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**DURALIE COAL MINE**

**INDEPENDENT ENVIRONMENTAL  
AUDIT REPORT  
December 2017**

for  
**Duralie Coal Pty Ltd**  
February 2018

**DURALIE COAL MINE**

**INDEPENDENT**

**ENVIRONMENTAL AUDIT REPORT**

**DECEMBER 2017**

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February 2018

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## EXECUTIVE SUMMARY

Hansen Bailey was commissioned by Duralie Coal Pty Limited to conduct an Independent Environmental Audit against Development Consent PA 08\_0203 (as modified) for the Duralie Coal Mine for the Department of Planning & Environment for the period from 30 November 2014 to 29 November 2017. The audit also assessed compliance with Environment Protection Licence 11701 and Mining Lease 1646.

This audit was conducted by Dianne Munro (Exemplar Global Certified Auditor 107622) and Taylor Jackson from Hansen Bailey with the field visit component completed on 12 - 14 December 2017. Rehabilitation expert Clayton Richards from SLR Consulting (SLR), Ecology expert Katrina Wolf from Cumberland Ecology (Cumberland) and Surface water specialist Ross Edwards from Hansen Bailey attended site and audited areas relevant to their expertise.

Additionally, it is a requirement under Duralie Development Consent PA 08\_0203 (Schedule 5 Conditions 8 and 9A) to complete a Rail Haulage Audit. This audit was undertaken by Noise expert Mark Bridges from Bridges Acoustics, Air expert Shane Lakmaker from Jacobs and Bill Palazzi from Palazzirail.

The audit consisted of a detailed desktop review of documentation, interviews with key Stratford Coal Mine staff and a field inspection of the mining and rehabilitation areas. The audit was conducted generally consistent with '*ISO 14010 - Guidelines and General Principles for Environmental Auditing*', and '*ISO 14011 - Procedures for Environmental Auditing*' and the '*Independent Audit Guideline, October 2015*' (Audit Guidelines) (DP&E, 2015).

Key actions and recommendations from the 2014 Independent Environmental Audit were reviewed and have generally been completed as described in **Section 2**.

This audit identified some non-compliances against conditions of Development Consent and other licences and approvals. Non-compliances to be addressed are summarised in **Section 3**. The audit identified a total of seven non-compliances comprised of five issues. The non-compliances were risk ranked. No high or medium risks were identified during the audit. Five issues were identified as low risk and two issues classified as administrative in nature.

The field inspection revealed that the site was generally well maintained and in good condition, particularly around the administration area. The rail load out facility was well maintained as was the truck maintenance area. Spill kits were observed in the vicinity of the refuelling bay and appropriate bunding and contouring was visible to adequately contain any dirty surface water runoff from the area.

Progressive and high quality rehabilitation of the site was observed, including active final shaping in preparation for rehabilitation. The site has established suitable landforms and successful rehabilitation of forest communities are well underway to achieving final completion criteria. Ecological succession was observed in the older rehabilitation.

Community concerns are well managed and are recorded within the Duralie Community Complaints Registers, which were viewed during the site component of the audit. The number of complaints received has decreased substantially during the audit period compared to previous years. Forty-one complaints were received in 2015 primarily related to noise. Nineteen complaints were received in 2016 primarily for air and odour issues and six complaints were received in 2017, primarily related to odour.

A total of six reportable incidents occurred during the audit period, all of which were rated as “minor”. The incidents were in relation to water discharge, an uncontrolled burn, blasting after approved hours, odour and dust incidents. Each is discussed further in **Section 5.14**).

Site record keeping in the form of registers and corrective actions, along with environmental systems were noted to be exceptional.

This audit also provides a series of recommendations arising from a review of site documentation and identified non-compliances (see **Section 6**). These confirm that the non-compliances identified over the audit were largely administrative in nature, however there are some additional management actions that are recommended to be undertaken as a priority.

At the time of the audit, DCPL staff were aware of most of the identified non-compliances against Development Consent conditions, licences and approvals and were actively working to address a number of the issues identified in this report.

This audit has concluded that a good standard of environmental management is being applied in Duralie Coal Mine Operations.



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## LIMITATIONS OF REPORT

In preparing this regulatory compliance audit report, Hansen Bailey has assessed all activities appropriate and necessary to evaluate the environmental status of the site and operations on it. Hansen Bailey has addressed all technical matters which might reasonably be considered to be relevant to such an assessment conducted to standards which apply in New South Wales. Based on observations of the site, interviews with appropriate staff and a review of available documentation, it is Hansen Bailey's opinion that the potential critical environmental issues associated with the site and operations are those discussed in this report. However, Hansen Bailey can only advise on the basis of the information available to them and therefore cannot dismiss absolutely the possibility that parts of the site, or adjacent properties, may give rise to additional issues.

The conclusions presented in this report are professional opinions based solely upon Hansen Bailey's visual observations of the site and the immediate site vicinity, and upon Hansen Bailey's interpretation of the documentation reviewed, interviews and conversations with personnel knowledgeable about the site and other available information, as referenced in this report. These conclusions are intended exclusively for the purposes stated herein, at the site listed, and for the project indicated.

Opinions presented in this report apply to the site's conditions and features as they existed at the time of Hansen Bailey's site visit on 12 – 14 December 2017, and those reasonably foreseeable. They necessarily cannot apply to conditions and features which Hansen Bailey is unaware of and has not had the opportunity to evaluate.

This report does not, and does not purport to, give legal advice on the actual or potential environmental liabilities of any individual or organisation, or to draw conclusions as to whether any particular circumstances constitute a breach of relevant legislation.

**DURALIE COAL MINE**  
**INDEPENDENT ENVIRONMENTAL AUDIT REPORT DECEMBER 2017**  
**for**  
***Duralie Coal Pty Limited***

**1 INTRODUCTION**

**1.1 BACKGROUND**

Hansen Bailey has been commissioned by Duralie Coal Pty Limited (DCPL) to conduct an independent environmental compliance audit against the development approvals held for the Duralie Coal Mine (Duralie). Duralie was audited as approved under PA 08\_0203 and described in the *Duralie Extension Project Environmental Assessment* (Resource Strategies, 2010).

The auditing period that this report applies to is from 30 November 2014 to 29 November 2017. This audit was conducted by Dianne Munro (Exemplar Global Certified Auditor 107622) and Taylor Jackson of Hansen Bailey.

The audit consisted of a detailed desktop review of documentation, interviews with key DCPL staff and a field inspection of the mining and rehabilitation areas. The audit was conducted generally consistent with 'ISO 14010 - Guidelines and General Principles for Environmental Auditing', and 'ISO 14011 - Procedures for Environmental Auditing' and the 'Independent Audit Guideline, October 2015' (Audit Guidelines) (DP&E, 2015).

The auditing team was approved by the Department of Planning and Environment (DP&E) on 13 November 2017 (see **Appendix B** for correspondence). Rehabilitation expert Clayton Richards from SLR Consulting (SLR), Ecology expert Katrina Wolf from Cumberland Ecology (Cumberland) and Surface water specialist Ross Edwards from Hansen Bailey attended site and audited areas relevant to their expertise.

Additionally, it is a requirement under Duralie Development Consent PA 08\_0203 (Schedule 5 Conditions 8 and 9A) to complete a Rail Haulage Audit. This audit was undertaken by Noise expert Mark Bridges from Bridges Acoustics, Air expert Shane Lakmaker from Jacobs and Bill Palazzi from Palazzirail.

The audit consisted of a detailed desktop review of documentation and interviews with key DCPL staff, including:

- Michael Plain (MP), Environment & Community Superintendent;
- John Cullen (JC), Operations Manager;
- Chris Cade (CC), Health, Safety and Training Superintendent;
- Olivier Gratessolle (OG), Mine Planning Superintendent;

- Brad Cooper (BC), Acting CHPP Manager; and
- Paul Kellner (PK), Duralie CHP Maintenance & Water Management.

An Opening Meeting was held on 12 December 2017 and a Closing Meeting was held on 14 December 2017 at site with DCPL staff in attendance.

## **1.2 DOCUMENTS REFERENCED IN AUDIT**

**Appendix D** provides a list of all information reviewed as part of this audit.

## **1.3 SITE DESCRIPTION**

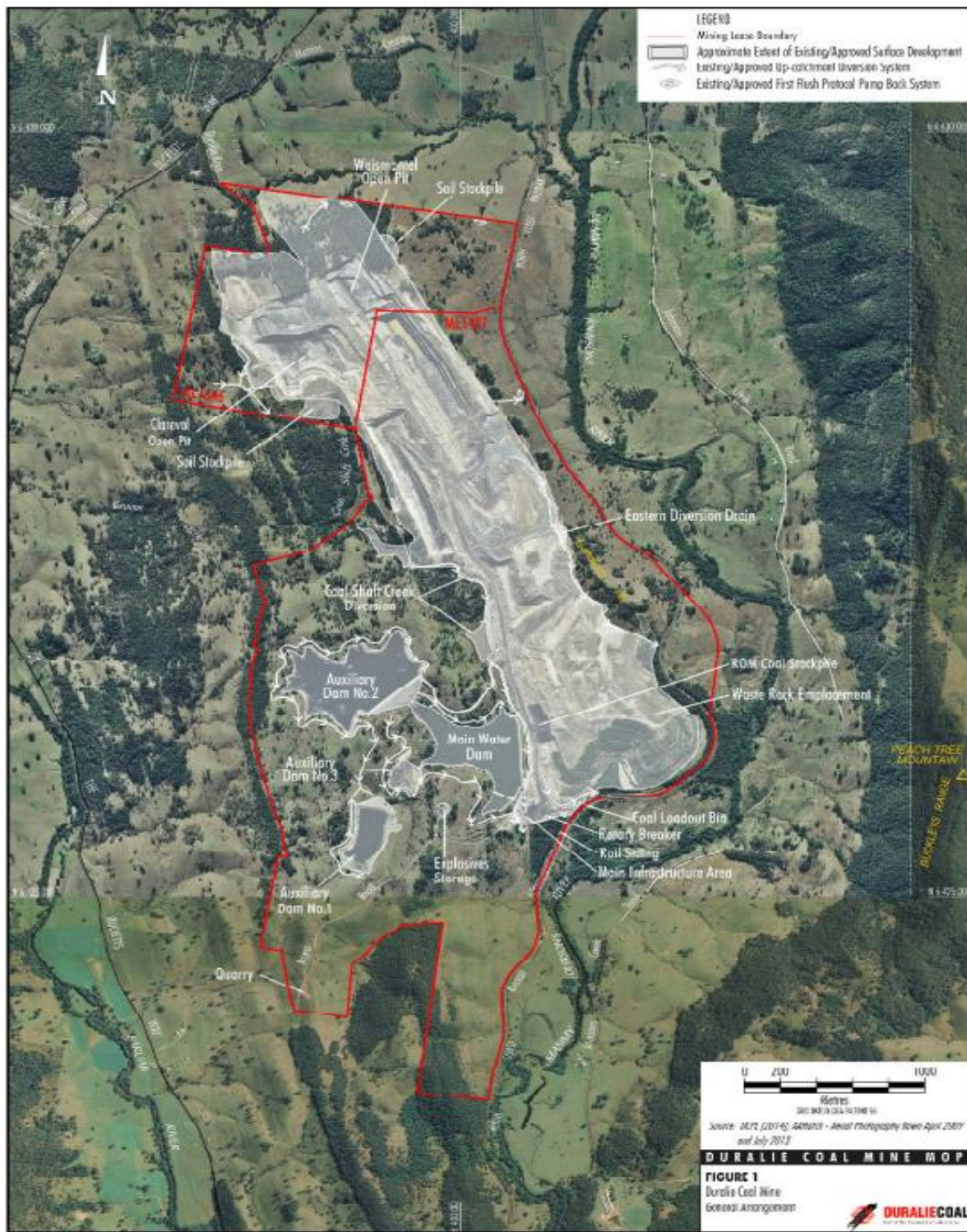
Duralie is an open cut coal mine located within the Gloucester Valley, NSW and is a wholly owned subsidiary of Yancoal Australia Limited (Yancoal). Duralie is owned and operated by Duralie Coal Pty Limited (DCPL).

Duralie is located approximately 20 km to the south of the Stratford Mining Complex, which is also owned by Yancoal. The Stratford and Duralie operations collectively comprise Yancoal's Gloucester Basin Operations. All Run-Of-Mine (ROM) coal is transported via rail from Duralie to the CHPP at Stratford for processing.

Mining operations at Duralie are approved to take place until the end of 2021. As such, the intensity of mining operations has decreased from the approved seven to five days per week with no weekend work. A Mine Closure Planning Program has been developed for Duralie in preparation of the Mine Closure Plan which is to be submitted prior to 31 December 2019.

Operations at Duralie during the audit period included coal mining within the Weismantel and Clareval Open pits. Clearing in advance of mining has been completed up to the proposed disturbance limit in both Weismantel and Clareval. Mining in the Clareval open pit was finalised in October 2017.

**Figure 1** shows the general arrangement at Duralie.



**Figure 1**  
**Duralie Coal Mine (Source: DCPL, 2017)**

### 1.3.1 Duralie Coal Mine

#### **DA 168/99**

Duralie operations were originally approved in August 1997 under DA 168/99 with extraction of coal commencing in March 2003.

DA 168/99 was modified on five occasions as follows:

- Modification 1 was approved in 1998 and prior to development to enable the rail and processing of ROM coal from Duralie to the Stratford CHPP. MOD1 also reduced the area to be mined at Duralie and the rate of coal production;
- Modification 2 was approved in August 2003 and involved the alteration the water management system (Coal Shaft Creek Diversion);
- Modification 3 was approved in July 2006 for the extension of the Duralie Coal Mine pit and waste rock emplacement area and increased the ROM production rate from 1.5 to 1.8 Mtpa;
- Modification 4 was approved in December 2008 for the construction of auxiliary water storage dams; and
- Modification 5 was approved in October 2009 to extend the Duralie Coal Mine pit to extract 1.8 Mtpa and increase the waste rock emplacement area.

#### **PA 08\_0203**

The Duralie Extension Project was approved under PA 08\_0203 in November 2010 and expires on 31 December 2021. A Land and Environmental Court hearing occurred in February 2011 with a decision granted on 10 November 2011. PA 08\_0203 approved the extraction of up to 3 Mtpa of ROM coal which is transported to the CHPP at Stratford via rail. The Duralie operations involve the extraction from the Weismantel and Clareval pits. PA 08\_0203 has since been modified on two occasions as follows.

PA 08\_0203 was modified in April 2012 (MOD1) to alter the rail haulage hours from Duralie to Stratford.

PA 08\_0203 was further modified on 5 December 2014 (MOD2) to increase the maximum depth of the Clareval pit and to increase in the extent of surface development of Duralie by 2.5 ha resulting from reducing the low wall angles of the Clareval pit, removing a pillar between the Clareval pit and Weismantel pit to improve geotechnical stability, relocation of the up-catchment diversion to the west of the Clareval pit, increased height of the waste rock emplacement from 110 Australian Height Datum (AHD) to 135 m and a revised mining sequence.

DCPL is currently developing mine closure strategies for Duralie and as such production rates have slowed. Operations are approved to take place until approximately 2021.

## 1.4 REQUIREMENT FOR AUDIT AND SCOPE

This audit and subsequent report has been compiled pursuant to the development consents held for Duralie and the Audit Guidelines. Each requirement for auditing under PA 08\_0203 is listed in **Table 1** which also lists where each requirement is addressed in this document.

**Table 1**  
**PA 08\_0203 Audit Requirements**

Description	Addressed
8) By end of December 2011, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:	This audit
a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;	Appendix B
b) include consultation with the relevant agencies;	Appendix B and Section 1.5
c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);	This audit
d) review the adequacy of strategies, plans or programs required under the approvals in (c) above; and	See Table 3 of Appendix C
e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the approvals in (c) above.	Section 6
9 Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	DCPL Responsibility
9A. By the end of December 2013, and with every Independent Environmental Audit thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of a Rail Haulage Audit of the project. This audit must:	Appendix G
a) be conducted by a suitably qualified, experienced and independent experts whose appointment has been endorsed by the Secretary	Appendix B
b) review the existing rail haulage operations and determine whether all reasonable and feasible measures are being implemented to minimise the: <ul style="list-style-type: none"> <li>noise and dust impacts of these operations;</li> <li>use of the shuttle train during the approved night-time hours;</li> <li>dispatch of trains from the site between 9.25pm and 1am the following day; and;</li> </ul>	Appendix G
c) recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts; and	Section 6
d) evaluate the use of the exceptional circumstances provision in condition 8 of schedule 2, and the associated reporting on any use of this provision on the Proponent's website (see condition 8A in schedule 2).	Appendix G
9B. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report."	DCPL responsibility



### 1.4.1 Audit Guidelines

This audit report has also been prepared in accordance with the ‘*Independent Audit Guideline, October 2015*’ (Audit Guidelines) (DP&E, 2015). **Table 2** lists key requirements from the Audit Guidelines, the relevant Section of the Guidelines which references the requirement, and indicates where each is addressed in this report.

**Table 3** reproduces the “risk levels” from Section 4.1 of the Audit Guidelines which were attributed to the non-compliances identified during the audit period as described in **Section 3**.

**Table 2**  
**Audit Guidelines Requirements**

Section	Description	Addressed
2	Assess the operator’s compliance with the requirements of regulatory approvals, including (as applicable): <ul style="list-style-type: none"> <li>• The Development Consent;</li> <li>• The Environment Protection Licence;</li> <li>• The Mining Lease; and</li> <li>• Water licences and approvals.</li> </ul>	This audit and <b>Appendix C</b>
2, 3	The scope of the audit and the audit team (including any technical specialists) to be determined by the lead regulator.	<b>Appendix B</b>
3.3	The auditor team must be independent of the development being audited and audit findings must be based on verifiable evidence.	<b>Appendix A</b>
4.1	The compliance status of each requirement or commitment should be assessed in accordance with the compliance assessment criteria and risk levels in the audit guidelines.	<b>Section 3</b>
4.2	Consultation with key regulatory agencies prior to commencement of the audit site inspection.	<b>Appendix B</b> and <b>Section 1.5</b>
5.1	The audit outcomes to be documented in a thorough, accessible and accurate audit report that is written in a neutral tone reflecting facts gathered by the audit team.	This audit
5.1	The audit report should include the following sections: <ul style="list-style-type: none"> <li>• Introduction, providing a brief overview of the development, audit scope and objectives;</li> <li>• Methodology, describing the audit team, methodology applied, document reviews, site inspections and interviews;</li> <li>• Audit findings, including documentation of consultation, response to actions from the previous audit, assessment of compliance status against the conditions and commitments in relevant documents and a discussion of environmental incidents and performance; and</li> <li>• Recommendations, identifying any opportunities for improvement identified in the audit.</li> </ul>	This audit
5.2	Audit reports submitted to the lead regulator must be certified by the lead auditor on an attached ‘Independent Audit Submission Form’.	<b>Appendix A</b>

Section	Description	Addressed
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.	DCPL Responsibility
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.	DCPL Responsibility

**Table 3**  
**Audit Guidelines Risk Levels for Non-Compliances**

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

## 1.5 REGULATORY CONSULTATION

During the preparation for the audit, Hansen Bailey also consulted with personnel from the Department of Planning and Environment (DP&E), DP&E – Division of Resources and Geoscience (DRG), Environment Protection Authority (EPA), NSW Department of Crown Lands and Water (CLW), Dams Safety Committee (DSC) and MidCoast Council (MCC) to confirm if there were any existing issues which required specific attention during the audit.

Where issues were raised during consultation, these are listed in **Table 4**. Each has been addressed in this IEA Report.

