degradation of any threatened species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people. | Noted | Refer 2a) |
| 3 Mining Operations Plan | | | |
| 3 a) | Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General. | Compliant | DPE have approved the 2018-2020 MOP (sighted letter from DPE dated 3 October 2018). The 2018-2020 MOP was reviewed and activities on site are generally being undertaken in accordance with the approved MOP. |
| 3 b) | The MOP must: i) Identify areas that will be disturbed by mining operations; ii) Detail the staging of specific mining operations; iii) Identify how the mine will be managed to allow mine closure; iv) Identify how mining operations will be carried out in order to prevent and or minimise harm to the environment; | Compliant | The MOP addresses the following elements in the below sections: i) The plans in Section 11 of the MOP identify areas that will be disturbed during the MOP period. ii) Details of proposed mining activities are outlined in Section 2 iii) Environmental management is outlined in Section 3 and post mining land use is outlined in Section 4 iv) Section 3 v) Section 1.2 |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | v) Reflect the conditions of approval under: <ul style="list-style-type: none"> The Environmental Planning and Assessment Act 1979 The Protection of the Environmental Operations Act 1997 And any other approvals relevant to the development including the conditions of this lease; and Have regard to any relevant guidelines adopted by the Director-General. | | |
| 3 c) | The leaseholder may apply to the Director-General to amend an approved MOP at any time. | Noted | |
| 3 d) | It is not a breach of this condition if: <ul style="list-style-type: none"> i) The operations constituting the breach were necessary to comply with a lawful order or direction given under the Mining Act 1992, the Environmental Planning and Assessment Act 1979, Protection of the Environment Operations Act 1997, Mine Health and Safety Act 2004/Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007/Coal Mine Health and Safety Regulation 2006 or the Occupational Health and Safety Act 2000; and ii) The Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. | Noted | |
| 3 e) | A MOP ceases to have effect 7 years after date of approval or other such period as identified by the Director-General. | Noted | |
| 4 Environment Management Report | | | |
| 4 a) | The leaseholder must lodge Environmental Management Records (EMR) with the Director-General annually or at dates otherwise directed by the Director-General. | Compliant | Annual Reviews have been prepared for 2015, 2016 and 2017. Sighted correspondence (21 March 2016) from DPE acknowledging receipt of the 2015 Annual Review, however no formal approval letter from DPE is available. Sighted correspondence (4 July 2017) from DPE approving the 2016 Annual Review. Sighted correspondence (25 September 2018) from DPE approving the 2017 Annual Review. Confirmed AEMRs during the audit period were submitted prior to the grant anniversary date (29 June). 2015 AEMR submitted on 21 March 2016, 2016 AEMR submitted on 23 March 2017 and 2017 AEMR submitted on 20 March 2018 (sighted email correspondence). |
| 4 b) | The EMR must: <ul style="list-style-type: none"> i) Report against compliance with the MOP ii) Report on progress in respect of rehabilitation completion criteria. iii) Report on the extent of compliance with regulatory requirements; and iv) Have regard to any relevant guidelines adopted by the Director-General. | Compliant | The Annual Reviews include this information in the following sections: <ul style="list-style-type: none"> i) Section 6 ii) Section 5 iii) Section 1, Section 6 and Section 8 iv) Section 1 |
| 5 Environment Incident Report | | | |
| 5 a) | The leaseholder must report any environmental incidents. The report must: <ul style="list-style-type: none"> i) Be prepared according to any relevant Departmental guidelines; ii) Be submitted within 24 hours of an environmental incident occurring. | Not Triggered | No incidents relevant to areas covered by this lease. |
| 5 b) | For the purposes of the condition, environmental incident includes: <ul style="list-style-type: none"> i) Any incident causing or threatening material harm to the environment ii) Any breach of Conditions 1 to 9 and 11 to 24 iii) Any breach of environmental protection legislation; or iv) A serious complaint from landholders or the public | Noted | |
| 5 c) | For the purposes of this condition, harm to the environment is material if: <ul style="list-style-type: none"> i) It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or | Noted | |