**Table 4**  
**Agency Requirements and Where Addressed**

Ref	Requirement	Addressed
<b>MCC</b>		
1	In general Council has found environmental management for the development to be acceptable, however over the past few years complaints have been made in relation to odour associated with the exposure and handling of Potential Acid Forming (PAF) material and high sulfur content material. Much of this material has been stockpiled as overburden and is to be relocated back into void spaces as the mine commences closure. It would be beneficial if the handling and management of this material and associated odour could be reviewed to ensure that best practice is being applied.	<b>Section 5.3</b>
<b>DP&amp;E</b>		
2	As the Secretary's nominee, I request that specialists in the following fields be included in the audit teams for both the Stratford Mining Complex IEA and Duralie Coal Mine IEA: <ul style="list-style-type: none"> <li>• Surface water</li> <li>• Ecology (offset management)</li> <li>• Rehabilitation</li> </ul> As you noted, a rail haulage audit to be undertaken by a suitably qualified specialist is also required for the Duralie Coal Mine. This audit may be incorporated into the Duralie Coal Mine IEA.	<b>Appendix F</b>
<b>DRE</b>		
3	No comments received.	N/A
<b>CLW</b>		
4	Lands and Water requests that the audit considers compliance with the relevant water licensing requirements for the mining operation, specifically:	<b>Section 5.6</b>
5	<ul style="list-style-type: none"> <li>• Assessment as to whether the project holds the required water entitlements and licences under the <i>Water Management Act 2000</i> or <i>Water Act 1912</i> (as applicable);</li> </ul>	<b>Section 5.6</b>
6	<ul style="list-style-type: none"> <li>• Compliance with the conditions of any water licences/approvals held;</li> </ul>	<b>Section 5.6</b>
7	<ul style="list-style-type: none"> <li>• Identification of all water storages for the mine and identification of their licensing status being either exempt, subject to harvestable rights or regulated via a Water Access Licence; and</li> </ul>	<b>Section 5.6</b>
8	<ul style="list-style-type: none"> <li>• Quantification of both active and passive take by the project from each relevant water source and a comparison against previously modelled predictions.</li> </ul>	<b>Section 5.6</b>
9	The following additional requirements related to protection of water sources should also be considered in the audit:	N/A
10	<ul style="list-style-type: none"> <li>• 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;</li> </ul>	<b>Appendix C</b>

Ref	Requirement	Addressed
11	<ul style="list-style-type: none"> <li>Compliance with the requirements of the Water Management Plan, including, but not limited to compliance against performance criteria related to Coal Shaft Creek and Mammy Johnsons River and assessment criteria for potentially adverse groundwater impacts; and</li> </ul>	Table 5 of <b>Appendix C</b>
12	<ul style="list-style-type: none"> <li>Compliance with the requirements to provide compensatory water supplies to adversely affected landowners.</li> </ul>	<b>Section 5.6</b>
<b>EPA</b>		
13	No comments received.	N/A
<b>DSC</b>		
14	<p>The Dams Safety Committee's area of interest is the safe operation of prescribed dams.</p> <p>The mining company has operated their dams in a safe manner and have provided the required Surveillance Reports and Dam Safety Emergency Plan for their prescribed dams.</p> <p>The Dams Safety Committee has no knowledge of environmental issues to report.</p>	N/A

## 1.6 REPORT STRUCTURE

**Section 1** provides an introduction, background, site description and layout of the operations, describes the requirement for the audit and provides a guide to the structure of the report;

**Section 2** of this report provides a tabular representation of recommendations made during the previous independent audit and the status of their implementation;

**Section 3** of this report provides a discussion on the identified non-compliances and the status against approvals under PA 08\_0203 and their supporting documents, modifications and other licences / approvals available for review at the time of the audit;

**Section 3** provides a discussion on management plans, programs and strategies available for review at the time of the audit;

**Section 4** discusses the effectiveness of the environmental management and mitigation strategies that are currently employed at Duralie. General environmental performance noted in the field inspections and document reviews performed during the site audit are also discussed; and

**Section 5** provides a summary of key recommendations from this audit.

Environmental Specialists' reports are included at **Appendix F to G**.

## 2 PREVIOUS AUDIT RECOMMENDATIONS & STATUS

The key recommendations from the Duralie 2014 compliance audit and the status of each at the time of this audit are summarised in **Table 5**.

**Table 5**  
**Status of 2014 Audit Recommendations**

Ref	Recommendation	Status	2017 Comment
<b>Noise</b>			
1	The Vipac Quarterly Environmental Noise Survey reports do not contain assessment of low frequency noise emissions in accordance with the Industrial Noise Policy. It is recommended that low frequency noise emissions should be assessed in the quarterly reports to satisfy Condition L4.5 of EPL 11701.	Compliant	Section 2.4 of the NMP updated to include quarterly assessment of low frequency noise.
2	It is recommended that to incorporate low frequency assessment in the current noise monitoring report format analysis results should be changed on the left hand side of the graphical representation to the following, in order: <ul style="list-style-type: none"> <li>• Total Leq dB(A)</li> <li>• Mine contribution Leq dB(A)</li> <li>• Mine contribution Leq dB(C)</li> <li>• Mine dB(C) – dB(A)</li> <li>• Mine contribution L1 (night time only).</li> </ul>	Compliant	Completed. (C) and (A) weighted assessment included in noise report.
3	It is recommended that the inversion data since commissioning of the real-time capability be analysed to determine the 90th percentile site-specific inversion strength in accordance with provisions in the INP. A summary report should then be forwarded to EPA/OEH for their consideration of reviewing the applicable inversion strength in EPL 11701. Incorporation of the site-specific value in the EPL would then necessitate changes to the real-time noise management triggers.	Compliant	Inversion monitoring undertaken and assessed in quarterly monitoring reports. <b>Recommend a summary forwarded to EPA/OEH for consideration in any EPL variation.</b>
4	It is recommended the unattended logger surveys (typically 72 hour) be discontinued.	Compliant	NMP updated to remove unattended logger surveys.
5	It is recommended to discontinue including model results in compliance reports.	Compliant	NMP updated to exclude modelled results in compliance reports.

Ref	Recommendation	Status	2017 Comment
<b>Biodiversity</b>			
1	<p>It is recommended that consultation between Duralie Coal Pty Ltd and the OEH should be undertaken to address the concerns expressed by OEH. The amendments to the survey design of the Giant Barred Frog Study are described in the Annual Giant Barred Frog Study Reports 2011 to 2014 prepared by Biosphere Environmental Consultants (Dr Arthur White).</p> <p>Any consultation with the OEH in relation to survey transects should include Dr Arthur White who was endorsed by DP&amp;I in March 2012 as a qualified and experienced person for the preparation of the Giant Barred Frog Study and Giant Barred Frog Management Plan in accordance with Project Approval 08_0203 Schedule 3 conditions 30 and 32. The two documents, were approved in March 2012 and annual reports of the monitoring results were submitted to the OEH and DPI. The discussion with OEH related to statistical analysis and methodology of the population data should include Dr Ian Lenane to ensure clarification of issues and discussion of consistency of approach.</p>	Compliant	GBFMP revised and updated with assistance from Dr Arthur White and sent to OEH.
<b>Rehabilitation</b>			
1	<p>It is recommended that final landform design remains generally consistent within the limitations of the maximum height of the waste overburden emplacements (i.e. 135 m AHD approved 5 December 2014) and include some visible relief (+/- 20m RL) to provide a more natural skyline on the completed rehabilitation areas.</p> <p>The final slope of the overburden emplacement should adopt a concave profile (rather than batters and benches) where practicable to manage surface runoff and reduce potential erosion risk on the completed areas.</p>	Compliant	RMP revised to ensure consistency with MOP. See further comments in <b>Section 5.9</b> .
<b>Heritage</b>			
1	It is recommended that the maintenance program for the former Weismantels Inn European heritage site including any special requirements of the tenancy be described in the Heritage Management Plan.	Compliant	HMP outlines maintenance program for the former Weismantels Inn European heritage site.

### 3 NON-COMPLIANCES AGAINST DEVELOPMENT CONSENTS AND OTHER LICENCES AND APPROVALS

This section provides a discussion on the identified non-compliances and status against PA 08\_0203 and the other licences approvals available for review at the time of the audit.

Table 1 of **Appendix C** provides a tabulated list of conditions of consent for Duralie reviewed during the audit, with the comments noted on the compliance status against each.

Table 2 in **Appendix C** provides a list of all other licences and approvals assessed as part of this audit, with the compliance status and comments against each.

A summary of the non-compliances against each document for Duralie is summarised below in **Table 6**.

Recommendations arising from the non-compliances are highlighted in bold text in **Appendix C** and are included in **Section 6**.

Some of the non-compliances and recommendations in this audit may differ slightly from the technical specialist reports following further consultation between Hansen Bailey and DCPL and the provision of additional documentary evidence.

**Table 6**  
**Non-Compliances Identified**

Ref	Non-Compliance	Risk
<b>PA 08_0203</b>		
Sch 3, Con 9	Blast event at 5:34pm, without written approval from the Secretary as discussed in <b>Section 5.14.3</b> .	<b>Administrative</b>
Sch 3, Con 17	Odour incident commencing on 29/07/16 as discussed in <b>Section 5.14.4</b> .	<b>Low</b>
Sch 3, Con 22	Odour incident commencing on 29/07/16 as discussed in <b>Section 5.14.4</b> .	<b>Low</b>
Sch 3, Con 25	There was a non-compliant discharge from the first flush drainage system in August 2015 as discussed in <b>Section 5.14.1</b> .	<b>Low</b>
Sch 3, Con 43	The BMP was re-approved close to but after the commencement of clearing for MOD2. DCPL held an approved BMP for the Duralie Coal Mine which included management measures for vegetation clearance approved by DP&E. The revised BMP was submitted to DP&E in June 2015 to include the additional offset areas, and DCPL indicates the management measures remained unchanged. The revised BMP was approved by DP&E in January 2016 (7 months after submission with no issues raised from DP&E). The MOD2 areas were not cleared until end December 2015. Habitat trees cleared on 20 Jan 2016 (after BMP approved).	<b>Low</b>

Ref	Non-Compliance	Risk
<b>EPL 11701</b>		
L6.1	Odour incidents as discussed in <b>Section 5.14.4.</b> (Also refer Schedule 3, Condition 17).	Low
<b>ML 1646</b>		
5	No incidents as discussed in <b>Section 5.14</b> were reported to DRG as required by this condition.	Administrative



#### 4 MANAGEMENT PLANS, PROGRAMS AND STRATEGIES

The development consent for Duralie requires preparation of a series of management plans for the development. All currently approved management plans approved for Duralie in accordance with the requirements of PA 08\_0203 were reviewed during this audit, including the:

- Environmental Management Strategy (EMS) (September 2017);
- Air Quality and Greenhouse Gas Management Plan (AQGGMP) (April 2015);
- Noise Management Plan (NMP) (August 2017);
- Blast Management Plan (BLMP) (September 2017);
- Water Management Plan (WMP) (August 2017);
- Biodiversity Management Plan (BMP) (August 2017);
- Giant Barred Frog Management Plan (GBFMP) (August 2017);
- Heritage Management Plan (HMP) (April 2015);
- Waste Management Plan (WaMP) (April 2015); and
- Consultation Plan – Rail Noise (December 2012).

The Mining Operations Plan (MOP) and Rehabilitation Management Plan (RMP) ‘*Duralie Coal Mine MOP and RMP – 1 December 2015 to 31 December 2019*’ (August 2017) was also reviewed.

Table 3 of **Appendix C** provides a summary of the key commitments from the above management plans and compliance against these.

## 5 ENVIRONMENTAL MANAGEMENT & MITIGATION EFFECTIVENESS

This section provides a review of management and mitigation effectiveness at Duralie and includes a discussion on key issues including general environmental management, findings of the site inspection, complaints and incidents summary, management of key environmental issues and rehabilitation.

### 5.1 SITE INFRASTRUCTURE

The site inspection was conducted on 13 December 2017 during the site component of the audit with DCPL staff in attendance. The inspection involved a drive to various areas around the site including the open cut viewing platform, rehabilitation areas and rail load out facility.

The site was generally well maintained, tidy and in good condition, particularly near the administration area as shown in Plate 1 of **Appendix E**. Segregated waste bins and skips appeared closely available at both sites to dispose of any waste materials generated by activities within these areas and are serviced and inspected by JR Richards weekly. Spill kits were observed in the vicinity of the refuelling bay and appropriate bunding and contouring was visible to adequately contain any dirty surface water runoff from the area (Plate 2 of **Appendix E**).

Water carts were viewed in operation in the Clareval pit and the site was generally absent of visible dust (see Plate 3 of **Appendix E**). Automatic sprays were activated as a dump truck emptied coal to the ROM bin (see Plate 4 of **Appendix E**).

The rail load out facility appeared to be well maintained. The Truck Maintenance Area appeared to be well organised and signposted (see Plate 5 of **Appendix E**). Waste tyres were stored in a designated area (see Plate 7 of **Appendix E**) and are proposed to be disposed of in pit during mining.

### 5.2 MINE PLAN AND PROGRESSION

A comparison was made between MOP Plan C (MOP) and Figure 4 of PA 08\_0203 to the mine plan and progression of rehabilitation on site using a recent aerial. Rehabilitation and active mining areas were generally consistent between the two plans. The actual disturbance on site is less than that predicted in the EA in relation to the northern waste emplacement. Rehabilitation is ahead of schedule across the site.

It is noted that the implementation of Table 14 in the MOP (Mine Closure Planning Program) will be critical to ensure successful remediation and closure of the site.

### 5.3 AIR QUALITY AND ODOUR

Air quality appears to be well managed at Duralie as supported by the low number of community complaints. During the audit period, there were no exceedances of air quality criteria at private receivers or locations representative of private receivers.

The key future issue in relation to air quality (odour) which will require continued careful management is the known Potential Acid Forming (PAF) and high sulfur content materials which are required to be segregated and stockpiled as overburden prior to its relocation in void spaces. This has led to a number of (however reducing) community complaints (14 complaints in 2016 and two in 2017).

PAF is managed on site either by compacting the material in clay cells or by storing the materials below the post-mining water table. Mining of this material is largely complete and no community complaints have been received since February 2017. Regardless, careful management and documentation of the management of this material should continue to minimise the potential impacts.

### 5.4 NOISE

The noise component of the audit was undertaken by Mark Bridges from Bridges Acoustics. A separate report is contained in **Appendix E**.

No exceedances of noise criteria occurred during the audit period at noise monitoring locations representative of any private receiver or where a noise Agreement was not in place as a result of DCPL's activities.

A review of the NMP is required to ensure that it clearly stipulates internal monitoring sites or where a private Agreement to exceed relevant criteria as advised to DP&E applies; and those sites which are representative of private receivers and as such consent criteria does apply. It needs to be confirmed which noise monitoring sites apply to each closest private receiver.

Where noise monitoring sites are representative of private receivers, but the noise monitoring is on mine owned land, the relevant criteria the private house should be stipulated (derived from modelling) and approved by DP&E.

### 5.5 BLAST

There were no blast criteria exceedances identified during the audit. A minor non-compliance was identified in relation to a Blast event that occurred after approved hours as discussed in **Section 5.14.3**.

### 5.6 WATER MANAGEMENT

Water management at Duralie is designed to mitigate the impact of the development on the surrounding environment. The site operates in a water surplus with a trend for increasing water storage on site overtime. Excess water is used in controlled irrigation on site. There is no active water take from the site (WMP, 2017).

Creek diversions are discussed separately in **Section 5.7**.

### 5.6.1 Groundwater

Groundwater use at Duralie is predominantly related to mine dewatering. As rainfall in the area is generally high, the number of privately owned bores in the region is low and surface water storage is widespread due to high runoff rates. Groundwater extraction is only from seepage in the active pits/voids. There were no issues pertaining to groundwater identified during the audit.

### 5.6.2 Surface Water

The surface water component of the audit was undertaken by Ross Edwards (RE) from Hansen Bailey. A site visit was undertaken on 12 December 2017. A detailed report is contained in **Appendix F**.

There was one non-compliance identified during audit pertaining to a discharge incident as discussed in **Section 5.14.1**. Additionally, there were some minor exceedances of the surface water criteria that represent performance indicators for Coal Shaft Creek and Mammy Johnsons River (e.g. SW2 exceeded criteria for pH, EC, turbidity and aluminium). There is no evidence that this is related to mining activities and is most likely due to variations in background water quality.

SCPL operates in accordance with the SWMP in response to exceedances such as that described above. In the event that a performance indicator is or is likely to be exceeded, an assessment is made against the performance measure. If a performance measure is considered to have been exceedance, the Contingency Plan is implemented (MP pers comms). No performance measures were considered to have been exceeded for the minor exceedances described above as reported in the Annual Reviews.

### **Water Licencing**

DCPL advises that Duralie does not trigger the harvestable rights requirements as assessed in the Duralie 2010 EA Surface and Groundwater Assessments undertaken by Gilbert and Associates Pty Ltd and Hydro Simulations respectively. DCPL holds two surface water licences on Mammy Johnsons River, with a total extraction allowance of 19 ML per annum. No active water take was undertaken during the audit period as reported in the Annual Reviews.

DCPL also holds groundwater licence 20BL168404 with an entitlement of 300 ML per annum of water take. The volume of water extracted (passive) under this water licence into the Clareval pit reported in the Annual Reviews was 128 ML in 2016, which is slightly higher than the predicted 102 ML (Duralie Extension Project 2010) however less than the licence held.

Condition 4 of 20BL168404 requires that a Groundwater Monitoring and Contingency Plan is developed. In accordance with this condition, the Groundwater Monitoring and Contingency Plan is appended to the Duralie GWMP.

## **Water Balance**

The operations site water balance refers to a surplus under all circumstances. Site personnel (MP pers. comm.) advised that despite significant efforts to maximise evaporation loss and irrigation, the site operates a small surplus in drier than average years, and a large surplus in wetter than average years. This indicates that there will be an increasing water inventory over time.

Site personnel (MP pers. comm.) advised that the Clareval and Weismantel pits are currently inactive and there is significant water storage capacity available in each. The current water management strategy therefore involves the storage of excess mine water in the inactive Clareval and Weismantel pits. Environmental assessment documentation indicates that the water management system (including these pits) is predicted to have sufficient available storage capacity to accommodate the estimated increases in inventory and ensure a low potential for discharge from the water management system (RE, 2018).

## **Water Storages**

The main water supply storage on-site at Duralie for use in irrigation and dust suppression is the Main Water Dam (MWD). The MWD's storage capacity is approximately 1,405 ML. Other water storages on site include Auxiliary Dam 1 (460 ML capacity) and Auxiliary Dam 2 (2,970 ML). At the end of June 2017, the three dams contained 998 ML (77.1% capacity), 164 ML (41.6% capacity) and 2,092 ML (80.6% capacity) respectively (WMP, 2017).

On the 30 August 2016 an interagency (EPA, DP&E, DIRR) compliance audit of the Duralie Coal Mine Dams was undertaken with a focus on the management of tailings, wastewater holding and sedimentation dams. The audit identified five 'code yellow' (low environmental risk) and 15 'code blue' (no direct environment impact) non-compliances. The DCPL status update register dated September 2017 against these non-compliances was viewed during the audit and confirmed actions had been undertaken to address these non-compliances. A sediment dam was constructed near the explosives magazine which was viewed during the site visit (see Plate 7 of **Appendix D**). Actions should be taken to ensure any outstanding actions are addressed.

## **5.7 CREEK DIVERSIONS**

The creek diversion was inspected by RE during the site visit component of the audit and is contained in **Appendix F**. The diversion appeared to be stable (largely due to hard engineering structures), well vegetated and was fairly typical of an older-style creek diversion. It was apparent that effort had been made to minimise contained catchments draining to the mine by diverting clean runoff around the mining areas. The contained catchments appeared to be well managed with no significant erosion observed.

Erosion and sediment controls were generally well managed and dam and water storages were free of trees and significant erosion (RE, 2018).

## 5.8 TAILINGS AND REJECT MANAGEMENT

All ROM coal is transported to the Stratford CHPP for processing in accordance with the Stratford Coal Mine Development Consent. Rejects and tailings from Duralie are managed in accordance with the Stratford Life of Mine Rejects Disposal Plan. Rejects are currently disposed of in the Stratford Main Pit below the pre-mine groundwater level to maintain saturation and limit the potential for oxidation. Reject are disposed via a co-disposal method that combines coarse rejects with the intermediate sized materials and tailings.

## 5.9 REHABILITATION

The rehabilitation component of the audit was undertaken by Clayton Richards (CR) from SLR. A site visit was undertaken on 8 December 2017. A separate report is contained in **Appendix F**.

Progressive rehabilitation of the site was observed. Including active final shaping in preparation for rehabilitation. The site has established suitable landforms and successful rehabilitation of forest communities are well underway to final completion criteria. Ecological succession was observed in the older rehabilitation.

The non-vegetated areas across site were limited to active voids, mining areas, infrastructure or undergoing final shaping, ripping and seeding. The rehabilitated areas were all very healthy, with adequate ground cover to protect from erosion. It was evident that the rehabilitation was being actively managed for weeds and pest plant species (CR, 2018).

The following recommendations were made regarding rehabilitation:

- Continue rehabilitation techniques along eastern edge of mine area and apply upon the final shaping of the overburden emplacements. Continue to monitor and manage weed species as required;
- Continue to monitor and manage weed species and species diversity as required in the mine rehabilitation to forest community; and
- Continue same process of rehabilitation as per previous efforts in shaped and topsoiled areas to ensure consistent results.

## 5.10 ECOLOGY

The ecology component of the audit was undertaken by Katrina Wolf (KW) from Cumberland. A site visit was undertaken on 14 December 2017. A separate report is contained in **Appendix F**.

Overall the biodiversity offset areas are performing well with natural regeneration of canopy species observed adjacent to remnant canopy trees. The areas subject to revegetation works showed evidence of successful germination of seeds and several nest boxes of various sizes were seen. The mine rehabilitation area showed an extensive cover of canopy and shrubs and established stags.

## 5.11 ENVIRONMENTAL TRAINING

An informal interview was held with Chris Cade (Health, Safety and Training) on 14 December 2017 in relation to environmental training at site. Employees undertake a full induction every five years and contractors every two years. The Induction package is delivered by Mines Rescue and recorded in a database managed by Pegasus. The database was viewed during the site inspection as well as a completed assessment following a site induction dated 6 December 2017.

An induction (last updated 10 January 2017) was also viewed and contained four slides on environmental aspects relating to chemicals, spills, hazards and waste. This could be improved by adding additional detail such as the general management processes used for dust, noise, water, odour and heritage on site as well as identifying any of the sensitive areas in relation to these.

Improvements could also be made in terms of the log on induction to include additional an environmental component (e.g. amenity, environmental incidents and complaints).

## 5.12 RAIL

The rail audit for Duralie was undertaken by Bill Palazzi from Palazzi Rail, Mark Bridges from Bridges Acoustics and Shane Lakmaker from Jacobs. Separate reports are contained in **Appendix G**.

Overall the site was compliant against the consent conditions pertaining to rail. Recommendation was made relating the publishing of instances where the shuttle train has been operated on the North Coast railway between midnight and 1 am. Schedule 2 Condition 8A of PA 08\_0203 requires that an explanation of the exceptional circumstance under which a shuttle train is operated during this time period is published on the website within 12 hours. There was no evidence available to confirm this has been done within the 12 hour time period and as such, it is recommended that times should be recorded and screenshots taken in the future for updating the website to confirm compliance with this condition. Notwithstanding the details of shuttle train movements were up to date on the website when reviewed for this audit and including those between midnight and 1am which only occurred twice over three years.

Two discrepancies were also noted with the DCPL data which showed a train departing before 6 am and after 10 pm which is not permitted under Schedule 2 Condition 8 of the consent. Upon viewing the Traco (train running data sheet) it was apparent in both instances that there was an error in transposing the information from the Traco to the DCPL spreadsheet and accordingly the trains were dispatched within the approved hours.

For the discrepancy noted above where the DCPL data showed a train departing before 6am, the Traco showed a scheduled departure time of 5:50am (and it was this scheduled time that was transposed onto the DCPL records, as against the actual departure time of 6am). Given the restrictions on shuttle train operations imposed by the Conditions of Consent, it is unclear why a train should be scheduled to operate outside the authorised period (BP, 2018).

### 5.13 COMMUNITY COMPLAINTS

Community concerns are being well managed and are being recorded within the Duralie Community Complaints Register, which was viewed during the site component of the audit. Summary documents for the past year are available on the Duralie website. The number of complaints received has decreased substantially in the audit.

Following each complaint being received, an investigation was undertaken by DCPL environmental staff to review mine operations and environmental conditions at the time that the issue was raised. The community complaints register contains an explanation of the investigation process and any actions taken in response to each issue was communicated to the complainant, where possible.

A total of 41 community complaints were received during 2015, the majority of which were related to noise (30 complaints). A total of 19 complaints were received in 2016, most of which were related to air quality and odour as discussed in **Section 5.3**. Six complaints were received in 2017, primarily for odour related issues (3 complaints).

### 5.14 INCIDENTS

A review of the Duralie incident registers since the last IEA was undertaken. These were all clearly reported within the Annual Reviews. A discussion of the incidents for each site is below.

A total of 19 incidents were recorded internally for Duralie during the audit period. Of these, six were rated as Minor-reportable and the remainder as insignificant according to DCPL's 'Environmental Incident Category and Definition'. The six reportable incidents were:

- Water Discharge;
- An uncontrolled burn in biodiversity offset area;
- Blasting after approved hours;
- Odour from the mine site; and
- Two dust exceedances.

Additionally, DCPL received a Section 240(1)(c) notice under the *Mining Act 1992* by DP&E on 16 June 2017. This was following DCPL representatives meeting with DRG on 24 May 2017 to discuss the Duralie MOP and mine closure planning for the Duralie operation.

A MOP Amendment (Amendment B) was prepared in accordance with the notice, the MOP Amendment included the addition of a mine closure planning program, which includes a schedule of all technical and/or environmental assessments that will be required to undertake final rehabilitation following the cessation of open-cut mining at Duralie. The MOP Amendment was submitted to DRG on 31 August 2017 and approved on 11 December 2017.

#### 5.14.1 Water Discharge

An incident involving a discharge from the first flush drainage system occurred on 23 August 2015. The first flush drains have sensor arrays that direct runoff from irrigation areas to either the pit or receiving environment, depending on quality of the runoff and the receiving waters.



Following a power outage, when power was restored the system automatically defaulted to directing runoff to the receiving environment. The runoff did not meet the water quality criteria for release from site and resulting in the non-compliant discharge of 4 m<sup>3</sup> of site runoff.

The alarm system operated as designed and the release ceased when MP manually redirected the runoff to the pit. DCPL subsequently amended the first flush drainage system to drain to the main pit water storage by default, added battery backups in the event of a power outage and introduced a system of escalating alarms in the event that water quality criteria are exceeded during a release. These measures should prevent this incident recurring (RE, 2018).

The incident was self-reported to EPA and DP&E. EPA has confirmed that no further action is required.

#### **5.14.2 Uncontrolled Burn in Biodiversity Offset Area**

On 2 February 2016, an uncontrolled burn in an area of cleared pasture in the biodiversity offset area occurred. The incident was self-reported to EPA & DP&E (undated) and the PIRMP was updated in response to the event. Bushfire management measures are undertaken regularly to avoid future incidents. No further action has been taken by EPA or DP&E.

#### **5.14.3 Blast After Approved Hours**

A blast occurred after hours at 5.34pm on 17 March 2016 due to a misfire and was not monitored. The incident was self-reported to EPA and DP&E on 24 March 2016. No further actions have been requested.

#### **5.14.4 Odour Event**

Three complaints were received on 29 July 2016 relating to odour. The incident was self-reported to EPA and DP&E and no further actions were requested.

Responses were provided to the complainants of the potential cause and actions undertaken by DCPL. The areas with potential for spontaneous combustion were monitored and managed in accordance with DCPL's Spontaneous Combustion Management Procedure.

#### **5.14.5 Dust Incidents**

Three potential dust incidents occurred in the audit period at Duralie. Only the first was found to be a dust incident as a result of DCPL's operations as described below.

The first incident was caused due to the rehandling of very fine overburden material in the Weismantel pit and occurred on 11 April 2017. The incident was self-reported to DP&E and EPA on 13 April 2017 and control measures were implemented in accordance with the AQGGMP. It was concluded that the dust emissions were unable to be controlled and the activity was ceased at the time it was identified. DCPL ceased operations in this area until additional controls were implemented.

Two elevated dust levels were recorded at the 'Hattam' PM10 monitor exceeding criteria on 31 December 2016 and 12 January 2017. Duralie was not operating on 31 December 2016 and as such, this incident does not represent an exceedance of criteria caused by DCPL's operations.

And a review of the weather conditions concluded that the potential exceedance on 12 January 2017 was not consistent with mine contribution and thus was also not an exceedance due to DCPL's operations. However, DCPL responded by implementing additional management measures during adverse weather conditions and the potential incident was self-reported to EPA and DP&E.

#### **5.14.6 Spontaneous Combustion**

A spontaneous combustion incident occurred on 29 July 2016. The incident was self-reported to the EPA. No immediate written response was provided but a site visit was undertaken on 12 May 2017. The DCPL response letter (dated 23/09/16) was viewed at the time of the audit providing update on actions taken in response to complaints. No further correspondence has been received. Outcomes from the actions should be included in the next Annual Review.

## 6 RECOMMENDATIONS

A consolidated list of recommendations arising from the non-compliances identified in **Table 6** and other environmental issues identified during this audit is provided below in **Table 7**.

In accordance with the Audit Guidelines, **Table 7** also provides a risk assessment to assist DCPL staff in responding to each recommendation.

**Table 7**  
**Audit Recommendations**

Ref	Description	Risk
<b>Previous Audit Recommendations</b>		
<b>Table 2</b>	Recommend a summary report following analysis of the inversion data is forwarded to EPA/OEH for consideration in any EPL variation.	<b>Low</b>
<b>PA 08-0203 Non-compliance Recommendations</b>		
Sch 3, Con 9	Written approval should be obtained from the Secretary for any blasts outside approved hours.	<b>Low</b>
Sch 3, Con 17	Strict PAF management must be continued to ensure odour events are minimised.	<b>Low</b>
Sch 3, Con 43	The BMP should be updated to outline how measures relating to rehabilitation of creeks and drainage lines seek to ensure no net loss of stream length and aquatic habitat.	<b>Administrative</b>
Sch 3, Con 48	Times should be recorded and screenshots taken in the future for updating the website on a fortnightly basis to confirm compliance with this condition and request amendment of condition at next modification.	<b>Administrative</b>
<b>PA 08-0203 Continual Improvement Recommendations</b>		
Sch 2, Con 8	Scheduling of trains should be reviewed to ensure all scheduled train movements occur within the Conditions of Consent. A train was scheduled at 5.50am but did not depart until 6am.	-
Sch 2, Con 8A	Recommend that times are recorded in the future with screenshot taken for updating the website within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances to confirm compliance with this condition.	-

Ref	Description	Risk
Sch 3, Con 2	A review of the NMP is required to ensure that it clearly stipulates internal monitoring sites or where a private Agreement to exceed relevant criteria as advised to DP&E applies; and those sites which are representative of private receivers and as such consent criteria does apply. It needs to be confirmed which noise monitoring sites apply to each closest private receiver. Where noise monitoring sites are representative of private receivers, but the noise monitoring is on mine owned land, the relevant criteria the private house should be stipulated (derived from modelling) and approved by DP&E.	-
Sch 3, Con 7	Consultation with the EPA should be undertaken for future updates of the NMP or DP&E approval, particularly where plans are being updated for closure status.	-
Sch 3, Con 29	Any future updates to the SWMP include additional details on the final void design, Coal Shaft Creek reconstruction, closure objectives and specific performance criteria.	-
Sch 3, Con 32	Revision status register in the GBFMP to be updated to indicate if the current version is approved by DP&E and evidence of such approval included within the plan.	-
Sch 3, Con 39	Hollow bearing habitat features should be introduced into revegetated areas.	-
Sch 3, Con 43	The BMP should be updated to outline how measures relating to rehabilitation of creeks and drainage lines seek to ensure no net loss of stream length and aquatic habitat.	-
Sch 3, Con 44	Conservation bond is reviewed and revised as required, due to update of BMP in 2017.	-
Sch 3, Con 48	The audit has no means of determining whether the records of exceptional circumstances have been made available on a fortnightly basis on DCPL's website. It is recommended that times and dates are recorded or screenshot taken to demonstrate compliance with this condition.	-
Sch 3, Con 55	Recommend Annual Reviews discuss the Rehabilitation objectives in Table 12 of this condition and discuss how each is being met or worked towards.	-
<b>EPL 11701 Continual Improvement Recommendations</b>		
P1	Recommend considering justifying and removal of dust gauges and modify commensurate with closure status. AQMP would also require update for consistency.	-
L4.2	A discussion with the EPA is recommended with the aim of modifying this condition to permit acoustically equivalent locations to be adopted for the noise compliance measurements to minimise disturbance to residents. NMP would also required update.	-
O5.1	Recommend the last sentence of this condition is removed at next variation request, relating to the development of an	-

Ref	Description	Risk
	emergency response plan as the date has been superseded and is no longer relevant.	
M9	Recommend this condition is removed. Condition relates to submitting a noise compliance report within 30 days of the completion of quarterly monitoring.	-
<b>ML 1646 Non-compliance Recommendations</b>		
5	Recommend that any incidents that meet the definition under this condition are reported to DRG in the future.	Administrative
<b>General Recommendations</b>		
Administration	All approval and consultation letters are appended to management plans appendices in the future.	-
Administration	It is recommended that consultation is undertaken for any future revisions to management plans or approval from DP&E sought not to consult.	
Air	Amend sentence in the AQGGMP Section 3.1.1 that states no PM2.5 criteria in NSW to reflect recent legislative changes at next update.	-
Consultation	Recommend that consultation with regulatory departments is undertaken for updates of management plans or approval from DP&E is sought to not consult.	-
Ecology	Table 7 of the BMP contains an incorrect reference to Section 6.13 for a discussion on canopy bridges. This should be updated to Section 6.14 when BMP next revised.	-
Ecology	It is recommended that the BMP is updated with the following changes when next revised as suggested by KW: <ul style="list-style-type: none"> <li>Table 10 of the BMP is updated to include details for the Varied Sittella for consistency. Additionally, given that the BMP addresses multiple offsetting requirements, it is recommended that the BMP includes a summary table indicating the list of threatened fauna species recorded within the surface development area and the areas of habitat (current and future) within each of the different offset areas;</li> <li>allowance for installation of hollow-bearing habitat features within revegetation areas;</li> <li>Include clear short, medium and long term measures for the offset areas, or indicate that medium and long term measures have been amalgamated; and</li> <li>Include the requirement for the submission of records of captured individuals of Threatened species.</li> </ul>	-
Rehabilitation	The following recommendations were made by CR: <ul style="list-style-type: none"> <li>Continue rehabilitation techniques along eastern edge of mine area and apply upon the final shaping of the overburden emplacements. Continue to monitor and manage weed species as required;</li> </ul>	-

Ref	Description	Risk
	<ul style="list-style-type: none"> <li>Continue to monitor and manage weed species and species diversity as required in the mine rehabilitation to forest community; and</li> <li>Continue same process of rehabilitation as per previous efforts in shaped and topsoiled areas to ensure consistent results (CR, 2018).</li> </ul>	
Spontaneous Combustion	Outcomes from the actions in the DCPL response letter (dated 23/09/16) to the Spontaneous Combustion incident on 29 July 2016 should be included in the next Annual Review.	-
Training	Induction (and log on induction) is improved by adding additional detail such as the general management processes used for dust, noise, water, odour and heritage on site as well as identifying any of the sensitive areas in relation to these.	-
Training	Recommend that the induction package includes PIRMP (list of inclusions in Section 11) and an assessment of competency.	-
Waste	Recommend update contractor to JR Richards in Section 5 of the WaMP.	-
Waste	Section 7 of the WaMP references a Community Management and separate Coordinator. Recommend this is updated to current.	-
Water	Actions should be taken to ensure any outstanding actions from the dams compliance audit are addressed.	-

\* \* \*

for

**HANSEN BAILEY**




Taylor Jackson  
Environmental Scientist



Dianne Munro  
Principal Environmental Scientist

***APPENDIX A***  
***DP&E Certification Form***

Independent Environmental Audit Submission Form	
<b>Project</b>	
Consent No.:	PA 08_0203
Description of Project:	Duralie Coal Mine
Project Address:	1164 Bucketts Way South, Stroud Road NSW 2415
Proponent	Duralie Coal Pty Limited
Proponent Address:	PO Box 168 GLOUCESTER NSW 2422
<b>Independent Audit</b>	
Title of Audit:	Duralie Coal Mine Independent Environmental Audit
<b>Certificate</b>	<p>I certify that I have prepared the contents of the attached independent audit and to the best of my knowledge:</p> <ul style="list-style-type: none"> <li>• It is in accordance with relevant approval condition(s)</li> <li>• I have acted professionally, accurately and in an unbiased manner in conducting the audit</li> <li>• I am not related to any owner or operator of the project as a spouse, partner, parent, child, sibling, employer, employee, business partner, in sharing a common employer, or in a contractual arrangement outside the audit</li> <li>• I do not have any pecuniary interest in the project, including where there is a reasonable likelihood or expectation of appreciable financial gain or loss to me or to a person to whom I am related</li> <li>• Neither I nor my employer have provided consultancy services for the project that were subject to this audit</li> <li>• 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 project, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.</li> </ul>
Signature:	
Name:	Dianne Munro
Address:	6/127-129 John Street, Singleton NSW 2330
Email Address:	<a href="mailto:dmunro@hansenbailey.com.au">dmunro@hansenbailey.com.au</a>
Auditor Certification (Body, No. Grade):	Auditor (Environmental Scheme) for Environmental Management, EMS and Compliance Audits. RAB/QSA International. No. 107622
Date:	23/02/18



***APPENDIX B***  
***Regulatory Consultation***

Contact: Heidi Watters  
Phone: 02 6575 3401  
Email: [heidi.watters@planning.nsw.gov.au](mailto:heidi.watters@planning.nsw.gov.au)  
[compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)  
Our ref: PA 08\_0203, DA 23-98/99 and DA 39-02-01

Michael Plain  
Environment & Community Superintendent  
Duralie Coal Pty Ltd  
PO Box 168  
GLOUCESTER NSW 2422

**Duralie Coal and Stratford Coal  
Independent Environmental Audit Team**

Dear Michael,

Reference is made to your letter dated 23 October 2017 regarding the proposed audit team to undertake an Independent Environmental Audit (IEA) for the Duralie Coal Mine, in accordance with Schedule 5, conditions 8 and 9A of PA 08\_0203 and for the Stratford Mining Complex, in accordance with Schedule 5, condition 8 of DA 23-98/99 and Schedule 2, condition 8.1 of DA 39-02-01.

The Department has reviewed the information provided and endorses the proposed IEA team with the following personnel:

- Dianne Munro – Lead Auditor;
- Taylor Jackson – Auditor;
- Dr David Robertson – Ecology specialist (offset management);
- Clayton Richards – Rehabilitation specialist;
- Ross Edwards – Surface Water Specialist;
- Bill Palazzi – Rail Haulage;
- Shane Lakmaker – Rail Haulage – Air Quality; and
- Mark Bridges – Rail Haulage Noise.

In accordance with the approvals, the Department expects that the IEA report and response to any recommendations contained within the report to submitted to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) within 6 weeks of the completion of the audit (the final site inspection date).

Should you need to discuss the above, please contact Heidi Watters as per the details provided above.