| Condition Number | Condition | Compliance | Evidence and Comments |
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| | ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, where loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment. | | |
| 6 Additional Environment Reports | | | |
| 6 | Additional environmental reports may be required from time to time as directed in writing by the Director-General and must be lodged as instructed. | Not Triggered | None requested during audit period (GL pers comms.) |
| 7 Rehabilitation | | | |
| 7 | Any disturbance as a result of activities under this lease must be rehabilitated to the satisfaction of the Director-General. | Not Triggered | |
| 8 Subsidence Management | | | |
| 8 a) | The leaseholder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 8 b) | Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc) and pillar extractions, and are otherwise defined by the Applications for Subsidence Management Approvals guidelines (EDG 17). | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 8 c) | The leaseholder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Director-General, an approval under the <i>Coal Mine Health & Safety Act 2002</i> , or the document <i>New Subsidence Management Plan Approval Process – Transitional Provisions (EDP09)</i> . | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 8 d) | Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for Subsidence Management Approvals. | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 8 e) | Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 3 and will be subject to the Environmental Management Report process as set out under Condition 4. The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document <i>New Approval Process for Management of Coal Mining Subsidence – Policy</i> . | Not Triggered | Approved operations at Bloomfield colliery only include open cut mining. |
| 9 Working Requirement | | | |
| | The leaseholder must: | | |
| 9 a) | Ensure that at least 55 competent people are efficiently employed in relation to the mining process or mining operations on the lease area. OR | Compliant | During the audit period it was reported in the 2017 Annual Review that Bloomfield employ over 93 personnel. |
| 9 b) | Expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than \$962,500 per annum whilst the lease is in force. | Compliant | During the audit period Bloomfield have expended substantially more than this amount on operations at Bloomfield Colliery (GL pers comms). |
| | The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed. | Not Triggered | |

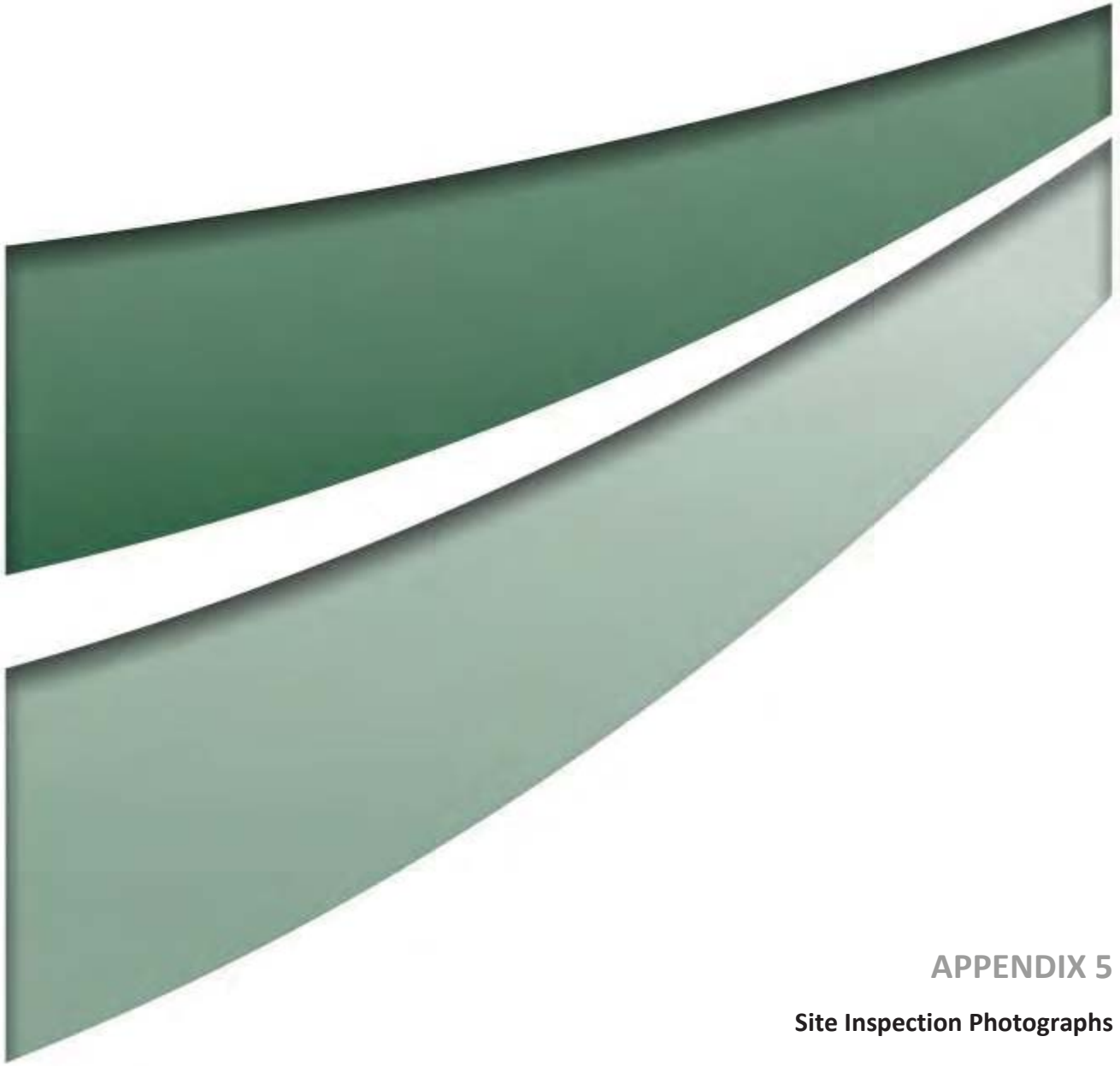
| Condition Number | Condition | Compliance | Evidence and Comments |
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| 10 Blasting | | | |
| 10 a) | <p><u>Ground Vibration</u></p> <p>The leaseholder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10mm/second and does not exceed 5mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment, Climate Change and Water.</p> | Compliant | Blast results indicate no blasts exceeded the 5mm/sec or 10mm/sec ground vibration limits during the audit period (1 November 2015 to 30 October 2018). |
| 10 b) | <p><u>Blast Overpressure</u></p> <p>The leaseholder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment, Climate Change and Water.</p> | Compliant | Blast results for the Bloomfield Colliery indicate between the audit period (1 November 2015 to 30 October 2018), three blasts exceeded 115 dB. One blast (1% of total shots) exceeded 115dB blast overpressure for the 2015 period. Two exceedances occurred during 2016 equalling 3% of total shots for the 2016 period. One blast 1.8% of total shots exceeded 115 dB blast overpressure during the 2017 reporting period. No blasts exceeded 120 dB blast overpressure limits during the audit period. |
| 11 Safety | | | |
| 11 | Operations must be carried out in a manner that ensures that the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the leaseholder must be notified in writing to the Department and filled in or otherwise rendered safe to a standard acceptable to the Director-General. | Compliant | G Lamb pers comms confirmed no issues in relation to this condition during the audit period. |
| 12 Prevention of Soil Erosion and Pollution | | | |
| 12 | Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an acceptance Mining Operations Plan. | Compliant | Bloomfield operates in accordance with an approved Air Quality Management Plan and a Water Management Plan (including Erosion and Sediment Control Plan). The site visit and inspection did not identify any issues or non-compliances in this regard. Air Quality Monitoring results during the audit period (2015-2018) demonstrate compliance with all impact assessment criteria under this condition as outlined in the 2015, 2016 and 2017 Annual Reviews. |
| 13 Transmission Lines, Communication Lines and Pipelines | | | |
| 13 | Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions stipulated. | Compliant | G Lamb pers comms confirmed no issues in relation to this condition during the audit period. |
| 14 Roads and Tracks | | | |
| 14 a) | The leaseholder must pay to the relevant roads authority in control of the road or track the reasonable costs incurred by the roads authority in making good any damage to roads or tracks caused by operations carried out under this lease less any amount paid or payable from the Mine Subsidence Compensation Fund. | Not Triggered | No tracks located / or used in areas relevant to this lease. |
| 14 b) | During wet weather use of any road or track must be restricted so as to prevent damage to the road or track. | Not Triggered | No tracks located / or used in areas relevant to this lease. |
| 14 c) | Existing access tracks should be used for all operations where reasonably practicable. New access tracks must be kept to a minimum and be positioned in or to minimise damage to the land, watercourses or vegetation. | Not Triggered | No tracks located / or used in areas relevant to this lease. |
| 14 d) | Temporary access tracks must be rehabilitated and revegetated to the satisfaction of the Director-General as soon as reasonably practicable after they are no longer required under this lease. | Not Triggered | No tracks located / or used in areas relevant to this lease. |