Yours sincerely



13/11/17

Leah Cook  
**Team Leader - Compliance**  
*As Nominee of the Secretary*

## Taylor Jackson

---

**Subject:** Independent Environmental Audits

**From:** Leah Cook [<mailto:Leah.Cook@planning.nsw.gov.au>]

**Sent:** Friday, 1 December 2017 8:15 AM

**To:** Michael Plain

**Cc:** Heidi Watters

**Subject:** FW: Independent Environmental Audits

Good morning Michael

Given the circumstances, the Department will endorse Katrina Wolf (Cumberland Ecology) to act as the ecology specialist in place of Dr Robertson for the upcoming IEAs.

Regards,

**Leah Cook**

Team Leader - Compliance

Department of Planning & Environment

Suite 14, Level 1, 1 Civic Av

PO Box 3145

Singleton NSW 2330

<http://www.planning.nsw.gov.au>

E: [leah.cook@planning.nsw.gov.au](mailto:leah.cook@planning.nsw.gov.au)

[compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)

P: 02 6575 3403 M: 0429 191 164 F: 02 65753415



---

**From:** Michael Plain [<mailto:Michael.Plain@yancoal.com.au>]

**Sent:** Thursday, 30 November 2017 10:24 AM

**To:** Heidi Watters <[Heidi.Watters@Planning.nsw.gov.au](mailto:Heidi.Watters@Planning.nsw.gov.au)>

**Cc:** DPE PSVC Compliance Mailbox <[compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)>

**Subject:** RE: Independent Environmental Audits

Hi Heidi,

Dr David Robertson, the proposed ecology specialist for the Stratford & Duralie IEAs, has been called to testify in the Land & Environmental Court on the week of audit. As such, we propose for Katrina Wolf (Cumberland Ecology) to act as the ecology specialist in place of Dr Robertson. Please see a CV for Ms Wolf attached. Can you please confirm the Secretary's endorsement for Katrina Wolf?

Thanks,

**Michael Plain** | ENVIRONMENT & COMMUNITY SUPERINTENDENT

### Duralie Coal Ltd

SITE: 1164 Bucketts Way South, via Stroud Road NSW 2415

POSTAL: PO Box 168, Gloucester NSW 2422 Australia

PHONE: 02 4999 5117

FAX: 02 4994 5775

MOBILE: 0400 474 126

EMAIL: [Michael.Plain@yancoal.com.au](mailto:Michael.Plain@yancoal.com.au)

## Taylor Jackson

---

**Subject:** FW: Independent Environmental Audits

**From:** Leah Cook [<mailto:Leah.Cook@planning.nsw.gov.au>]

**Sent:** Tuesday, 9 January 2018 12:12 PM

**To:** Michael Plain

**Cc:** Heidi Watters

**Subject:** FW: Independent Environmental Audits

Hi Michael,

I have considered your request and approve an extension for the submission of the 2017 Stratford Mining Complex and Duralie Coal Mine IEA reports and the responses to recommendations to **26 February 2018**.

Should you have any further concerns please don't hesitate to contact Heidi Watters.

Regards

**Leah Cook**

Team Leader - Compliance  
Department of Planning & Environment  
Suite 14, Level 1, 1 Civic Av  
PO Box 3145  
Singleton NSW 2330  
<http://www.planning.nsw.gov.au>  
E: [leah.cook@planning.nsw.gov.au](mailto:leah.cook@planning.nsw.gov.au)  
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**From:** Kyandra Carr **On Behalf Of** DPE PSVC Compliance Mailbox

**Sent:** Thursday, 21 December 2017 3:41 PM

**To:** Leah Cook <[Leah.Cook@planning.nsw.gov.au](mailto:Leah.Cook@planning.nsw.gov.au)>

**Subject:** FW: Independent Environmental Audits

fyi

---

**From:** Michael Plain [<mailto:Michael.Plain@yancoal.com.au>]

**Sent:** Thursday, 21 December 2017 1:13 PM

**To:** Heidi Watters <[Heidi.Watters@Planning.nsw.gov.au](mailto:Heidi.Watters@Planning.nsw.gov.au)>

**Cc:** DPE PSVC Compliance Mailbox <[compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)>

**Subject:** RE: Independent Environmental Audits

Hi Heidi,

The site inspection component for the 2017 Stratford Mining Complex and Duralie Coal Mine IEAs was completed on 14 December 2017. In accordance with the project approval requirements the IEA reports and the responses to any recommendations would be due on 26 January 2018 (i.e. within 6 weeks).

With the upcoming Christmas period the lead auditor anticipates delays in preparing and finalising the IEA reports. As such, SCPL/DCPL request an extension for the submission of the 2017 Stratford Mining Complex and Duralie Coal Mine IEA reports and the responses to recommendations to 26 February 2018.

Please don't hesitate to contact me should you wish to discuss.

Regards,

**Michael Plain** | ENVIRONMENT & COMMUNITY SUPERINTENDENT

**Duralie Coal Ltd**

SITE: 1164 Bucketts Way South, via Stroud Road NSW 2415

POSTAL: PO Box 168, Gloucester NSW 2422 Australia

PHONE: 02 4999 5117

FAX: 02 4994 5775

MOBILE: 0400 474 126

EMAIL: [Michael.Plain@yancoal.com.au](mailto:Michael.Plain@yancoal.com.au)

WEBSITE: [www.duraliecoal.com.au](http://www.duraliecoal.com.au)



## Taylor Jackson

---

**Subject:** FW: Independent Audit Stratford Duralie - Request for Input

**From:** Bruce Moore [<mailto:Bruce.Moore@MidCoast.nsw.gov.au>]

**Sent:** Thursday, December 07, 2017 3:58 PM

**To:** Dianne Munro <[DMunro@hansenbailey.com.au](mailto:DMunro@hansenbailey.com.au)>

**Cc:** Lisa Schiff <[Lisa.Schiff@MidCoast.nsw.gov.au](mailto:Lisa.Schiff@MidCoast.nsw.gov.au)>; Ryan Fenning <[Ryan.Fenning@MidCoast.nsw.gov.au](mailto:Ryan.Fenning@MidCoast.nsw.gov.au)>

**Subject:** FW: Independent Audit Stratford Duralie - Request for Input

Hi Diane

In general Council has found environmental management for the development to be acceptable, however over the past few years complaints have been made in relation to odour associated with the exposure and handling of Potential Acid Forming (PAF) material and high sulfur content material. Much of this material has been stockpiled as overburden and is to be relocated back into void spaces as the mine commences closure.

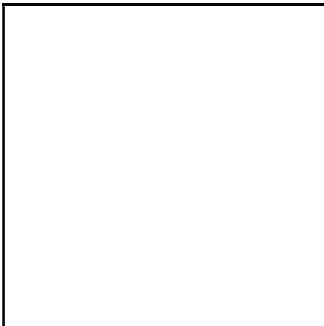
It would be beneficial if the handling and management of this material and associated odour could be reviewed to ensure that best practice is being applied.

Regards

Bruce

**Bruce Moore**

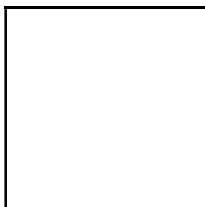
**Manager Development Assessment**



Direct 02 6591 7364

[Bruce.Moore@MidCoast.nsw.gov.au](mailto:Bruce.Moore@MidCoast.nsw.gov.au)

[www.midcoast.nsw.gov.au](http://www.midcoast.nsw.gov.au) or follow us



---

**From:** Dianne Munro [<mailto:DMunro@hansenbailey.com.au>]

**Sent:** Thursday, 30 November 2017 9:08 AM

**To:** [Heidi.Watters@Planning.nsw.gov.au](mailto:Heidi.Watters@Planning.nsw.gov.au); [Emma.Coombs@epa.nsw.gov.au](mailto:Emma.Coombs@epa.nsw.gov.au); [chris.cooper@trade.nsw.gov.au](mailto:chris.cooper@trade.nsw.gov.au); Lisa Schiff; [hannah.grogan@dpi.nsw.gov.au](mailto:hannah.grogan@dpi.nsw.gov.au); [Steven.Cox@environment.nsw.gov.au](mailto:Steven.Cox@environment.nsw.gov.au); [chris.salkovic@damsafety.nsw.gov.au](mailto:chris.salkovic@damsafety.nsw.gov.au)

**Cc:** Michael Plain; Taylor Jackson

**Subject:** Independent Audit Stratford Duralie - Request for Input

Good morning,

Hansen Bailey has been approved by the Department of Planning (DP&E) to conduct the Independent Environmental Audits (IEA) for:

- Stratford IEA as per Schedule 5 Condition 8 of Development Consent DA 23-98-99 (as modified); and Schedule 2 Condition 8.1 of Development Consent DA 39-02-01(as modified); and
- Duralie IEA (including Rail Haulage Audit) as per Schedule 5 Conditions 8 and 9A of Project Approval (PA) 08\_0203 (as modified).

The IEA conditions generally require:

*"8. By end of December 2011, and every 3 years thereafter, unless the Director General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:*

- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;*
- (b) include consultation with the relevant agencies;*
- (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);*
- (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and*
- (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.*

*Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.*

*9. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report."*

As a relevant agency, could you please provide any specific direction you have in relation to any specific environmental areas you require any particular focus on as part of the IEA. If you could respond **by 7 December**, it would be appreciated. Thank you.

Please do not hesitate to call me to discuss.

Best Regards,  
Dianne.

**Dianne Munro**  
*Principal Environmental Scientist*  
MEnvLaw BSc

**HANSEN BAILEY**  
Tel: (02) 6575 2003  
Fax: (02) 6575 2001  
Mobile: 0428 772 566  
Email: [dmunro@hansenbailey.com.au](mailto:dmunro@hansenbailey.com.au)



Our ref OUT17/50060

Dianne Munro  
Principal Environmental Scientist  
Hansen Bailey

By email: DMunro@hansenbailey.com.au

Dear Ms Munro

### **Duralie Coal Mine Independent Environmental Audit**

Thank you for the opportunity to comment on the planned independent environmental audit of Duralie Coal Mine.

Lands and Water (formerly DPI Water) understands that the scope of the assessment as outlined under the development consent extends at least to:

- The environmental performance of the development;
- Compliance with the conditions of consent;
- The adequacy of strategies, plans or programs required under the consent;
- Recommendations for appropriate measures to improve the environmental performance of the development

Lands and Water requests that the audit considers compliance with the relevant water licensing requirements for the mining operation, specifically:

- Assessment as to whether the project holds the required water entitlements and licences under the *Water Management Act 2000* or *Water Act 1912* (as applicable);
- Compliance with the conditions of any water licences/approvals held;
- Identification of all water storages for the mine and identification of their licensing status being either exempt, subject to harvestable rights or regulated via a Water Access Licence.
- Quantification of both active and passive take by the project from each relevant water source and a comparison against previously modelled predictions.

The following additional requirements related to protection of water sources should also be considered in the audit:

- Compliance with the requirements of the Water Management Plan, including, but not limited to compliance against performance criteria related to Coal Shaft Creek and Mammy Johnsons River and assessment criteria for potentially adverse groundwater impacts
- Compliance with the requirements to provide compensatory water supplies to adversely affected landowners and offsets for base flow loss.



I trust this information is of assistance. Please contact Brendan Mee, Water Regulation Officer (Newcastle) on (02) 4904 2524 or [Brendan.mee@dpi.nsw.gov.au](mailto:Brendan.mee@dpi.nsw.gov.au) if you have further enquiries regarding this matter.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Irene Zinger'.

**Irene Zinger** | Manager  
Regulatory Operations - Metro  
Lands & Water Division  
Department of Industry

22 December 2017

## Taylor Jackson

---

**From:** Dianne Munro  
**Sent:** Friday, 1 December 2017 9:19 AM  
**To:** Taylor Jackson  
**Subject:** FW: Independent Audit Stratford Duralie IEA

---

**From:** Bill Ziegler [bill.ziegler@damsafety.nsw.gov.au]  
**Sent:** Friday, 1 December 2017 9:17 AM  
**To:** Dianne Munro; Chris Salkovic  
**Subject:** Independent Audit Stratford Duralie IEA

Dianne

Chris forwarded the email for comment on environmental issues with Stratford Duralie. The Dams Safety Committee's area of interest is the safe operation of prescribed dams. The mining company has operated their dams in a safe manner and have provided the required Surveillance Reports and Dam Safety Emergency Plan for their prescribed dams. The Dams Safety Committee has no knowledge of environmental issues to report

regards

*Bill Ziegler*

*Manager Mining Projects*

*Dams Safety Committee*

*ph 02 9842 8077*

*Level 11, 10 Valentine Ave. Parramatta*

**LOCKED BAG 5123**

**PARRAMATTA NSW 2124**

[www.damsafety.nsw.gov.au](http://www.damsafety.nsw.gov.au)

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***APPENDIX C***  
***Development Consent Compliance Tables***

Table 1 Duralie PA 08_0203 Consolidated Conditions of Approval .....	1
Table 2 Other Licences and Approvals .....	46
Table 3 Management Plans .....	49

November 2012 Modification in Blue

December 2014 Modification in Red

**Table 1**  
**Duralie PA 08\_0203 Consolidated Conditions of Approval**

Sched	Cond	Requirement	Status	Comment
<b>SCHEDULE 2 - ADMINISTRATIVE CONDITIONS</b>				
<b>OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT</b>				
2	1	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.	Compliant	There were some minor reportable incidents and environmental non-compliances recorded during the reporting period as discussed in <b>Section 3</b> , however no significant exceedances or material environmental harm occurred.
<b>TERMS OF APPROVAL</b>				
2	2	The Proponent shall carry out the project generally in accordance with the: (a) EA; (a1) EA (Mod 1); (a2) EA (Mod 2); (b) statement of commitments; and (c) conditions of approval Notes: • The general layout of the project is shown in Appendix 2; and • The statement of commitments is reproduced in Appendix 9	Compliant	Project is generally in accordance with project approvals as discussed in <b>Section 5.2</b> .
2	3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	Not Triggered	No inconsistencies identified during audit period (MP pers comms).
2	4	The Proponent shall comply with any reasonable requirement/s of the <b>Secretary</b> arising from the Department's assessment of: (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents.	Compliant	See various comments below.
<b>LIMITS ON APPROVAL</b>				
2	5	The Proponent may carry out mining operations on site until 31 December 2021.	Not Triggered	Date after audit period.

Sched	Cond	Requirement	Status	Comment
		Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of both the <b>Secretary</b> and the Director-General of DTIRIS. Consequently, this approval will continue to apply in all other respects – other than the right to conduct mining operations – until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.		
2	6	The Proponent shall not extract more than 3 million tonnes of coal from the site in a calendar year.	Compliant	~1.89 Mt in 2015, ~1.45 Mt in 2016 and 0.87 Mt in 2017 as reported in the Annual Reviews.
2	7	The Proponent shall ensure that: (a) all coal is transported from the site by rail; (b) no more than 5 laden trains leave the site each day; and (c) no more than 4 laden trains leave the site each day, when averaged over a 12 month period.	Compliant	All coal transported via train (MP pers comms). Viewed shuttle train performance tables on website and confirmed less than 5 per day. Maximum of 4 trains per day in 2014, 2015, 2016 and 2017 during the audit period. See Rail Audit in <b>Appendix G</b> .
2	8	The Proponent shall: (a) only dispatch shuttle trains from the site between 6am and 10pm; (b) only receive shuttle trains on site between 6am and midnight; and (c) only operate shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances.	Compliant	See Rail Audit in <b>Appendix G</b> . a) No shuttle trains have departed the Duralie site either before 6am or after 10pm. However, DCPL data showed a scheduled departure time of 5.50am (actual departure time was 6.00am as confirmed by the Traco). It is unclear why the train was scheduled before 6am, which is not permitted under this condition. <b>It is recommended that scheduling of trains be reviewed to ensure all scheduled train movements occur within the Conditions of Consent (BP, 2017).</b> b) All trains received between 6am and midnight except on two occasions where exceptional circumstances were invoked. c) Two trains are recorded as arriving at Duralie after midnight, and hence were operating on the North Coast railway between midnight and 1am. In both instances the audit has concluded that the exceptional circumstances provision has been reasonably applied (BP, 2017).

Sched	Cond	Requirement	Status	Comment
2	8A	Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, the Proponent shall provide a detailed explanation of the exceptional circumstances on its website.	Not Verified	The audit has not been able to confirm if this information is made available within 12 hours of invoking the exceptional circumstances provision. DCPL responded that "The upload time isn't recorded although this is done as soon as possible" (BP, 2017). Recommend that times are recorded in the future within timeframe and screenshot taken.
<b>SURRENDER OF CONSENTS</b>				
2	9	By the end of December 2011, or as otherwise agreed by the <b>Secretary</b> , the Proponent shall surrender all existing development consents for the site in accordance with Section 104A of the EP&A Act.	Compliant	Confirmed in previous audit.
2	10	Prior to the surrender of these consents, the conditions of this approval shall prevail to the extent of any inconsistency with the conditions of these consents.	Compliant	Confirmed in previous audit. DA 168/99 was surrendered on 9/12/13.
<b>STRUCTURAL ADEQUACY</b>				
2	11	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are connected in accordance with the relevant requirements of the BCA. Notes: • Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and • Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.	Not Triggered	None in audit period (MP pers comms).
<b>DEMOLITION</b>				
2	12	The Proponent shall ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version.	Not Triggered	No demolition work undertaken in audit period (MP pers comms).
<b>OPERATION OF PLANT AND EQUIPMENT</b>				
2	13	The Proponent shall ensure that all the plant and equipment used on site, or to transport coal from the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Compliant	No notices from regulators received in audit period (MP pers comms). Site visit indicated equipment generating minimal dust and discussion with CC had heightened awareness of dust and odour generation in Clareval pit. Viewed equipment maintenance area during site visit.
<b>STAGED SUBMISSION OF ANY STRATEGY, PLAN OR PROGRAM</b>				
2	14	With the approval of the <b>Secretary</b> , the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.	Not Triggered	No plans submitted on a progressive basis (MP pers comms).

Sched	Cond	Requirement	Status	Comment						
		Note: While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the operations on site are covered by suitable strategies, plans or programs at all times.								
2	15	Until they are replaced by an equivalent strategy, plan or program approved under this approval, the Proponent shall continue to implement the existing strategies, plans or programs that apply to any development on site.	Compliant	All required plans were in place for the audit period.						
CONTRIBUTIONS TO COUNCIL										
2	16	For the period from the end of December 2010 until the completion of mining operations on site, the Proponent shall pay GLC the following contributions each year: (a) \$59,688.09 for the maintenance of The Bucketts Way; (b) \$11,022.58 for a structural inspection of the bridges on The Bucketts Way (between its intersection with Clarence Town Road and the mine access road); (c) \$120,000 for the Karuah Catchment Management Program; and (d) \$100,000 for the provision of community infrastructure. These contributions must be indexed according to the CPI at the time of each payment. If no mining operations occur on site in a calendar year, then the Proponent is not required to pay these contributions.	Compliant	a) Viewed invoice dated 10/02/17 for \$67,838. b) Viewed invoice dated 10/02/17 for \$12,527. c) Viewed invoice dated 10/02/17 \$49,049 for \$136,386. d) Viewed invoice dated 10/02/17 for \$113,655. Viewed Duralie contribution update dated 11/02/16 confirming amounts for a-d had been paid in previous years. If mining operations cease in next audit period, these amounts will not be payable.						
2	17	For the period from the end of December 2010 until the completion of mining operations on site, the Proponent shall pay GSC the following contributions each year: (a) \$15,000 for specified community works that have been agreed to between GSC and the Proponent; (b) \$15,000 for the GSC Community Education Fund for an annual trade apprenticeship, traineeship, scholarship or equivalent; and (c) \$10,000 for the provision of community infrastructure. These contributions must be indexed according to the CPI at the time of each payment. If no mining operations occur on site in a calender year, then the Proponent is not required to pay these contributions.	Compliant	Viewed invoice dated 16/08/16 for \$11,303 to GSC for Quarterly Contribution. Viewed GSC calculation worksheet with Annual Contribution amount of \$40,000.						
SCHEDULE 3 - ENVIRONMENTAL PERFORMANCE CONDITIONS										
ACQUISITION UPON REQUEST										
3	1	Upon receiving a written request for acquisition from an owner of the land listed in Table 1, the Proponent shall acquire the land in accordance with the procedures in Conditions 5-6 of <div><div>Table 1: Land subject to acquisition upon request</div><table><tr><td>117 - Holmes</td><td>125 (1) - Zulumovski</td></tr><tr><td>118 - Moylan</td><td>125 (2) - Zulumovski</td></tr><tr><td>122 - White</td><td>128 - Hare Scott</td></tr></table></div> Schedule 4. Note: To identify the locations referred to in Table 1, see the figure in Appendix 3.	117 - Holmes	125 (1) - Zulumovski	118 - Moylan	125 (2) - Zulumovski	122 - White	128 - Hare Scott	Not Triggered	In previous audit period, DCPL previously acquired Zulumovski. Holmes, Moylan and Hare Scott are under private agreements. No approaches from White (MP pers comms).
117 - Holmes	125 (1) - Zulumovski									
118 - Moylan	125 (2) - Zulumovski									
122 - White	128 - Hare Scott									

Sched	Cond	Requirement	Status	Comment																																																																										
<b>NOISE</b>																																																																														
<b>Noise Criteria</b>																																																																														
3	2	<p>Except for the land referred to in Table 1, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land. However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p> <p><i>Table 2: Noise criteria dB(A)</i></p> <table> <tr> <th rowspan="2">Location</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr> <tr> <th><i>L<sub>Aeq</sub>(15 minute)</i></th><th><i>L<sub>Aeq</sub>(15 minute)</i></th><th><i>L<sub>Aeq</sub>(15 minute)</i></th><th><i>L<sub>A1</sub>(1 minute)</i></th></tr> <tr> <td>172 - Lyall</td><td>35</td><td>39</td><td>40</td><td>45</td></tr> <tr> <td>126 - Hamann Pixalu PL</td><td>35</td><td>35</td><td>39</td><td>45</td></tr> <tr> <td>123 - Oleksiuk &amp; Carmody</td><td></td><td></td><td></td><td></td></tr> <tr> <td>173 - Trigg &amp; Holland</td><td>35</td><td>36</td><td>37</td><td>45</td></tr> <tr> <td>116 - Weismantel</td><td></td><td></td><td></td><td></td></tr> <tr> <td>127 - Fisher-Webster</td><td>35</td><td>35</td><td>37</td><td>45</td></tr> <tr> <td>131(1) - Relton</td><td></td><td></td><td></td><td></td></tr> <tr> <td>180 (1) - Thompson</td><td>35</td><td>36</td><td>36</td><td>45</td></tr> <tr> <td>95 - Smith &amp; Ransley</td><td>35</td><td>35</td><td>36</td><td>45</td></tr> <tr> <td>144 - Wielgosinski</td><td></td><td></td><td></td><td></td></tr> <tr> <td>169 - Williams</td><td>35</td><td>36</td><td>35</td><td>45</td></tr> <tr> <td>177 - Thompson</td><td></td><td></td><td></td><td></td></tr> <tr> <td>All other privately-owned land</td><td>35</td><td>35</td><td>35</td><td>45</td></tr> </table> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>To identify the locations referred to in Table 2, see the figure in Appendix 3; and</li> <li>Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.</li> </ul>	Location	Day	Evening	Night		<i>L<sub>Aeq</sub>(15 minute)</i>	<i>L<sub>Aeq</sub>(15 minute)</i>	<i>L<sub>Aeq</sub>(15 minute)</i>	<i>L<sub>A1</sub>(1 minute)</i>	172 - Lyall	35	39	40	45	126 - Hamann Pixalu PL	35	35	39	45	123 - Oleksiuk & Carmody					173 - Trigg & Holland	35	36	37	45	116 - Weismantel					127 - Fisher-Webster	35	35	37	45	131(1) - Relton					180 (1) - Thompson	35	36	36	45	95 - Smith & Ransley	35	35	36	45	144 - Wielgosinski					169 - Williams	35	36	35	45	177 - Thompson					All other privately-owned land	35	35	35	45	Compliant	<p>Annual Review 2015 – compliant. Annual Review 2016 – compliant. A 2 dB criterion exceedance occurred at NM2 Zulumovski Nth during the July 2015 noise survey during the evening under strong temperature inversion conditions. Reported weather conditions were outside the valid range specified in the NSW Industrial Noise Policy, therefore this criterion exceedance is not considered a non-compliance. Section 6.8.2 of the 2017 Annual Review reports a 3 dB exceedance of the evening noise criterion during the evening in April 2017 at NM2 Zulumovski Nth. The Annual Review and the corresponding noise monitoring report dismiss this exceedance as unimportant given the monitoring location is on a mine-owned property and compliance with criteria occurred at NM4, however NM2 and NM4 represent different receptors so this statement is not adequately justified. The nearest receptor to NM2 is subject to a private agreement, therefore the exceedance at NM2 is acceptable however a significant revision to the NMP is recommended to prevent a recurrence of this situation. July 2017 noise monitoring report – compliant. October 2017 noise monitoring report – compliant. (MB, 2018).</p>
Location	Day	Evening		Night																																																																										
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Sched	Cond	Requirement	Status	Comment								
Noise Acquisition Criteria												
3	3	<p>If the noise generated by the project exceeds the criteria in Table 3 at any residence on privately owned land or on more than 25 percent of any privately-owned land, then upon receiving a written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in Conditions 5-6 of Schedule 4.</p> <p><i>Table 3: Noise acquisition criteria dB(A) L<sub>Aeq</sub>(15 min)</i></p> <table><tr><th>Location</th><th>Day</th><th>Evening</th><th>Night</th></tr><tr><td>All privately-owned land</td><td>40</td><td>40</td><td>40</td></tr></table> <p><i>Notes:</i></p> <ul style="list-style-type: none"><li>Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy; and</li><li>For this condition to apply, the exceedances of the criteria must be systemic.</li></ul>	Location	Day	Evening	Night	All privately-owned land	40	40	40	Compliant	Based on reported noise survey results in Annual Reviews and noise monitoring reports (MB, 2018).
Location	Day	Evening	Night									
All privately-owned land	40	40	40									
Additional Noise Mitigation Measures												
3	4	<p>Upon receiving a written request from the owner of any residence:</p> <p>(a) On the land listed in Table 1;</p> <p>(b) On the land listed as 123, 126 and 172 on the figure in Appendix 3;</p> <p>(c) On the land listed as R2, R4-R12 on the figure in Appendix 3;</p> <p>(d) On privately-owned land where subsequent noise monitoring shows that noise generated by the project is greater than or equal to LAeq (15 min) 38 dB(A); or</p> <p>(e) On privately-owned land between the Stratford and Duralie mines where the maximum passby rail traffic noise from the Project exceeds 85 dB(A), the Proponent shall implement additional noise mitigation measures (such as double glazing, insulation and/or air conditioning) at the residence in consultation with the owner. These measures must be reasonable and feasible. If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p>	Not Triggered	No written requests for mitigation in audit period. Notified receivers in (c) that they are entitled to noise mitigation in 2013. However, no receivers approached Duralie (MP pers comms).								
Rail Noise												
3	5	By the end of December 2011, or as otherwise agreed by the <b>Secretary</b> , the Proponent shall only use locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in the ARTC's EPL (No. 3142).	Compliant	Rail audit report 2013 states commitment to use type-approved GL class locos. No known change during audit period (MB, 2018).								
Operating Conditions												
3	6	<p>The Proponent shall:</p> <p>(a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the operational, low frequency and rail noise generated by the project; and</p>	Compliant	a) Truck fleet is sound suppressed. SPL testing is undertaken annually. Viewed Duralie Mobile Plant Noise Assessment from June 2016. Exceedance of Komatsu WA900 of 8 dB as well as two 4 dB exceedances and one 3 dB								

Sched	Cond	Requirement	Status	Comment
		(b) regularly assess the real-time noise monitoring and meteorological forecasting data and relocate, modify and/or stop operations on site to ensure compliance with the relevant conditions of this approval, to the satisfaction of the <b>Secretary</b> .		exceedance. Viewed 2016 Annual Review actions in Section 6.8.5 providing feedback from this report. Mobile fleet was reduced: 8 trucks removed, 2 dozers removed, loader had wrong sound power criteria and has been updated. Updated Table 4 in the NMP (approved August 2017). b) Viewed Real-Time Monitoring Response Register for Duralie. Most noise alarms due to rain/wind. Minor fleet has been operating during the audit period. Meteorological forecasting not in place.
<b>Noise Management Plan</b>				
<b>3</b>	<b>7</b>	<p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the <b>Secretary</b>. This plan must:</p> <p>(a) be prepared in consultation with EPA, and submitted to the <b>Secretary</b> for approval within 3 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b>;</p> <p>(b) describe the noise mitigation measures that would be implemented to ensure compliance with conditions 2-6 of Schedule 3 of this approval, including:</p> <ul style="list-style-type: none"> <li>• a real-time noise management system that employs both reactive and proactive mitigation measures;</li> <li>• a detailed program for the replacement and attenuation of existing plant on site; and</li> <li>• the specific measures that would be implemented to minimise the rail noise impacts of the project, and in particular: <ul style="list-style-type: none"> <li>- the braking and train horn impacts of the project;</li> <li>- the use of the shuttle train during the approved night-time hours;</li> </ul> </li> <li>• the construction of earth bund walls around evaporative fan units located on the waste rock emplacement area; and</li> </ul> <p>(c) include a noise monitoring program that:</p> <ul style="list-style-type: none"> <li>• uses a combination of real-time and supplementary attended monitoring measures to evaluate the performance of the project;</li> <li>• includes a program to evaluate the effectiveness of the noise mitigation measures referred to in 7(b) above;</li> <li>• includes a protocol for determining exceedances of the relevant conditions of this approval; and</li> <li>• includes a program to monitor the actual sound power levels of the plant on site, compare it with the benchmark levels used in the EA, and evaluate the effectiveness of any attenuation.</li> </ul>	Compliant	<p>a) Viewed letter from DP&amp;E approving NMP dated 25/08/17. No consultation with EPA for updates (administrative only). Consultation was undertaken for original NMP in 2010 (confirmed in previous audit). <b>Recommend that consultation with EPA is undertaken at the next update or approval from DP&amp;E is sought to not consult.</b></p> <p>b) Viewed Sentinex Repository real-time noise monitoring for Duralie. Viewed live data and confirmed system is working.</p> <p>b1) ref NMP Sect 7.3 and 7.4. b2) ref NMP Sect 6.2.2 and 7.5. b3a) ref NMP Sect 6.2.3. b3b) ref NMP Sect 6.2.3. b4) ref NMP Sect 6.2.2 c1) ref NMP Sect 7.2, 7.3 c2) NMP Sect 7.7 includes a commitment to develop a program. c3) ref NMP Sect 7.3.4 and 7.3.5. c4) ref NMP Sect 7.5. Note) ref NMP Sect 9.2. (MB, 2018)</p>

Sched	Cond	Requirement	Status	Comment																			
		Note: The effectiveness of the Noise Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 5. Following this review and audit, the plan is to be revised to ensure it remains up to date (see Condition 4 of Schedule 5).																					
ING																							
Blasting Criteria																							
3	8	<p>The Proponent shall ensure that the blasting on the site does not cause exceedances of the criteria in Table 4.</p> <p><i>Table 4: Blasting criteria</i></p> <table><tr><th>Location</th><th>Airblast overpressure (dB(Lin Peak))</th><th>Ground vibration (mm/s)</th><th>Allowable exceedance</th></tr><tr><td rowspan="2">Residence on privately owned land</td><td>115</td><td>5</td><td>5% of the total number of blasts over a period of 12 months</td></tr><tr><td>120</td><td>10</td><td>0%</td></tr><tr><td>Mammy Johnson's Grave</td><td>-</td><td>5</td><td>0%</td></tr><tr><td>Former Weismantel's Inn</td><td>-</td><td>10</td><td>0%</td></tr></table> <p>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance	Residence on privately owned land	115	5	5% of the total number of blasts over a period of 12 months	120	10	0%	Mammy Johnson's Grave	-	5	0%	Former Weismantel's Inn	-	10	0%	Compliant	Ann Review 2015 – compliant Ann Review 2016 – compliant Ann Review 2017 – compliant EPL 11701 monitoring data spreadsheet – compliant (MB, 2018)
Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance																				
Residence on privately owned land	115	5	5% of the total number of blasts over a period of 12 months																				
	120	10	0%																				
Mammy Johnson's Grave	-	5	0%																				
Former Weismantel's Inn	-	10	0%																				
Blasting Hours																							
3	9	The Proponent shall only carry out blasting on site between 9am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approved of the <b>Secretary</b> .	Not Compliant	Appendix 5 of each Annual Review: Ann Review 2015 – compliant Ann Review 2016 – <b>17-3-2016 included a blast event at 5:34pm, without written approval from the Secretary, which does not comply with the condition.</b> The incident was reported to the EPA and DP&E on 24 March 2017. Ann Review 2017 – compliant EPL 11701 monitoring data spreadsheet – compliant after period covered by Annual Review 2017 (MB, 2018).																			
Blasting Frequency																							
3	10	The Proponent shall not carry out more than: (a) 1 blast a day on site, unless an additional blast is required following a blast misfire; and (b) 3 blasts a week on site, averaged over any 12 month period.	Complaint	Appendix 5 of each Annual Review: Ann Review 2015 – compliant Ann Review 2016 – compliant Ann Review 2017 – compliant																			

Sched	Cond	Requirement	Status	Comment
				EPL 11701 monitoring data spreadsheet – compliant after period covered by Annual Review 2017 (MB, 2018).
<b>Property Inspections</b>				
3	11	<p>If the Proponent receives a written request for the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection report updated, then within 2 months of receiving this request the Proponent shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the <b>Secretary</b>, to:</p> <ul style="list-style-type: none"> <li>• establish the baseline condition of the buildings and/or structures on the land, or update the previous property inspection report;</li> <li>• identify any measures that should be implemented to minimise the potential blasting impacts of the project on these buildings and/or structures; and</li> </ul> <p>(b) give the landowner a copy of the new or updated property inspection report.</p>	Not Triggered	<p>No requests in audit period (MP pers comms). DCPL offered to undertake inspections in August 2015.</p> <p>Ann Review 2015 – 1 request later withdrawn, no inspections occurred.</p> <p>Ann Review 2016 Section 6.7.1 – 1 request and 1 inspection of private residence, with the report indicating no blast-related damage to the residence. 1 inspection former Weismantels Inn, with the report indicating no blast-related damage to the building.</p> <p>Ann Review 2017 Section 6.7.3 – no requests, no inspections occurred (MB, 2018).</p>
<b>Property Investigations</b>				
3	12	<p>If the owner of any privately-owned land claims that the buildings and/or structures on his/her land have been damaged as a result of blasting on site, then within 2 months of receiving this claim, the Proponent shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the <b>Secretary</b>, to investigate the claim; and</p> <p>(b) give the landowner a copy of the property inspection report. If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damages to the satisfaction of the <b>Secretary</b>. If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the <b>Secretary</b> for resolution.</p>	Not Triggered	No request made during the audit period (MB, 2018).
<b>Operating Conditions</b>				
3	13	<p>The Proponent shall:</p> <p>(a) implement best blasting practice on site to:</p> <ul style="list-style-type: none"> <li>• protect the safety of people and livestock in the surrounding area;</li> <li>• protect public or private property in the surrounding area; and</li> <li>• minimise the dust and fume emissions from blasting on site; and</li> </ul> <p>(b) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site, to the satisfaction of the <b>Secretary</b>.</p>	Compliant	<p>a) Viewed Environmental Incident Registers. Seven low level internal exceedances for dust fumes. One incident was reported to EPA in April as discussed in <b>Section 5.14.5</b>. Viewed response to the EPA on 28/04/17. No response has been received from EPA to date. Investigations are undertaken by blast contractor DBS</p>

Sched	Cond	Requirement	Status	Comment
				for each exceedance. Product has been changed to wet product only to prevent future exceedances. b) Viewed blasting information hotline available on website (02 6538 4213).
3	14	The Proponent shall not carry out any blasting within 500 metres of: (a) a public road without the approval of Council; and (b) the North Coast Railway without the approval of ARTC.	Compliant	a) Road closures on Duralie Road have occurred. However, a council contractor undertakes the road closures. Procedure for road closures is in the BMP. Viewed notification for blast on 7/12/17 confirming contractor is available. b) Not Triggered
3	15	The Proponent shall not carry out blasting within 500 metres of any privately-owned land or land not owned by the Proponent unless: (a) the Proponent has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Proponent has advised the Department in writing of the terms of this agreement; or (b) the Proponent has: • demonstrated to the satisfaction of the <b>Secretary</b> that the blasting can be carried out without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and • updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the land.	Compliant	Blast within 500 m of White property. Inspections are undertaken prior to blasting to ensure no one is in property at the time. a) No written agreement is in place with White. DCPL has tried to correspond with White. b) Specific measures for the White property are outlined in Section 3.2.2 of the BMP.
<b>Blast Management Plan</b>				
3	16	The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the <b>Secretary</b> . This plan must: (a) be prepared in consultation with <b>EPA</b> , and submitted to the <b>Secretary</b> for approval within 3 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b> ; (b) describe the blast mitigation measures that would be implemented to ensure compliance with conditions 8-15 of this Schedule; (c) describe the measures that would be implemented to ensure the public can get up-to-date information on the proposed blasting schedule on site or any road closures; and (d) include a blast monitoring program to evaluate the performance of the project. Note: The effectiveness of the Blast Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 5. Following this review and audit the plan is to be revised to ensure it remains up to date (see Condition 4 of Schedule 5).	Compliant	a) Viewed letter to EPA dated 30/03/11 for consultation. <b>Suggest consultation undertaken with EPA at next revision due to greater than 5 years and for closure status.</b> Viewed letter from DP&E dated 24/10/17 approving BLMP. b) Section 3 of the BLMP. c) Section 3.2.1 of the BLMP. d) Section 5 of the BLMP.
<b>AIR QUALITY &amp; GREENHOUSE GAS</b>				
<b>Odour</b>				

Sched	Cond	Requirement	Status	Comment
3	17	The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.	<b>Not Compliant</b>	<b>Odour incident commencing on 29/07/16.</b> Incident of spontaneous combustion and was self-reported (viewed report to EPA and DP&E dated 8/08/17). Viewed follow up letter to EPA and DP&E dated 28/09/17 with actions undertaken as a result including inspection by an independent expert. Management measures included capping, dozing, maximum 3 m dump lift on PAF areas. Warrick Stewart inspected site and provided advice. Viewed training presentation from Warrick Stewart to staff dated September 2016. Viewed internal procedures last updated 9/06/16 (Spontaneous Combustion PMHMP). Site visit indicated equipment generating minimal dust and discussion with CC had high awareness of potential dust and odour generation in Clareval pit. No further incidents have occurred since last year (MP pers comms).
<b>Greenhouse Gas Emissions</b>				
3	18	The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the <b>Secretary</b> .	Compliant	Managed in accordance with the AQGGMP.
<b>Air Quality Assessment Criteria</b>				
3	19	The Proponent shall ensure that particulate matter emissions generated by the project do not exceed the criteria listed in Tables 5, 6 or 7 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.	Compliant	Two potential exceedances on 31/12/16 and 12/01/17 for PM10 24-hour. Incidents were self-reported. DCPL were not operating on the 31/12/16 and as such is not a non-compliance. The second incident occurred east of Duralie and a southerly wind was in effect at the time so unlikely to be due to the operation.