| Condition Number | Condition | Compliance | Evidence and Comments |
|--------------------------------|---|---------------|--|
| 15 Trees and Vegetation | | | |
| 15 a) | The leaseholder must not fell trees, strip bark or cut timber on any land subject of this lease without the consent of the landholder who is entitled to the use of the timber. | Not Triggered | No timber cleared in areas relevant to this lease. |
| 15 b) | The leaseholder must contact Forests NSW and obtain any required permit, licence or approval before taking timber from any Crown Land within the lease area. | Not Triggered | No timber cleared in areas relevant to this lease. |
| | <i>Note: Any clearing not authorised under the Act must comply with the requirements of the Native Vegetation Act 2003. Any clearing or taking of timber on Crown Land is subject to the requirements of the Forestry Act 1916.</i> | Noted | No timber cleared in areas relevant to this lease. |
| 17 Resource Recovery | | | |
| 17 a) | Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if any time the Director-General is of the opinion that minerals which the lease entitles the leaseholder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, notice in writing to the lease holder may be given requiring the holder to recover such minerals. | Not Triggered | |
| 17 b) | The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to recovery, but shall not specify the processes the leaseholder shall use to achieve the specified recovery. | Not Triggered | |
| 17 c) | The leaseholder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area. | Not Triggered | |
| 18 Indemnity | | | |
| 18 | The leaseholder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the leaseholder or which the leaseholder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the leaseholder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the leaseholder or that any such accident or injury shall arise from any act or thing which the leaseholder may be licensed or compelled to do. | Noted | |
| 21 Single Security | | | |
| 21 | The single security in the sum of \$11,800,000 must be given and maintained with the Minister by the leaseholder for the purpose of ensuring the fulfilment by the leaseholder or obligations under Consolidated Coal Lease 761 (Act 1973), Coal Lease 352 (Act 1973) and Mining Lease 1432 (Act 1992) . | Compliant | The rehabilitation security bond currently held by Bloomfield for ML 1738 was updated on 3 October 2018. The new security deposit was determined to be \$26,336,000. A deed of security deposit bond (dated 30 October 2018) was reviewed for an amount of \$26,336,000. |
| 22 Prescribed Dam | | | |
| 22 a) | Notwithstanding any Mining Operations Plan, the leaseholder must not mine within any part of the lease area which is within the notification area of the Bloomfield U Cut Tailing Dam without the prior written approval of the Minister and subject to any conditions stipulated. | Not Triggered | |
| 22 b) | Where the leaseholder desires to mine within the notification area he or she must: | | |