Sched	Cond	Requirement	Status	Comment																							
		<p><i>Table 5: Long term criteria for particulate matter.</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th><sup>d</sup> Criterion</th></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td><sup>a</sup> 90 µg/m<sup>3</sup></td></tr><tr><td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td><td>Annual</td><td><sup>a</sup> 30 µg/m<sup>3</sup></td></tr></table> <p><i>Table 6: Short term criterion for particulate matter.</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th><sup>d</sup> Criterion</th></tr><tr><td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td><td>24 hour</td><td><sup>a</sup> 50 µg/m<sup>3</sup></td></tr></table> <p><i>Table 7: Long term criteria for deposited dust</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td><sup>c</sup> Deposited dust</td><td>Annual</td><td><sup>b</sup> 2 g/m<sup>2</sup>/month</td><td><sup>a</sup> 4 g/m<sup>2</sup>/month</td></tr></table> <p>Notes to Tables 5-7:</p> <ul style="list-style-type: none"><li>• Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);</li><li>• Incremental impact (i.e. incremental increase in concentrations due to the project on its own);</li><li>• 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.</li><li>• Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the <b>Secretary</b> in consultation with EPA.</li></ul>	Pollutant	Averaging Period	<sup>d</sup> Criterion	Total suspended particulate (TSP) matter	Annual	<sup>a</sup> 90 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>	Pollutant	Averaging Period	<sup>d</sup> Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 50 µg/m <sup>3</sup>	Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level	<sup>c</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month	<sup>a</sup> 4 g/m <sup>2</sup> /month		<p>The equipment was changed as a result. Viewed report to DP&amp;E (17/03/17) reporting the incidents. Viewed response from DP&amp;E dated 22/03/17 with no further actions taken.</p> <p>Exceedance of deposition dust at D5 in 2017 on mine owned land. This is due to unusually elevated results in May and June 2017. There was no evidence of contamination during these months and there were low HVAS results at the nearby Twin Houses site during the month and low results at all other dust gauges. It is unclear as to why D5 had elevated results in these months.</p>
Pollutant	Averaging Period	<sup>d</sup> Criterion																									
Total suspended particulate (TSP) matter	Annual	<sup>a</sup> 90 µg/m <sup>3</sup>																									
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<sup>c</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month	<sup>a</sup> 4 g/m <sup>2</sup> /month																								
<b>Air Quality Acquisition Criteria</b>																											
3	20	If particulate matter emissions generated by the project exceed the criteria in Tables 8, 9 or 10 at any residence on privately-owned land or on more than 25 percent of any privately-owned land, then upon receiving a written request for acquisition from the landowner the Proponent	Not Triggered	No written requests in audit period (MP pers comms).																							



Sched	Cond	Requirement	Status	Comment																										
		<p>shall acquire the land in accordance with the procedures in Conditions 5-6 of Schedule 4.</p> <p><i>Table 8: Long term acquisition criteria for particulate matter</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th><sup>d</sup> Criterion</th></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td><sup>a</sup> 90 µg/m<sup>3</sup></td></tr><tr><td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td><td>Annual</td><td><sup>a</sup> 30 µg/m<sup>3</sup></td></tr></table> <p><i>Table 9: Short term acquisition criteria for particulate matter</i></p> <table><tr><th>Pollutant</th><th>Averaging period</th><th><sup>d</sup> Criterion</th></tr><tr><td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td><td>24 hour</td><td><sup>a</sup> 150 µg/m<sup>3</sup></td></tr><tr><td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td><td>24 hour</td><td><sup>b</sup> 50 µg/m<sup>3</sup></td></tr></table> <p><i>Table 10: Long term acquisition criteria for deposited dust</i></p> <table><tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td><sup>c</sup> Deposited dust</td><td>Annual</td><td><sup>b</sup> 2 g/m<sup>2</sup>/month</td><td><sup>a</sup> 4 g/m<sup>2</sup>/month</td></tr></table> <p><i>Notes to Tables 8-10:</i></p> <ul style="list-style-type: none"><li><sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);</li><li><sup>b</sup> Incremental impact (i.e. incremental increase in concentrations due to the project on its own);</li><li><sup>c</sup> Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.</li><li><sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the <b>Secretary</b> in consultation with <b>EPA</b>.</li></ul>	Pollutant	Averaging Period	<sup>d</sup> Criterion	Total suspended particulate (TSP) matter	Annual	<sup>a</sup> 90 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>	Pollutant	Averaging period	<sup>d</sup> Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 150 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>b</sup> 50 µg/m <sup>3</sup>	Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level	<sup>c</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month	<sup>a</sup> 4 g/m <sup>2</sup> /month		
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Additional Dust Mitigation Measures																														
3	21	Upon receiving a written request from the owner of any residence: (a) on the land listed as 125(1) and 125(2) in the figure in Appendix 3; or (b) on privately-owned land where subsequent air quality monitoring shows that the dust generated by the project is greater than or equal to the applicable criteria in Tables 5, 6 or 7 on a systemic basis, the Proponent shall implement additional dust mitigation measures (such as a first flush roof system, 11 internal or external air filters, and/or air conditioning) at the residence in consultation with the owner. These measures must be reasonable and feasible. If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the <b>Secretary</b> for resolution.	Not Triggered	No requests in audit period (MP pers comms).																										
3	21A	Within 3 months of the date of this approval, the Proponent shall submit a study of the dust emissions from the laden trains associated with the Project to the <b>Secretary</b> . This study must:	Compliant	Confirmed in previous audit.																										



Sched	Cond	Requirement	Status	Comment
		(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the <b>Secretary</b> ; (b) include consultation with the <b>EPA</b> , the Department and the residents in close proximity to the railway line; (c) assess the scale, nature and significance of the dust emissions of the laden trains; (d) identify any reasonable and feasible mitigation measures that could be implemented to reduce the dust emissions from these trains; (e) recommend the implementation of any specific measures; and (f) be accompanied by the Proponent's response to any recommendations in the study. If, following review of the study, the <b>Secretary</b> directs the Proponent to implement additional mitigation measures to reduce the dust emissions of the laden trains associated with the Project, then the Proponent shall implement these measures to the satisfaction of the <b>Secretary</b> and, within one month of such direction, update the Air Quality & Greenhouse Gas Management Plan for the Project to include a detailed program for the implementation of these measures and monitoring of compliance.		
<b>Operating Conditions</b>				
3	22	The Proponent shall: (a) implement best practice air quality management on site, including all reasonable and feasible measures to minimize the off-site odour, fume and dust emissions generated by the project, including any emissions from spontaneous combustion; (b) minimize any visible air pollution generated by the project; (c) regularly assess the real-time air quality monitoring and meteorological forecasting data and relocate, modify and/or stop operations on site to ensure compliance with the relevant conditions of this approval, to the satisfaction of the <b>Secretary</b> .	<b>Not Compliant</b>	a) <b>Odour incident as discussed in Section 5.14.4.</b> b) There were no excessive dust emissions viewed during the site inspection. c) Viewed real-time air quality register including actions undertaken as a result of incidents.
<b>Air Quality &amp; Greenhouse Gas Management Plan</b>				
3	23	The Proponent shall prepare and implement an Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the <b>Secretary</b> . This plan must: (a) be prepared in consultation with <b>EPA</b> , and submitted to the <b>Secretary</b> for approval within 3 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b> ; and (b) describe the measures that would be implemented to ensure compliance with conditions 17-22 of Schedule 3 of this approval, including the proposed real-time air quality management system; and (c) include an air quality monitoring program that: • uses a combination of real-time monitors, high volume samplers and dust deposition gauges to evaluate the performance of the project; and • includes a protocol for determining exceedances with the relevant conditions of this approval. Note: The effectiveness of the Air Quality & Greenhouse Gas Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 5. Following this review	Compliant	a) Viewed approval letter from DP&E dated 23/06/15. b) Section 6.1 of the AQGGMP c) Air Quality monitoring program consists of 9 DD Gauges and 4 HVASs. Viewed real-time air quality register. Showed actions undertaken as a result. Most exceedances occurred as a result of bush fires or wind changes and not from mining operations.

Sched	Cond	Requirement	Status	Comment
		and audit the plan is to be revised to ensure it remains up to date (see Condition 4 of Schedule 5).		
<b>METEOROLOGICAL MONITORING</b>				
3	24	During the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that: (a) complies with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy.	Compliant	Viewed service report for meteorological station dated 16/3/17. Wind speed sensor required replacing after being struck by lightning. Viewed records of inversion towers with 2 m and 10 m sensors. DCPL use 10 m sensor to calculate inversions.
<b>SOIL AND WATER</b>				
<b>Water Discharges</b>				
3	25	The Proponent shall ensure that: (a) mine water or runoff from the irrigation area is not discharge directly into Mammy Johnsons River; and (b) all surface water discharges from the site comply with section 120 of the POEO Act or, if an EPL 12 has been issued regulating water discharges from the site, the discharge limits (both volume and quality) set for the project in the EPL.	<b>Not Compliant</b>	a) The approved Irrigation Areas (shown on Figure 3 of the Surface Water Management Plan) drain to mine water storages. Site inspection confirmed that the irrigation areas are within the contained catchments of mine water storages. Mine water and runoff from the irrigation areas does not discharge directly to Mammy Johnsons River. b) <b>There was a non-compliant discharge from the first flush drainage system in August 2015. The first flush drains have sensor arrays that direct runoff from irrigation areas to either the pit or receiving environment, depending on quality of the runoff and the receiving waters. Due to a power cut, the system automatically defaulted to directing runoff to the receiving environment. The runoff did not meet the water quality criteria for release from site and resulting in the non-compliant discharge of 4 m<sup>3</sup> of site runoff. The release ceased when MP manually redirected the runoff to the pit. DCPL subsequently amended the first flush drainage system to drain to</b>

Sched	Cond	Requirement	Status	Comment
				the main pit water storage by default, added battery backups in the event of a power outage and introduced a system of escalating alarms in the event that water quality criteria are exceeded during a release. These measures should prevent this incident recurring. The incident was reported and no further action was taken. Supporting documentation was sighted as part of this audit (RE, 2018).
<b>Base Flow Offsets</b>				
3	26	The Proponent shall offset the loss of any base flow to Mammy Johnsons River. This condition does not apply if the <b>Secretary</b> determines this loss to be negligible.	Compliant	The EA reported a 'negligible impact'. Flow monitoring is undertaken on River and daily groundwater loggers DB3W and DB4W. Base flow loss is reported in the 2016 Annual Review in Section 7.3.2 and Table 29 in the 2017 Annual Review. Viewed Groundwater monitoring results in Appendix 4 of 2017 Annual review. Fluctuations in graph were less than 1 m. No correspondence from DP&E has been received.
<b>Compensatory Water Supply</b>				
3	27	The Proponent shall provide compensatory water supply to any landowner of privately-owned land whose water licence entitlements are impacted (other than an impact that is negligible) as a result of the project, in consultation with NOW, and to the satisfaction of the <b>Secretary</b> . The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified. If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the <b>Secretary</b> for resolution. If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the <b>Secretary</b> .	Not Triggered	No impacts to private landowners (MP pers comms).
<b>Irrigation</b>				
3	28	The Proponent shall carry out irrigation: (a) only in the irrigation area; and	Compliant	a) The approved Irrigation Areas (shown on Figure 3 of the Surface Water Management Plan) drain to mine water

Sched	Cond	Requirement	Status	Comment
		(b) in accordance with the irrigation system, including the irrigation management plan, in the approved Surface Water Management Plan under Condition 29 of Schedule 3.		storages. Site inspection confirmed that the irrigation areas are within the contained catchments of mine water storages. b) Irrigation not currently undertaken onsite. MP (pers. comm.) confirmed that irrigation was undertaken in accordance with the SWMP during the audit period.
<b>Water Management Plan</b>				
3	29	<p>The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the <b>Secretary</b>.</p> <p>This plan must be prepared in consultation with EPA and NOW by suitably qualified and experienced persons whose appointment has been approved by the <b>Secretary</b>, and submitted to the <b>Secretary</b> within 3 months of the date of this approval. In addition to the standard requirements for management plans (see Condition 2 of Schedule 5), this plan must include:</p> <p>(a) a Site Water Balance that:</p> <ul style="list-style-type: none"> <li>includes details of: <ul style="list-style-type: none"> <li>- sources of water supply;</li> <li>- water use on site;</li> <li>- water management on site; and</li> <li>- reporting procedures; and</li> </ul> </li> <li>describes what measures would be implemented to minimise potable water use on site; and</li> </ul> <p>(b) a Surface Water Management Plan that includes:</p> <ul style="list-style-type: none"> <li>a detailed description of the water management system on site, including the: <ul style="list-style-type: none"> <li>- clean water diversion systems;</li> <li>- erosion and sediment controls;</li> <li>- water storages; and</li> <li>- irrigation system;</li> </ul> </li> <li>an irrigation management plan for the irrigation system under the water management system, which includes: <ul style="list-style-type: none"> <li>- salinity trigger levels for controlling discharges from the irrigation areas to Coal Shaft Creek and the unnamed tributary, representing the 80th percentile value of the relevant data set for the creek/unnamed tributary and Mammy Johnsons River in accordance with the methodology in ANZECC/ARMCANZ (2000), Australian Water Quality Guidelines for Fresh and Marine Water Quality, National Water Quality Management Strategy; and</li> <li>- provision of an automated first flush system for the additional irrigation areas (Northern Areas) shown in the figure in Appendix 4;</li> </ul> </li> <li>a plan for identifying, extracting, handling, and the long-term storage of potentially acid forming material on site;</li> </ul>	Compliant	<p>Viewed DP&amp;E approval letter dated 5/09/17. There is no evidence that the EPA, DPI-Water or DPI were consulted in preparing the WMP. <b>It is recommended that consultation is undertaken for any future revisions or approval from DP&amp;E sought not to consult.</b></p> <p>a) Appendix 1 of the WMP includes a Site Water Balance that broadly meets the stated requirements.</p> <p>b) Appendix 2 of the WMP includes a Surface Water Management Plan that broadly meets the stated requirements.</p> <p>Coal shaft creek is yet to be reconstructed. Haul road needs to be deconstructed prior.</p> <p>The SWMP describes the management of the post closure final void lakes and Coal Shaft Creek. <b>It is recommended that any future updates to the SWMP include additional details on the final void design, Coal Shaft Creek reconstruction, closure objectives and specific performance criteria (RE, 2018).</b></p>

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>• detailed plans, including design objectives and performance criteria, for: <ul style="list-style-type: none"> <li>- the reconstruction of Coal Shaft Creek;</li> <li>- design and management of the final voids;</li> <li>- reinstatement of drainage lines on the rehabilitated areas of the site; and</li> <li>- control of any potential water pollution from the rehabilitated areas of the site;</li> </ul> </li> <li>• performance criteria, including trigger levels for investigating any potentially adverse impacts, for the following: <ul style="list-style-type: none"> <li>- the water management system;</li> <li>- surface water quality of the Unnamed Tributary, Coal Shaft Creek and Mammy Johnsons River;</li> <li>- the stream and vegetation health of the Unnamed Tributary, Coal Shaft Creek and Mammy Johnsons River; and</li> <li>- channel stability of the reconstructed Coal Shaft Creek;</li> </ul> </li> <li>• performance criteria for surface water quality attributes relevant to water quality impacts on biological diversity and aquatic ecological integrity, including salinity, heavy metals, sediment load, pH, hardness and biological oxygen demand;</li> <li>• trigger levels representing the 80th percentile value of the relevant reference data set in accordance with the methodology in ANZECC/ARMCANZ (2000), Australian Water Quality Guidelines for Fresh and Marine Water Quality, National Water Quality Management Strategy, to determine the levels for investigating any potentially adverse impacts;</li> <li>• a program to monitor: <ul style="list-style-type: none"> <li>- the effectiveness of the water management system;</li> <li>- surface water flows and quality in the Unnamed Tributary, Coal Shaft Creek and Mammy Johnsons River, including utilization of existing monitoring sites together with an additional monitoring site in Mammy Johnsons River immediately downstream of the mixing zone of the confluence of Coal Shaft Creek and Mammy Johnsons River;</li> <li>- the stream and riparian vegetation health of the unnamed tributary, Coal Shaft Creek and Mammy Johnsons River; and</li> <li>- a channel stability of the reconstructed Coal Shaft Creek;</li> </ul> </li> <li>• a program of ecotoxicity testing of water in water storages on-site and at selected water monitoring sites in Mammy Johnsons River and macroinvertebrate sampling at selected monitoring sites in Mammy Johnsons River;</li> <li>• a plan to respond to any exceedances of the performance criteria and mitigate and/or offset any adverse surface water impacts of the project; and</li> <li>(c) a Groundwater Management Plan, which includes: <ul style="list-style-type: none"> <li>• a groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;</li> <li>• a program to monitor;</li> <li>- groundwater inflows to the open cut mining operations;</li> </ul> </li> </ul>		

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>- the impacts of the project on: <ul style="list-style-type: none"> <li>o the alluvial aquifers including investigating the potential for direct interface between mine spoil and alluvium and assessment of any consequential impact on alluvial and surface water;</li> <li>o base flows to Mammy Johnsons River;</li> <li>o any groundwater bores on privately-owned land; and</li> </ul> </li> <li>- the seepage/leachate from water storages or backfilled voids on site; and</li> <li>• a program to validate the groundwater model for the project, and calibrate it to site specific conditions; and</li> <li>• a plan to respond to any exceedances of the assessment criteria, including, <ul style="list-style-type: none"> <li>- if a direct interface between mine spoil and alluvium is identified, development of a trigger action response plan (TARP) for potential salinity impacts on alluvial and surface water sources; and</li> <li>- a plan to offset the loss of any base flow to Mammy Johnsons River caused by the project.</li> </ul> </li> </ul> <p>Note: The effectiveness of the Water Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 5. Following this review and audit the plan is to be revised to ensure it remains up to date (see Condition 4 of Schedule 5).</p>		
<b>BIODIVERSITY</b>				
<b>Giant Barred Frog</b>				
3	30	The Proponent shall ensure that the project has no more than a negligible impact on the local Giant Barred Frog population.	Compliant	No issued identified within this audit. Table 8 of the GBFMP includes this requirement as a project performance measure with associated performance indicators (KW, 2018).
3	31	<p>The Proponent shall prepare a Giant Barred Frog Study to the satisfaction of the <b>Secretary</b>. This study must:</p> <ul style="list-style-type: none"> <li>(a) be prepared, in consultation with OEH, by a suitably qualified and experienced person, whose appointment has been endorsed by the <b>Secretary</b>;</li> <li>(b) be submitted to the <b>Secretary</b> for approval within 2 months of this approval;</li> <li>(c) investigate the extent of the Giant Barred Frog population in the Mammy Johnsons River Catchment;</li> <li>(d) assess the condition of the Giant Barred Frog habitat where it is recorded within the Catchment, including the presence of any Chytrid fungus;</li> <li>(e) analyse the age structure of the frog population and the health of tadpoles; and</li> <li>(f) document the relevant hydrological conditions both prior to and during the study, including rainfall, water flows and quality in Mammy Johnsons River, both upstream and downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek, and in Coal Shaft Creek.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>a) Viewed approval letter from DP&amp;E dated 5/09/17. Revisions were made around bushfire management.</li> <li>b) Previous audit reported as compliant submitted in May 2011.</li> </ul>
3	31A	The Proponent shall review and expand the Giant Barred Frog Study approved under Condition 31 into a longitudinal study of the life cycle of the 'population' of the Giant Barred Frog over the	Not Triggered	The GBFMP indicates that the Giant Barred Frog Long-term Study will be

Sched	Cond	Requirement	Status	Comment
		lifetime of the mine and for a 5 year period after the mine ceases to operate (the Giant Barred Frog Long-term Study). The Giant Barred Frog Long-term Study must include to include: (a) clarification as to what exactly constitutes 'the population' of the Giant Barred Frog for the purposes of monitoring, and that this is the population at the location most susceptible to impacts from the mine; (b) baseline data collected for sites (transects) below and above the site to be used for comparison with data collected in the future; (c) testing to determine if any changes to Giant Barred Frog populations identified downstream of the site on the monitoring transects are a result of impacts from the mining operation; (d) a requirement for detailed capture/recapture studies using 'Pollocks robust design' at sites above and below the confluence of Coal Shaft Creek and Mammy Johnsons River, and at a series of control sites in the upper reaches of the catchment; (e) a requirement that individual frogs encountered during the study should be tagged (or scanned); (f) a requirement that transects be of a fixed length (at least 200m), and that the area searched on each occasion be the same; (g) a requirement that transects are to be randomly selected; (h) a requirement that testing be conducted on a minimum of three nights, on four occasions per season (12 visits to each transect in each season) over the life of the mine, and for a 5 year period after the mine ceases to operate; (i) a requirement that individual frogs encountered during the study be swabbed for the presence of the Chytrid fungus; (j) a requirement that weather conditions and search effort should be recorded during each census at the transect site.		prepared within 3 months from commencement of irrigation activities associated with the Project's irrigation areas. Section 6 of the GBFMP outlines that irrigation activities had not commenced as of October 2015. Section 4.3 of the Irrigation Management Plan (dated July 2016) contained within the Water Management Plan indicates that no irrigation activities have commenced within the Project's irrigation areas. The 2015, 2016 and 2017 do not indicate that irrigation activities occurred within the additional irrigation areas. The latest version of the GBFMP was approved by DP&E on 5 September 2017 (KW, 2018).
3	32	The Proponent shall prepare and implement a Giant Barred Frog Management Plan to the satisfaction of the <b>Secretary</b> . This plan must: (a) be prepared in consultation with OEH by a suitably qualified and experienced person, whose appointment has been endorsed by the Director-General; (b) be submitted to the <b>Secretary</b> for approval within 3 months of the date of this approval; (c) include a summary of the Giant Barred Frog Study; (d) establish performance measures for evaluating the impact of the project on the local Giant Barred Frog population; (e) describe the measures that would be implemented to minimise the potential spread of Chytrid fungus, including training of staff in site hygiene management in accordance with the NPWS Hygiene Protocol for the Control of Disease in Frogs 2001; (f) include a program to monitor the potential impact of the project on the local frog population, which includes: • detailed performance indicators for the project, with reference to the performance measures established in (d) above;	Compliant	The previous audit confirmed that the GBFMP was approved by DP&E in March 2012. As this plan has been revised since this approval, further assessment of compliance has been undertaken for the current version of the plan reviewed as part of this audit. a) Previous audit confirmed compliant. b) Previous audit confirmed as compliant. <b>It is recommended that the revision status register in the GBFMP be updated to indicate if the current version is approved by DP&amp;E and evidence of such approval included within the plan.</b>

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>• annual monitoring of the frog population and its habitat during the breeding season along Mammy Johnson River both upstream and downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek;</li> <li>• trigger levels for further investigation; and</li> <li>(g) a contingency plan that would be implemented if monitoring suggests the frog population downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek is declining due to the project, which may include a revision of the first flush salinity trigger or the implementation of additional water quality controls.</li> </ul>		<p>c) Section 5 of the GBFMP provides a summary of the Giant Barred Frog Study.</p> <p>d) Section 8 of the GBFMP outlines the performance measures for evaluating the impact of the project on the local Giant Barred Frog population.</p> <p>e) Section 9.6 of the GBFMP outlines the measures that would be implemented to minimise the potential spread of Chytrid fungus.</p> <p>f) Section 7 of the GBFMP outlines the monitoring program to assess the potential impact of the project on the local Giant Barred Frog population.</p> <p>Section 8 of the GBFMP outlines the performance indicators associated with the performance measures identified as part of Condition 32 (d).</p> <p>Section 7 of the GBFMP indicates that the timing and frequency of monitoring will be triggered upon commencement of irrigation within the DEP irrigation areas.</p> <p>Section 7.2 specifically addresses survey timing and frequency. Whilst it is indicated that surveys will be undertaken during the breeding season, it does not explicitly state that the surveys will be undertaken annually. It is noted that annual monitoring was undertaken between September 2011 and February 2015 which is considered to form baseline data for the project.</p> <p>Section 7.1 of the GBFMP indicates that monitoring will be undertaken both upstream and downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek.</p> <p>Section 8 of the GBFMP outlines the trigger levels for when a performance indicator is exceeded and that an</p>



Sched	Cond	Requirement	Status	Comment										
				assessment of that performance measure will be undertaken. g) Section 10 of the GBFMP outlines the contingency plan and potential contingency measures. Management and contingency measures are summarised in Section 8 of the GBFMP (KW, 2018).										
Biodiversity Offsets														
3	33	<p>The Proponent shall implement the offset strategy and achieve the broad completion criteria in <b>Table 11</b> to the satisfaction of the <b>Secretary</b>.</p> <p><i>Table 11: Offset Strategy Completion Criteria</i></p> <table><tr><th>Domain</th><th>Completion Criteria</th></tr><tr><td>Enhancement Areas (i.e. existing remnant vegetation)</td><td>Areas of existing remnant vegetation within the offset area (299 ha) have been conserved and enhanced.</td></tr><tr><td>Revegetation Areas</td><td>357.5 ha of revegetated woodland/open woodland habitat areas and 36 ha of revegetated forest habitat areas as a self-sustaining ecosystem.  The methodology for determining a self-sustaining ecosystem shall be to the satisfaction of the Secretary.</td></tr><tr><td></td><td>Woodland/open woodland and forest revegetation areas that provide habitat resources for the threatened species by including the flora species referred to in approval conditions 35 to 38.</td></tr><tr><td>Direct links between the Offset Area and Rehabilitation Area</td><td>Native vegetation has been established which directly links vegetation areas of the offset area with the Rehabilitation area.</td></tr></table>	Domain	Completion Criteria	Enhancement Areas (i.e. existing remnant vegetation)	Areas of existing remnant vegetation within the offset area (299 ha) have been conserved and enhanced.	Revegetation Areas	357.5 ha of revegetated woodland/open woodland habitat areas and 36 ha of revegetated forest habitat areas as a self-sustaining ecosystem.  The methodology for determining a self-sustaining ecosystem shall be to the satisfaction of the Secretary.		Woodland/open woodland and forest revegetation areas that provide habitat resources for the threatened species by including the flora species referred to in approval conditions 35 to 38.	Direct links between the Offset Area and Rehabilitation Area	Native vegetation has been established which directly links vegetation areas of the offset area with the Rehabilitation area.	Compliant	Table 2 of the BMP outlines the strategy to comply with Table 11 of the conditions. Whilst compliance with the completion criteria is unable to be confirmed during the current audit (longer timeframes required), there is sufficient evidence to demonstrate the intent to comply (KW, 2018).
Domain	Completion Criteria													
Enhancement Areas (i.e. existing remnant vegetation)	Areas of existing remnant vegetation within the offset area (299 ha) have been conserved and enhanced.													
Revegetation Areas	357.5 ha of revegetated woodland/open woodland habitat areas and 36 ha of revegetated forest habitat areas as a self-sustaining ecosystem.  The methodology for determining a self-sustaining ecosystem shall be to the satisfaction of the Secretary.													
	Woodland/open woodland and forest revegetation areas that provide habitat resources for the threatened species by including the flora species referred to in approval conditions 35 to 38.													
Direct links between the Offset Area and Rehabilitation Area	Native vegetation has been established which directly links vegetation areas of the offset area with the Rehabilitation area.													
Habitat for Threatened Fauna Species														
3	34	<p>The Proponent shall ensure that the offset area:</p> <p>(a) provides suitable habitat for all the threatened fauna species recorded in the surface development area, namely the Swift Parrot, Brown Treecreeper (eastern subspecies), Speckled Warbler, Greycrowned Babbler (eastern subspecies), Varied Sittella and Squirrel Glider; and</p> <p>(b) includes the following habitat types:</p> <ul style="list-style-type: none"><li>• Woodland/open woodland;</li><li>• Forest; and</li><li>• Riparian forest.</li></ul>	Compliant	<p>a) Table 10 of the BMP described the habitat for each of these species within the offset areas, except the Varied Sittella. Table 3 of the BMP outlines the resources present within the offset areas for these species.</p> <p>Appendix C indicates that this habitat type is present within the offset areas for the extension project.</p> <p><b>It is recommended that Table 10 of the BMP is updated to include details for the Varied Sittella for consistency.</b></p>										

Sched	Cond	Requirement	Status	Comment
				<p><b>Additionally, given that the BMP addresses multiple offsetting requirements, it is recommended that the BMP includes a summary table indicating the list of threatened fauna species recorded within the surface development area and the areas of habitat (current and future) within each of the different offset areas (KW, 2018).</b></p> <p>b) Table 3 of the BMP indicates the presence of woodland/open woodland within the offset areas. Appendix C indicates that this habitat type is present within the offset areas for the extension project. Table 3 of the BMP indicates the presence of forest habitat within the offset areas. Appendix C indicates that this habitat type is present within the offset areas for the extension project. Table 3 of the BMP indicates the presence of riparian forest habitat within the offset areas. Appendix C indicates that this habitat type is present within the offset areas for the extension project (KW, 2018).</p>
3	35	<p>The Proponent shall ensure that the offset area:</p> <p>(a) provides appropriate habitat resources for the Swift Parrot, Brown Treecreeper and Greycrowned Babbler;</p> <p>(b) contains a total of 174ha of the following vegetation types<sup>1</sup> :</p> <ul style="list-style-type: none"> <li>• Spotted Gum – Grey Ironbark forest dry open forest of the lower foothills of the Barrington Tops, North Coast;</li> <li>• Grey Box – Forest Red Gum – Grey Ironbark open forest of the hinterland ranges of the North Coast; and</li> <li>• Sydney Peppermint – Smooth-barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin; and</li> </ul> <p>(c) the revegetation areas within the offset area contains:</p> <ul style="list-style-type: none"> <li>• Winter flowering eucalypts (such as Spotted Gum [<i>Corymbia maculata</i>], Narrow-leaved Ironbark [<i>Eucalyptus crebra</i>], White Stringybark [<i>Eucalyptus globoidea</i>]) as habitat resources for the Swift Parrot.</li> </ul>	Compliant	<p>a) Table 3 of the BMP outlines the resources present within the offset areas for these species. Appendix C indicates that the associated habitat types are present within the offset areas for the extension project.</p> <p>b) Appendix C of the BMP indicates that greater than 174 ha of remnant vegetation within the offset areas for the extension project comprises these vegetation communities.</p> <p>c) Appendix F contains plant palettes for revegetation area which include <i>Corymbia maculata</i> and <i>Eucalyptus globoidea</i>. 2017</p>

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>Species typical of open eucalypt woodlands (such as Spotted Gum [<i>Corymbia maculata</i>], Red Ironbark [<i>Eucalyptus fibrosa</i>], Grey Ironbark [<i>Eucalyptus siderophloia</i>] as habitat resources for the Grey-crowned Babbler; and</li> <li>Appropriate understorey species (such as tussock grasses).</li> </ul>		<p>AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. <i>Corymbia maculata</i> is included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017). Appendix F contains plant palettes for revegetation area which include <i>Corymbia maculata</i>, <i>Eucalyptus fibrosa</i> and <i>Eucalyptus siderophloia</i>. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. <i>Corymbia maculata</i> and <i>Eucalyptus siderophloia</i> are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017). Appendix F contains plant palettes for revegetation area which includes shrub species. Table 3 of the BMP notes that tussock grasses already occur within the offset areas, which were noted during the site inspection. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. Understorey species comprising grasses are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017) (KW, 2018).</p>
3	36	<p>The Proponent shall ensure that the offset area:</p> <ul style="list-style-type: none"> <li>(a) provides appropriate habitat resources for the Speckled Warbler;</li> <li>(b) contains a total of 126ha of Spotted Gum - Grey Ironbark forest dry open forest of the lower foothills of the Barrington Tops, North Coast1 ; and</li> <li>(c) the revegetation areas within the offset area includes <i>Eucalyptus</i> species, tussock grasses and shrub species as habitat resources for the Speckled Warbler.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>a) Table 3 of the BMP outlines the resources present within the offset areas for this species. Appendix C indicates that the associated habitat types are present within the offset areas for the extension project.</li> <li>b) Appendix C of the BMP indicates that greater than 126 ha of remnant vegetation</li> </ul>

Sched	Cond	Requirement	Status	Comment
				<p>within the offset areas for the extension project comprises these vegetation communities.</p> <p>c) Appendix F contains plant palettes for revegetation area which include <i>Eucalyptus</i> species and shrub species. Table 3 of the BMP notes that tussock grasses already occur within the offset areas, which were noted during the site inspection. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. Eucalypt and shrub species are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017) (KW, 2018).</p>
3	37	<p>The Proponent shall ensure that the offset area:</p> <p>(a) provides appropriate habitat resources for the Varied Sittella;</p> <p>(b) contains a total of 172ha of the following vegetation types<sup>1</sup>:</p> <ul style="list-style-type: none"> <li>• Spotted Gum – Grey Ironbark forest dry open forest of the lower foothills of Barrington Tops, North Coast; and</li> <li>• Sydney Peppermint – Smooth-barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin.</li> </ul> <p>(c) the revegetation areas within the offset area includes species typical of eucalypt forests and woodlands, especially rough-barked species, smooth-barked gums and Acacia species as habitat resources for the Varied Stillela.</p>	Compliant	<p>a) Table 3 of the BMP outlines the resources present within the offset areas for this species. Appendix C indicates that the associated habitat types are present within the offset areas for the extension project.</p> <p>b) Appendix C of the BMP indicates that greater than 172 ha of remnant vegetation within the offset areas for the extension project comprises these vegetation communities.</p> <p>c) Appendix F contains plant palettes for revegetation area which include roughbarked species, smooth-barked gums and <i>Acacia</i> species. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. Smooth barked gums and Acacia species are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017) (KW, 2018).</p>

Sched	Cond	Requirement	Status	Comment
3	38	<p>The Proponent shall ensure that the offset area:</p> <p>(a) provides appropriate habitat resources for the Squirrel Glider; 16</p> <p>(b) contains a total of 128ha of the following vegetation types<sup>1</sup>:</p> <ul style="list-style-type: none"> <li>• Spotted Gum - Grey Ironbark forest dry open forest of the lower foothills of the Barrington Tops, North Coast; and</li> <li>• Sydney Peppermint - Smooth-barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin.</li> </ul> <p>(c) the revegetation areas within the offset area includes species typical of woodland/forest (such as Spotted Gum [<i>Corymbia maculata</i>], Red Ironbark [<i>Eucalyptus fibrosa</i>], Grey Ironbark [<i>Eucalyptus siderophloia</i>]) as habitat resources for the Squirrel Glider.</p>	Compliant	<p>a) Table 3 of the BMP outlines the resources present within the offset areas for this species. Appendix C indicates that the associated habitat types are present within the offset areas for the extension project.</p> <p>b) Appendix C of the BMP indicates that greater than 128 ha of remnant vegetation within the offset areas for the extension project comprises these vegetation communities.</p> <p>c) Appendix F contains plant palettes for revegetation area which include <i>Corymbia maculata</i>, <i>Eucalyptus fibrosa</i> and <i>Eucalyptus siderophloia</i>. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. <i>Corymbia maculata</i> and <i>Eucalyptus siderophloia</i> are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017) (KW, 2018).</p>
3	39	<p>Hollow bearing habitat features must be introduced into the areas of habitat resources and the revegetation areas identified in approval condition 38. Note: For clarity, the total areas included in approval conditions 35-38 are not cumulative, whereby the area of habitat resources provided for one of the fauna species identified in approval condition 35 may be the same for all species mentioned in approval conditions 35 to 38.</p>	Compliant	<p>Nest boxes were observed within the Duralie Extension Offset and Duralie Extension Offset – Northern during the site inspection.</p> <p>It is noted that these nest boxes have been established within remnant vegetation only.</p> <p>The BMP indicates that nest box installation is only planned to occur within management units containing remnant vegetation or rehabilitation areas.</p> <p><b>It is recommended the BMP be updated to include allowance for installation of hollow-bearing habitat features within revegetation areas (KW, 2018).</b></p>
<b>Endangered Ecological Communities</b>				

Sched	Cond	Requirement	Status	Comment
3	40	The Proponent shall ensure that the offset area contains at least: <ul style="list-style-type: none"> <li>• 2 ha of Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions.</li> <li>• 10 ha of River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions (Cabbage Gum Floodplain Forest).</li> <li>• 19 ha of Lowland Forest on Floodplain in the NSW North Coast Bioregion. Note: See the mapped areas in the figure in Appendix 5</li> </ul>	Compliant	Table 3 of the BMP indicates that 2 ha of Freshwater Wetlands on Coastal Floodplains occurs within the offset areas, as mapped in Figure 5. Appendix C of the BMP indicates that there is a total of 2.2 ha of this community within the offset areas. Table 3 of the BMP indicates that 10 ha of River-Flat Eucalypt Forest occurs within the offset areas, as mapped in Figure 5. Appendix C of the BMP indicates that there is a total of 10.1 ha of this community within the offset areas. Table 3 of the BMP indicates that 19 ha of Lowland Rainforest on Floodplain occurs within the offset areas, as mapped in Figure 5. Appendix C of the BMP indicates that there is a total of 20.2 ha of this community within the offset areas (KW, 2018).
<b>Operating Conditions</b>				
3	41	The Proponent must: <ul style="list-style-type: none"> <li>(a) not destroy, damage, remove or harm any native flora or fauna in the offset area; or</li> <li>(b) not carry out in the offset area or the vicinity of the offset area any activity that may cause, or is likely to result in, or will or might threaten the viability of, native flora or fauna in the offset area, or threaten the success of the offset strategy; and</li> <li>(c) ensure that its agents, contractors, licensees and invitees (and use best endeavours to ensure that any other persons) also comply with condition 41(a) and (b).</li> </ul>	Compliant	a) Section 6.13 of the BMP outlines the measures to minimise harm to native flora and fauna within the offset areas. b) Section 6.13 of the BMP outlines the measures to minimise harm to native flora and fauna within the offset areas. c) Section 6.13 of the BMP includes a requirement to brief employees and contractors prior to undertaking works within the offset areas. Whilst compliance with the condition is unable to be confirmed as part of this audit, there is sufficient evidence to demonstrate the intent to comply (KW, 2018).
<b>Long Term Security of Offset</b>				

Sched	Cond	Requirement	Status	Comment
3	42	<p>Within 12 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b>, the Proponent shall either:</p> <p>(a) enter into a conservation agreement pursuant to s 69B of the National Parks and Wildlife Act 1974 relating to the offset area, recording the obligations assumed by the Proponent under the conditions of this approval in relation to the offset area, and register that agreement pursuant to s 69F of the National Parks and Wildlife Act 1974; or</p> <p>(b) cause to be registered against the titles of the offset area a public positive covenant and/or restriction on the use of the land, in favour of the Director-General, requiring the proponent to implement and observe the conditions of this approval in relation to the offset area. The conservation agreement or the public positive covenant and/or restriction on the use of the land in relation to the offset area, shall remain in force in perpetuity.</p>	Compliant	<p>A number of extensions were granted under this condition largely due to LPI delays.</p> <p>The previous audit noted that a bond for BRN was submitted in December 2013 along with the Duralie offset.</p> <p>This audit has cited a letter from DP&amp;E dated 11 December 2014, for the extension until 30 June 2015. The letter from DP&amp;E noted that the completed instruments were submitted on 31 October 2014, however a number of actions were still required to complete formal registration of the instrument which gave rise to the extension (KW, 2018).</p> <p>Viewed email from Andrew Wright dated 29/05/15 confirming that positive covenants had been registered by LPI.</p> <p>Viewed signed positive covenant documents by Carolyn McNally dated 7/09/15. Reference number AIW 207001631. Includes terms of covenant.</p>
<b>Biodiversity Management Plan</b>				
3	43	<p>The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the <b>Secretary</b>. This plan must:</p> <p>(a) be prepared in consultation with OEH by suitably qualified and experienced persons whose appointment has been approved by the <b>Secretary</b>;</p> <p>(b) be submitted to the <b>Secretary</b> for approval within 3 months of the date of this approval;</p> <p><b>(b1) be approved by the Secretary prior to the commencement of clearing in EA (Mod 2);</b></p> <p>(c) describe how the offset strategy and its implementation will be integrated with other strategies, plans and programs required under this approval, including the Giant Barred Frog Management Plan, Water Management Plan and Rehabilitation Management Plan, and their implementation;</p> <p>(d) include:</p>	Not Compliant	<p>a) <b>No letter provided demonstrating consultation with OEH.</b> Viewed endorsement letter from DP&amp;E dated 28/05/15.</p> <p>b) Previous audit confirmed as compliant for 3 months of date of approval. A revised version of the BMP was approved by DP&amp;E on 24 October 2017.</p> <p>b1) The BMP was re-approved close to but after the commencement of clearing</p>