| Condition Number | Condition | Compliance | Evidence and Comments |
|---|--|------------|--|
| | i) at least twelve (12) months before mining is to commence or such lesser time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and ii) provide such information as the Minister may direct. | Noted | |
| 22 c) | The Minister must not, except in the circumstances set out in sub-paragraph (ii) grant approval unless sub-paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if: i) the Dams Safety Committee as constituted by Section 7 of the <i>Dams Safety Act 1978</i> and the owner of the dam have been notified in writing of the desire to mine referred to in paragraph (b). ii) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. iii) The Director-General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal. iv) The Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make such recommendations; and v) Where the Dams Safety Committee has made recommendations the approval is in terms that are: – In accordance with those recommendations; or – Where the Minister does not accept those recommendations or any of them – in accordance with a determination under sub-paragraph (ii) of this paragraph. vi) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam: – As determined by agreement between the Minister and the Minister administering to <i>Dams Safety Act 1978</i> ; or – In the event of failure to reach such agreement – as determined by the Premier. | Noted | |
| 22 d) | The Minister, on notice from the Dams Safety Committee, may at any time or times: i) Cancel any approval given where a notice pursuant to Section 18 of the <i>Dams Safety Act 1978</i> is given. ii) Suspend for a period of time, alter, omit from or add to any approval given or conditions imposed. | Noted | |
| 23 Suspension of Mining Operations | | | |
| | The holder of a mining lease may not suspend mining operations in the mining area other than in accordance with the consent of the Minister. | Noted | Mining operations not suspended during audit period. |

| Condition Number | Condition | Compliance | Evidence and Comments |
|--|---|--|------------------------------|
| 24 Cooperation Agreement | | | |
| | <p>The leaseholder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as:</p> <ul style="list-style-type: none"> • Access arrangements • Operational interaction procedures • Dispute resolution • Information exchange • Well location • Timing of drilling • Potential resource extraction conflicts and • Rehabilitation issues | Not Triggered | No overlapping titles exist. |
| Special Conditions | | | |
| 25 | Unless with the consent of the Minister first had and obtained, any such conditions as he may impose, the lease holder shall not conduct mining operations in any part of the subject area which is: | | |
| 25 a) | Beneath the Buttai No.s 1 and 2 and Stony Pinch Reservoirs and within a horizontal distance of 45.72 metres from the extremities of the reservoir structures, and | Not Triggered | |
| 25 b) | Within a vertical distance of 15.24 metres beneath the main water supply pipelines. | Not Triggered | |
| 26 a) | Unless with the consent of the Minister first had and obtained and subject to any such conditions as he may impose, the leaseholder shall not conduct mining operations within a distance of 20 metres horizontally from either side of the centre line of the Hunter District Water Board's pipeline traversing the subject area. | Not Triggered | |
| 26 b) | The leaseholder shall conduct its operations in such a manner as to avoid interference with or detrimental effect whatsoever upon any works or property of the Hunter District Water Board, within or adjoining the subject area. | Not Triggered | |
| 26 c) | The leaseholder shall ensure that no water containing substances harmful to the Hunter District Water Board's pipelines or works shall be permitted to flow from the subject area onto land owned or occupied by the Board. | Not Triggered | |
| 26 d) | Stockpiles of coal, overburden, spoil or excavated material of any kind, shall not be placed or allowed to encroach within twenty (20) metres of the centre line of any of the Hunter District Water Board's pipelines traversing the subject area. | Not Triggered | |
| 27 | The leaseholder shall be limited to the following purposes and conditions within the specified area described on the plan annexed hereto and marked 'B'. | | |
| | Areas | Purposes | Conditions |
| | Lands shown with stippling and numbered 1 on the Plan annexed hereto and marked 'B'; | 1. Constructing, maintaining or using in connection with mining any of the following, namely buildings, machinery. | 28 |
| Lands shown with stippling and numbered 2 on the Plan annexed hereto and marked 'B'; | 1. Constructing, maintaining or using in connection with mining any of the following, namely buildings, machinery. | 28 | |
| | | Not Triggered | |

| Condition Number | Condition | Compliance | Evidence and Comments |
|------------------|--|---------------|---|
| 28 | If so directed by the Minister, the leaseholder shall provide such access across the area as may be required by the Cessnock City Council. | Not Triggered | |
| | <p><i>Note: <u>Exploration Reports (Geological and Geophysical)</u></i></p> <p><i>The leaseholder must lodge reports to the satisfaction of the Director-General in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.</i></p> <p><i>Reports must be prepared in accordance with <u>Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales</u> (Department of Industry and Investment, 2010).</i></p> | Compliant | The Department approved combined reporting for ML 1738 and CCL 761 and revised reporting date of 20 December 2017 in correspondence dated 27 June 2017. Viewed exploration reports for the 2015-2016 and 2016-2017 periods. The 2015-2016 report was submitted on 19 December 2017 and the 2016-2017 report was submitted on 19 March 2018. The email correspondence noted the reports had been assessed and accepted by DPE for archiving. |



APPENDIX 5
Site Inspection Photographs



Plate 1 – Example of haul road (well maintained)



Plate 2 – Rehabilitated area approximately 2.5 years old (few weeds present)



Plate 3 – Progressive establishment of final landform within the open cut



Plate 4 – Tailings dam



Plate 5 – Historical rehabilitation near the tailings dam



Plate 6 – Fuel farm



Plate 7 – Waste skip bins located at workshop area



Plate 8 – Waste bins located at workshop area



Plate 9 – Workshop



Plate 10 – Storage of chemicals within a hardstand bund



APPENDIX 6

Spontaneous Combustion Audit Report

BLOOMFIELD COLLIERY
SPONTANEOUS COMBUSTION AUDIT REPORT
November 2018

1 BACKGROUND

Mining Operation Services (MOS) was approached by Umwelt to participate in an Independent Environmental Audit Team at Bloomfield Colliery to provide a “suitably experienced specialist” in spontaneous combustion management. Ian Pankhurst, Principal Mining Engineer/Consultant, who has received recognition for his expertise in this area, was nominated.

Subsequently Ian Pankhurst was endorsed by the Department of Planning and Environment as a suitable spontaneous combustion specialist.

2 DESKTOP REVIEW

As part of preparations for the on-site audit on 30 October 2018, a desktop review was conducted of the following Bloomfield documents provided to MOS:

- ◆ Standard Work Procedure (SWP), *Management of Spontaneous Combustion SWP*, issued 22 May 2018; and
- ◆ Integrated Management System, *Spontaneous Combustion Principal Mining Hazard Management Plan*, issued 21 September 2018

Following this review the following questions were asked of, and answered, by Bloomfield personnel:

- ◆ the TARP referenced in these documents and definitions;
- ◆ details of any recent spontaneous combustion issues/ complaints;
- ◆ actions taken during a spontaneous combustion incident; and
- ◆ quantitative measurement capability

The information obtained through the desktop review was used to prepare for and undertake the on-site audit, but in summary was:

Improvement Notice Under Work Health and Safety (Mine and Petroleum sites) Regulation 2014

- ◆ an improvement notice was served on Bloomfield on 24 April 2018 following a spontaneous combustion incident in an overburden dump that had not been reported. This incident was defined as a “dangerous incident” that required reporting under Clause 179 (h) of the Work Health and Safety (Mine and Petroleum sites) Regulation 2014.
- ◆ The incident was not classified as an environmental incident under EPL 396, Project Approval 07_0087 or Mining Lease 1738.
- ◆ Accordingly, from a compliance point it is noted that this incident is outside of the scope of this audit however given that DPE requested that the audit should review Spontaneous Combustion Management onsite it has been included to clarify the incident and Bloomfield’s response to it regarding the sites approach to spontaneous combustion management.
- ◆ directions were provided to Bloomfield as part of the improvement notice including recommendations to be considered regarding spontaneous combustion management onsite;

Odour Complaint

- ◆ a complaint had been made on 16 January 2018 regarding odour on the eastern side of John Renshaw Drive.

3 ON-SITE AUDIT

An opening meeting was held with:

- ◆ Chris Knight: Environmental Manager, Bloomfield
- ◆ Brad Donoghue: Mine Manager, Bloomfield
- ◆ Greg Lamb: Environmental Officer, Bloomfield
- ◆ Daniel Sullivan: Lead Auditor, Umwelt
- ◆ Clare Naylor: Auditor, Umwelt

Following the opening meeting Ian Pankhurst was escorted by Brad Donoghue to undertake the following:

- 1 A site-wide inspection.
- 2 A review of processes used in the:
 - identification of spontaneous combustion;
 - assessment of the risk level that an outbreak presents;
 - method of treatment/control action; and
 - effectiveness of such control action focusing on recent incident areas.
- 3 A review of what additional assessment tools/equipment/processes/ information may be used to improve the overall spontaneous combustion management control actions.
- 4 Review current mining and dumping procedures as they relate to mine closure and long-term control and prevention of spontaneous combustion.
- 5 Review practical implementation of SWP, action plans and understanding of technical matters relating to spontaneous combustion control.
- 6 Discuss, where applicable, use of additional equipment, processes and information to improve control and prevention of spontaneous combustion.

3.1 PERSONNEL INTERVIEWS

During the on-site audit there was a discussion on spontaneous combustion detection and action processes with Mark Nolan, Open Cut Examiner (OCE). Mark is responsible for identifying and managing spontaneous combustion issues at Bloomfield Colliery.

Mark was asked to summarize the process used to assess for spontaneous combustion and associated issues. The following is an account of what is currently undertaken onsite in this regard:

- ◆ conduct an early morning check (this is the best time as any incipient heating will be easier to detect);
- ◆ conduct a "smell" test (note, no instruments are used);
- ◆ it was noted that the highest risk is in the south of the lease;

- ◆ odour was noted as a key issue that needs to be controlled;
- ◆ carbon monoxide (CO) and hydrogen sulphide (H₂S) have been encountered (it was noted that no sulphur dioxide (SO₂) monitoring capability exists), and the main odour sources are H₂S and SO₂;
- ◆ it was noted that the chitter is often the source of spot spontaneous combustion issues on site;
- ◆ partings also have a propensity for spontaneous combustion;
- ◆ current areas showing spontaneous combustion are “legacy” related to previous dumping practices no longer in use;
- ◆ following the incident in April 2018 the dumping procedures for partings have been changed however it was noted that some of the procedures in use do not have documented distances:
 - partings are not to be dumped on the edges;
 - partings are to be covered with a minimum of 10m of material
 - if partings are inadvertently dumped over the edge then it is:
 - cut down;
 - dug out; and
 - dumped over to seal either using overburden (if enough cover can be achieved) or clay if low cover is only able to be achieved.
 - material that is dug out is block tipped on inside of dump and then covered.

4 REVIEW OF RECENT SPONTANEOUS COMBUSTION OCCURENCES

4.1 OVERVIEW

Two recent occurrences of spontaneous combustion were reported by Bloomfield:

- a) Spontaneous combustion in overburden dump; and
- b) Odour complaint from the eastern side of John Renshaw Drive.

a) **Spontaneous Combustion in Overburden Dump**

In April 2018, Bloomfield had identified an area of spontaneous combustion which was being managed in accordance with the then procedures (see Photo 1)



Photo 1: Showing "hot spot" in dump being controlled (source: DRG Severe Incident Report, 2018)

The procedure being followed was that hot material was dug out, removed and dumped for burial within the main overburden dump. Spontaneous combustion was initially controlled using water carts which generated a significant plume of steam (shown in Photo 1) and then the area was covered with clay to complete control works. The plume of steam was reported on 19 April 2018 by the public and investigated by the Regulator.

In an improvement notice issued on 24 April 2018 to Bloomfield under the Work Health and Safety (Mine and Petroleum sites) Regulation 2014 the Regulator directed that:

"the mine is to:

1. Review the procedures for notifiable incident response and investigation in line with the Work Health and Safety (Mines and Petroleum Sites) Regulations 2014 (WHS(MPS) Regulation 2018 amendments).
2. Train all persons involved within the management structure who holds a statutory function as nominated in the WHS(MPS) Regulation 2014 in the notifiable incident response requirements
3. Review and update the mine sites spontaneous combustion risk assessment to include emplacement areas
4. Develop safe work procedures for management of spontaneous combustion
5. Communicate and train supervisors and workers in the outcomes of the review made to the risk assessment, management plans and safe work procedures for spontaneous combustion

6. Provide the Resource Regulator with a copy of the reviewed management plan and develop safe work Procedures[sic] associated with spontaneous combustion”¹

While it is noted that from a compliance point this incident is outside of the scope of this audit, Bloomfield’s consideration and response to it, in particular with regard to addressing the above management recommendations has been included to provide clarification to DPE in this regard.

b) Odour Complaint

A complaint from a member of the public regarding odour in and around the eastern side of John Renshaw Drive (“the other side of Renshaw Drive”). No specific area of spontaneous combustion was identified and a number of hot spots in dump areas were clay sealed as part of a continual improvement process.

4.2 INSPECTION OF SITE OF INCIDENT 4.1 (a)

The inspection of the site area showed the following:



Photo 2

a) low level spontaneous combustion continuing (Photo 3);

¹ Planning & Environment, Improvement Notice 24 April 2018



Photo 3

b) chevron effect of coarse rejects where heating occurred (Photo 4); and



Photo 4

c) difficulty in accessing current spontaneous combustion venting area for closer assessment (Photo 5).



Photo 5: Photo taken on haul road

◆ Summary

Current low-level heating has steam, some venting, some odour but no smoke or flame ie. assessed as Level 1.

4.3 ACTIVE DUMP AREA



Photo 6

Photo 7 and Photo 8 shows clay dumping over “legacy” placement of coal partings;



Photo 7: Covering of clay over spontaneous combustion area



Photo 8

- ◆ These areas of spontaneous combustion have some odour and surface cracking and has been assessed as Level 1.

Using odour as the criteria it would be considered as a higher level due to the nature and annoyance level of the gases emitted.

4.4 CURRENT DUMP AREA

- ◆ Photo 9 shows truck dumping with no evidence of partings placed over dump edge.



Photo 9

- ◆ Photo 10 shows coal strata with numerous coal banding zones which are mined and dumped in accordance with current procedures.



Photo 10

- ◆ Photo 11 and Photo 12 shows coal in overburden but not recoverable separately indicating that there will still be some potential for spontaneous combustion.



Photo 11: Excavator Mining Overburden



Photo 12

- ◆ Partially slumped legacy coal partings dump area (Photo 13 and Photo 14).



Photo 13: Legacy coal partings dump area



Photo 14: "Close Up" of legacy dump area

- ◆ Area had clearly discernible odour, no venting, no steam, no smoke and safe access onto slope area was not available.

- ◆ As regards the April incident, it was reported under the WHS Act and all action taken to control the spontaneous combustion incident were in accordance with existing procedures and safe work practice. It should be noted that most, if not all, of the white vapour in the photo would have been steam.
- ◆ On physical evidence it is assessed as Level 1, but on odour alone it would be a level higher.

4.5 COAL PREPARATION PLANT AND STOCKPILE AREAS

There was no evidence of spontaneous combustion in any stockpile.

5 SUMMARY OF COMPLIANCE

This audit has found that spontaneous combustion management practices at Bloomfield Colliery, with the addition of one recommendation regarding sensor heads (see Section 7), are appropriate for safe operations and are being undertaken in accordance with relevant site requirements and practical industry operational standards. Some recommendations for improvements in environmental monitoring are included in Section 7.

In practical assessment of spontaneous combustion outbreaks using the Bloomfield *“Management of Spontaneous Combustion SWP”*, the mine is compliant.

In the treatment / control action of spontaneous combustion outbreaks using the *“Management of Spontaneous Combustion SWP”* and *“Spontaneous Combustion Principal Mining Hazard Management Plan”*, the mine is compliant.

In the stockpiling and processing and loading of coal the mine is compliant with the *“Spontaneous Combustion Principal Mining Hazard Management Plan”*.

In the method of mining and placing high risk carbonaceous material such as coal partings using the *“Spontaneous Combustion Principal Mining Hazard Management Plan”* the mine is compliant.

In the method of dumping reject material in accordance using the *“Spontaneous Combustion Principal Mining Hazard Management Plan”* the mine is compliant.

For clarification with regard to the Regulators directions in the April Improvement Notice (under the WHS Regulations) Bloomfield has:

- ◆ reviewed and updated the mine site *“Spontaneous Combustion Risk Assessment”* (3 May 2018);
- ◆ developed safe work procedure in the *“Management of Spontaneous Combustion SWP”* (22 May 2018);
- ◆ advised that *“All person who hold a statutory function were toolbox talked on Notifiable incident response requirements. This included;*
 - Training in the notification of incident and injury guide provided by NSW Resource Regulator
 - Training in Regulation amendments which came into effect 13th April 2018”;
- ◆ advised that *“All personnel on site were toolbox talked on 23rd May 2018 in the review of Risk Assessment, updated Spontaneous Combustion Management System, New safe work procedure for managing Spontaneous Combustion.”*; and

- ◆ provided the Resource Regulator with a copy of the reviewed management plan and developed safe work procedures associated with spontaneous combustion.

6 CURRENT MINING AND DUMPING PROCEDURES

As reviewed during the onsite-audit the procedures that are now in place for the mining and dumping of higher potential carbonaceous material is practical and, if adhered to, will result in a landform that does not generate spontaneous combustion issues in either the short or long term, ie, after mine closure.

It should be noted, however, that there is still potential for spontaneous combustion to develop within the dump area due to the “pockets” of coal/carbonaceous material, eg, as shown in Photo 12. Procedures, therefore, need to be robust enough to manage this.

While the OCE stated that partings (and presumably other overburden with high levels of carbonaceous material) were covered with a minimum of 10 metres of material, this did not appear to be documented in the existing procedures.

Therefore, the documentation of this process should occur, ie, partings or other carbonaceous material are to be covered with a minimum of 10 metres of suitable inert overburden.

7 AREAS FOR ATTENTION AND RECOMMENDATIONS FOR IMPROVEMENT TO THE SPONTANEOUS COMBUSTION MANAGEMENT PROCESS

- 1 Lack of quantitative analysis. There is no use of gas monitoring (personal gas monitors) or heat measuring instruments (“heat guns”) in assessing the stage of development of spontaneous combustion outbreak. Nor is this equipment used to determine if the heating was developing and at what rate.
- 2 The TARP is largely directed towards an outbreak of fire and subsequent control and it appears actions are largely directly for safety resolution from the area. Where heatings had occurred and actions taken as per the TARP (Figure 1) only in one case (Photo 3) was there any sign of venting. However, the most significant odour was from the area shown in Photo 14 where there was no visible venting, steam, white smoke or blue smoke, but where odour was found to be pronounced.

| CLASSIFICATION OF SPONTANEOUS COMBUSTION OUTBREAKS | | |
|--|---|--|
| Level | General Description | |
| 4 | MAJOR: Open flame - vegetation or area affected | |
| 3 | MODERATE: Visible steam or smoke (blue) - Creating smell/environmental concerns. | |
| 2 | MINOR: Visible steam or smoke (white) - No or minimal odour detected | |
| 1 | OTHER: Other evidence of spontaneous combustion (e.g. cracks, coal tars, sulphur crusting, etc.) | |

| TRIGGER ACTION RESPONSE PLAN (TARP) | | |
|--|---|---------------|
| TRIGGER | CONTROL ACTION | TIMEFRAME |
| 4 MAJOR: Open flame - vegetation or area affected | Risk assessment to determine action plan | Immediate |
| 3. MODERATE: Visible steam or smoke (blue) - Creating smell/environmental concerns. | 1. Cover with low risk material 2. Dozer/bench push hot material | Within 7 days |
| 2. MINOR: Visible steam or smoke (white) - No or minimal odour detected | Inspection and monitoring and record any changes to size | Daily |
| 1. OTHER: Other evidence of spontaneous combustion (e.g. cracks, coal tars, sulphur crusting, etc.) | Inspection and Monitoring | Daily |

Figure 1

- 3 Gas sensor heads. Resolution levels of monitoring equipment. The MSA Altair 4X gas monitor used at Bloomfield was equipped with;
- O₂ head (measuring %)
 - LEL head (measuring %)
 - CO head (measuring ppm)
 - H₂S head (measuring ppm)

Further the minimum resolution for the CO and H₂S was 1 ppm.

Given the significant sulphur levels in particularly the coal partings it is reasonable to expect that not only H₂S but also SO₂ gas would be produced during spontaneous combustion. SO₂ has its own obnoxious odour at very low levels as does H₂S.

Without a SO₂ sensor head, its presence cannot be detected other than by smell or taste, which is not an acceptable practice.

Further the levels of these gases which can lead to annoyance levels for the general public are measure in parts per billion not parts per million. Use of sensor heads for H₂S and SO₂ with a resolution to 0.1 ppm would greatly assist in determining the likely stage of development of the heating and the potential of this heating to increase in intensity. Sampling in and around the odour area would allow a gas level profile that can be related to odour severity.

- 4 Ability to measure remotely. Some of the heatings (particularly Photo 14) were effectively inaccessible due to potential safety concerns. Use of gas monitors with high resolution heads and heat guns would allow testing to be undertaken when visual inspection opportunities were limited.

As part of general discussions during the on-site audit site personnel had a low level of understanding of the odour sensitivity to sulphur gases that some people have. Being able to relate both maximum allowable gas levels for the public to actual levels measured on site will provide Bloomfield with better data regarding complaints from the public.

8 SUMMARY OF RECOMMENDED ACTIONS

- 1 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.
- 2 Upgrade existing or purchase gas monitors with both SO₂ and H₂S capability with resolution to 0.1 ppm to allow monitoring of very low levels of gases and better assess any deterioration.
- 3 Purchase heat gun/s to determine strata temperature (this is best done in the early morning).
- 4 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.
- 5 Provide personnel with relevant information on SO₂ and H₂S gases, odour impacts and relevant concentration levels, particularly for public annoyance affection.



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