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>• a description, based on field surveys, and in consultation with OEH, of the biodiversity values of the vegetation communities in the offset area, including remnant vegetation and derived grasslands, including as habitat for the threatened species that are recorded in the surface development area;</li> <li>• a description of the biodiversity values to be lost through clearing of vegetation communities in the surface development area, including remnant vegetation and derived grasslands, including as habitat for the threatened species that are recorded in the surface development area;</li> <li>• a description of the short, medium and long term measures that would be implemented to: – implement the Offset Strategy; – maintain and enhance biodiversity values in the offset area to offset the loss of biodiversity values in the surface development area; – provide and enhance suitable habitat in the offset area for the threatened species that are recorded in the surface development area; – manage the remnant vegetation and habitat on the site (including in the offset area); • detailed completion criteria, as well as performance criteria for the measuring the short, medium and long term success of the Offset Strategy;</li> <li>• the measures described in the EA and in the expert report of Dr Goldney dated 7 April 2011 in Land and Environment Court proceedings No 10090 of 2011 to avoid or mitigate impacts on biological diversity, native flora and fauna and threatened species;</li> <li>• a detailed description of the measures that would be implemented in the short, medium and long term to implement the Offset Strategy, including the procedures to be implemented for: <ul style="list-style-type: none"> <li>– implementing revegetation and regeneration within the offset area, including establishment of canopy, understorey and ground strategy;</li> <li>– the introduction of hollow bearing habitat features;</li> <li>– controlling weeds and feral pests, including the engagement of appropriately qualified contractors; – managing grazing and agriculture, including provision to exclude livestock grazing from existing treed areas and Endangered Ecological Communities within the offset area;</li> <li>– controlling vehicular access to minimise the potential for vehicle strike of native fauna; and – bushfire management;</li> </ul> </li> <li>• a description of the measures that would be implemented in the short, medium and long term to manage the remnant vegetation and habitat on site, including the procedures to be implemented for: – protecting vegetation and soil outside the disturbance areas;</li> <li>– rehabilitating creeks and drainage lines on the site (both inside and outside the disturbance areas), to ensure no net loss of stream length and aquatic habitat;</li> <li>– managing salinity;</li> <li>– undertaking pre-clearance surveys including for threatened species;</li> <li>– if pre-clearance surveys identify any breeding pair of threatened species, including the Varied Sittella, deferral of clearing of their habitat until the breeding site is vacated;</li> <li>– managing impacts on fauna;</li> <li>– landscaping the site, and particularly the land adjoining public roads, to minimise visual and lighting impacts; – collecting and propagating seed;</li> <li>– salvaging and reusing material from the site for habitat enhancement;</li> </ul>		<p>for MOD2. DCPL held an approved BMP for the Duralie Coal Mine which included management measures for vegetation clearance approved by DP&amp;E. The revised BMP was submitted to DP&amp;E in June 2015 to include the additional offset areas, and DCPL indicates the management measures remained unchanged. The revised BMP was approved by DP&amp;E in January 2016 (7 months after submission with no issues raised from DP&amp;E).</p> <p>The MOD2 areas were not cleared until end December 2015. Habitat trees cleared on 20 Jan 2016 (after BMP approved).</p> <p>c) Section 1.2 of the BMP outlines the relationship of the plan to other management plans, including the GBFMP, Water Management Plan and Rehabilitation Management Plan.</p> <p>d) Section 4.2 and its associated subsections provide an overview of the offset areas.</p> <p>Section 4.1.8 of the BMP provides an overview of the biodiversity values lost through clearing of vegetation and habitat. The BMP refers to previous ecological assessment for detailed descriptions.</p> <p><b>It is recommended the BMP be updated to include clear short, medium and long term measures for the offset areas, or indicate that medium and long term measures have been amalgamated.</b></p> <p>Table 2 of the BMP outlines the offset strategy for the extension project and</p>



Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>– controlling weeds and feral pests, including the engagement of appropriately qualified contractors;</li> <li>– controlling vehicular access to minimise the potential for vehicle strike of native fauna; and – bushfire management;</li> <li>• a Vegetation Clearing Plan (VCP) that must include the following: <ul style="list-style-type: none"> <li>– clear delineation of disturbance areas and restriction of clearing to the minimum area necessary to undertake the approved activities;</li> <li>– a methodology for recording the approximate size and number of hollow bearing trees to be removed and their replacement with the same number of nesting boxes of appropriate sizing within similar vegetation within the Project site or offset lands;</li> <li>– a methodology for the management of hollow bearing trees during vegetation clearing to minimize impacts on hollow dependent fauna which may be present;</li> <li>– provision for a suitably trained or qualified person to the satisfaction of the Director-General to be present during the felling of identified hollow bearing trees to provide assistance with the care of any injured fauna;</li> <li>– provision for the checking of any animals found and recording of the species, number and condition (age class, pregnant or lactating females etc) and for details to be provided to the National Parks and Wildlife Service and Department within 3 months of the clearing event;</li> <li>– provision for the annual inspection of the nesting boxes for the life of the mine. An inspection report shall be prepared and include a review of the condition and use of the nesting boxes;</li> <li>– provision for the checking of vegetation to be cleared for threatened species and recording of the species, number and condition and for details to be provided to the National Parks and Wildlife Service and the Department within 3 months of the clearing event; 18</li> </ul> </li> <li>• a description of the contingency measures that would be implemented to improve the performance of the offset strategy and the detailed performance criteria that are not being met in any given year; and</li> <li>• details of who would be responsible for monitoring, reviewing, and implementing the plan;</li> <li>• a program to monitor and report on the effectiveness of the measures in the Biodiversity Management Plan and conditions 33–43 of this approval, and the performance of the Offset Strategy, with summary reporting to be carried out annually and comprehensive reporting every three years following the independent environmental audit (see condition 8 of Schedule 5).</li> </ul>		<p>Section 6 outlines the management actions proposed for the offset areas. Section 6 of the BMP outlines the management measures that are to be implemented to maintain and enhance biodiversity values in the offset areas. Table 10 of the BMP described the habitat within the offset areas for each of the threatened fauna species recorded within the surface development area. Section 5 of the BMP outlines management measures for the remaining biodiversity at the mine and Section 6 of the BMP outlines management measures for the offset areas. Sections 6.4-6.12 outline the performance criteria and completion criteria for the following management measures: nest box programme, weed control, management of grazing and agriculture, access control, Mammy Johnsons River bank stabilisation, bushfire management, seed collection and tubestock supply, tubestock installation, and direct seeding. Table 7 of the BMP lists additional management measures. Section 6.3 of the BMP outlines the vegetation treatment types to implement revegetation and regeneration within the offset areas. Additional information relating to these measures is provided in Section 6.11, Section 6.12, Appendix E and Appendix F. Section 6.4 of the BMP outlines the nest box programme that constitutes introduction of hollow-bearing habitat features. Section 6.5 of the BMP outlines the weed control measures within the offset areas, however it does not explicitly state that</p>

Sched	Cond	Requirement	Status	Comment
				<p>these measures will be undertaken by an appropriately qualified contractor. . The BMP does not contain a section that outlines feral pest control within the offset areas, however the 2017 AEMR summarises feral pest control undertaken. Section 6.6 of the BMP outlines the management of grazing and agriculture within the offset areas. Section 6.7 of the BMP outlines control of site access within the offset areas. Section 6.9 of the BMP outlines bushfire management within the offset areas. Section 5.1 of the BMP outlines measures for protection of vegetation and soil at the mine site, outside of disturbance areas. Section 5.2 of the BMP refers to the RMP to address measures relating to rehabilitation of creeks and drainage lines. Whilst the RMP includes measure for creek and drainage line rehabilitation, the plan does not outline how these measures seek to ensure no net loss of stream length and aquatic habitat. Section 5.3 of the BMP outlines measures for managing salinity resulting from irrigation. Section 5.4.1 of the BMP outlines measures for pre-clearance surveys. Section 5.4.1 of the BMP outlines measures for clearing activities should breeding pairs of threatened fauna species be detected during pre-clearance surveys. Section 5.4.1 of the BMP outlines general fauna management measures to be undertaken during pre-clearance surveys and clearing supervision. Further general measures are outlines in Section 5.5 of the BMP.</p>

Sched	Cond	Requirement	Status	Comment
				<p>Section 5.6 of the BMP outlines measures for landscaping at the site, including the provisions of screening vegetation.</p> <p>Section 5.7 of the BMP outlines measures for collecting and propagating seed.</p> <p>Section 5.8 of the BMP outlines measures for salvaging and reusing material for habitat enhancement.</p> <p>Section 5.9 of the BMP outlines the weed control measures within the mine site and Section 5.9 outlines the feral pest control measures within the mine site. However neither of these sections explicitly state that these measures will be undertaken by an appropriately qualified contractor.</p> <p>Section 5.11 of the BMP outlines measures for controlling vehicle access at the mine site.</p> <p>Section 5.12 of the BMP outlines measures for bushfire management at the mine site.</p> <p>Section 5.4 of the BMP outlines the vegetation clearance plan at the mine site and includes each component (KW. 2018).</p> <p><b>The BMP should be updated to outline how measures relating to rehabilitation of creeks and drainage lines seek to ensure no net loss of stream length and aquatic habitat.</b></p>
<b>Conservation Bond</b>				
<b>3</b>	<b>44</b>	<p>Within 6 months of the approval of the Biodiversity Management Plan, the Proponent shall lodge a conservation bond with the Department to ensure that the offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond shall be determined by:</p> <p>(a) calculating the full cost of implementing the offset strategy; and</p> <p>(b) employing a suitably qualified quantity surveyor to verify the calculated costs, to the satisfaction of the <b>Secretary</b>. If the offset strategy is completed to the satisfaction of the <b>Secretary</b>, the <b>Secretary</b> will release the conservation bond. If the offset strategy is not</p>	Compliant	<p>BMP was approved on 23/3/12.</p> <p>The revised BMP was approved in 5/09/17.</p> <p>Viewed approval letter for bond from DP&amp;E dated 11/12/13.</p> <p>Viewed bank guarantee for conservation bond for \$2,040,000 dated 16/12/13.</p>

Sched	Cond	Requirement	Status	Comment
		completed to the satisfaction of the <b>Secretary</b> , the <b>Secretary</b> will call in all or part of the conservation bond, and arrange for the satisfactory implementation of the offset strategy.		<b>Recommend bond is reviewed and revised due to update of plan in 2017.</b>
3	45	After each Independent Environment Audit (see Condition 8 of Schedule 5), the Proponent shall review and adjust the sum of the bond to the satisfaction of the <b>Secretary</b> .	Compliant	Viewed letter dated 6/03/15 that bond does not require updating following previous audit. <b>The bond and BMP will require review and adjustment as management plan updated.</b>
<b>HERITAGE</b>				
3	46	<p>The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the <b>Secretary</b>. This plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with OEH, the Aboriginal community, Heritage Branch, Council, and any local historical organisations;</li> <li>(b) be submitted to the <b>Secretary</b> for approval within 3 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b>;</li> <li>(c) describe the program/procedures that would be implemented for: <ul style="list-style-type: none"> <li>• recording, salvaging and/or managing the Aboriginal sites and potential archaeological deposits within the project disturbance area;</li> <li>• conserving, managing and monitoring Aboriginal sites DM2, DM4, DM6, DM 9, DM 10 and 38-1-0033;</li> <li>• minimising the potential impacts of the project on Aboriginal site 38-1-0034, DM7 and DM8;</li> <li>• responding to the discovery of any new Aboriginal objects or skeletal remains during the project;</li> <li>• enabling the Aboriginal community to access the archaeological sites on site; and</li> <li>• involving the Aboriginal community in the conservation and management of Aboriginal cultural heritage on the site.</li> </ul> </li> <li>(d) include the following for the Weismantel Inn: <ul style="list-style-type: none"> <li>• a baseline dilapidation survey;</li> <li>• photographic and archival recording;</li> <li>• a program to monitor the effects of the project on the inn; and</li> <li>• a contingency plan that would be implemented if the monitoring indicates that the project is adversely affecting the condition of the inn.</li> </ul> </li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• To identify the heritage sites referred to in this condition, see the figure in Appendix 6.</li> <li>• The effectiveness of the Heritage Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 5. Following this review and audit the plan is to be revised to ensure it remains up to date (see Condition 4 in Schedule 5)</li> </ul>	Compliant	<p>a) Viewed approval letter from DP&amp;E dated 23/06/15. It is recommended that consultation with OEH, Aboriginal Community, Heritage Branch, Council or Local Historical Organisations is undertaken for future updates.</p> <p>b) Previous audit confirmed compliant. Submitted and approved on 29/03/12.</p> <p>c) Viewed quarterly inspection record dated 31/7/17.</p> <p>d) DCPL owns Inn at the moment and has tenants there. Viewed inspections at Weismantel Inn in August 2015 and 27/10/17.</p> <p>Concluded no damage from operations.</p>
<b>TRANSPORT</b>				

Sched	Cond	Requirement	Status	Comment
<b>Access</b>				
3	47	Prior to the closure of Cheerup Road and the portion of Duralie Road within the project area, the Proponent shall construct a suitable access road to property No. 143 (Madden) to the satisfaction of the <b>Secretary</b> . However, this condition does not apply if the Proponent purchases the property.	Not Triggered	Confirmed in previous audit. DCPL own land.
<b>Monitoring of Coal Transport</b>				
3	48	<p>The Proponent shall keep accurate records of:</p> <p>(a) the amount of coal transported from the site each month, and make these records publicly available on its website at the end of each calendar year; and</p> <p>(b) the:</p> <ul style="list-style-type: none"> <li>• number of train movements to and from the site each day;</li> <li>• date and time of each train movement to the site between 10pm and midnight; and</li> <li>• instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances. and make these records publicly available on its website on a fortnightly basis.</li> </ul>	Not Verified	<p>a) Viewed 'Shuttle Train Coal Transported' records publicly available on the Duralie Coal website last updated in December 2016.</p> <p>b) Viewed 'Shuttle Train Performance Summary' on website containing information on the number of trains per day and date and time where each train is operated in accordance with this condition.</p> <p>The audit has no means of determining whether the records of exceptional circumstances have been made available on a fortnightly basis (BP, 2017). <b>It is recommended that times and dates are recorded or screenshot taken.</b></p>
<b>VISUAL</b>				
<b>Visual Amenity and Lighting</b>				
3	49	<p>The Proponent shall:</p> <p>(a) minimise visual impacts, and particularly the off-site lighting impacts, of the project; and</p> <p>(b) ensure that all external lighting associated on site complies with Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the <b>Secretary</b>.</p>	Compliant	No lighting complaints received. Viewed bunding and tree screening during audit. Viewed light audit dated November 2012 confirmed meets requirements.
<b>Additional Visual Mitigation Measures</b>				
3	50	<p>Upon receiving a written request from the owner of:</p> <p>(a) the land listed as 125(1), 125(2), and 116 on the figure in Appendix 3; or</p> <p>(b) any residence on privately-owned land which has, or would have, significant direct views of the mining operations on site, the Proponent shall implement visual mitigation measures (such as landscaping treatments or perimeter bunding) on the land in consultation with the owner. These measures must be reasonable and feasible, and directed toward minimising the visibility of the mining operations from the residence on the land. If within 3 months of receiving this request from the owner, the Proponent and the owner can not agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the <b>Secretary</b> for resolution.</p>	Not Triggered	No written requests received (MP pers comms).

Sched	Cond	Requirement	Status	Comment
3	51	Unless the <b>Secretary</b> agrees otherwise, the Proponent shall: (a) screen the views of the project as far as is practicable from the section of Bucketts Way marked in red on the figure in Appendix 7 within 6 months of the date of this approval, in consultation with the RTA, Council and any relevant landowners; (b) maintain the screen <b>and associated vegetation</b> during the life of the project; and to the satisfaction of the <b>Secretary</b>	Compliant	Viewed visual screening during audit including trees, bunding and screen. General maintenance was undertaken during the audit period (MP pers comms).
<b>WASTE</b>				
3	52	The Proponent shall: (a) minimise the waste generated by the project; and (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of, to the satisfaction of the <b>Secretary</b> .	Compliant	Viewed weekly inspection report from JR Richards dated 2/11/17. Major actions are put in CMO (MP pers comms). Incidents are reported as necessary. Viewed monthly reports for 2017. Tyres are disposed in pit. Surveyor keeps a register.
3	53	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the <b>Secretary</b> . This plan must be submitted to the <b>Secretary</b> within 3 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b> .	Compliant	Previous audit confirmed that WMP was submitted on 6/03/12. Updates were made in April 2015. Viewed approval letter dated 23/06/15.
<b>BUSHFIRE MANAGEMENT</b>				
3	54	The Proponent shall: (a) ensure that the project is suitably equipped to respond to any fires on site; and (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.	Compliant	Bushfire management is outline in Section 5.12 and 6.9 of the BDMP.
<b>REHABILITATION</b>				
<b>Rehabilitation Objectives</b>				
3	55	The Proponent shall rehabilitate the site to the satisfaction of the <b>Secretary</b> of DTIRIS. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in the figures in Appendix 7), and comply with the objectives in Table 12.	Compliant	The site has established suitable landforms and successful rehabilitation of forest communities are well underway to final completion criteria. Ecological succession was observed in the older rehabilitation. The proposed mine plans provide for rehabilitation of active mining areas and minimization of final voids (CR, 2018). <b>Recommend Annual Reviews discuss the objectives in Table 12 and discuss how each is being met or worked towards.</b>

Sched	Cond	Requirement	Status	Comment																								
		<table><tr><td colspan="2">Table 12: Rehabilitation Objectives</td></tr><tr><td>Feature</td><td>Objective</td></tr><tr><td>Mine site (as a whole of the disturbed lane and water)</td><td>Safe, stable &amp; non-polluting, fit for the purpose of the intended post-mining land use(s).</td></tr><tr><td>Surface Infrastructure</td><td>To be decommissioned and removed, unless the Secretary agrees otherwise.</td></tr><tr><td>Coal Shaft Creek Diversion</td><td>Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining.</td></tr><tr><td>Landforms</td><td>Final landforms sustain the intended land use for the post-mining domain(s).  Final landforms are consistent with and complement the topography of the surrounding region to minimise the visual prominence of the final landforms in the post-mining landscape.  Final landforms incorporate design relief patterns and principles for consistent with natural drainage.</td></tr><tr><td>Other land affected by the project</td><td>Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of:<ul style="list-style-type: none"><li>• local native plant species; and</li><li>• a landform consistent with the surrounding environment.</li></ul></td></tr><tr><td>Water quality</td><td>Water retained on site is fit for the intended land use(s) for the post-mining domain(s).  Water discharged from site is consistent with the baseline ecological, hydrological and geomorphic conditions of the creeks prior to mining disturbance. Water management is consistent with the regional catchment management strategy.</td></tr><tr><td>Native flora and fauna habitat and corridors</td><td>Size, locations and species of native tree lots and corridors are established to sustain biodiversity habitats. Species are selected that re-establishes and complements regional and local biodiversity.</td></tr><tr><td>Final void</td><td>Safe, stable and non-polluting</td></tr><tr><td>Post-mining agricultural pursuits</td><td>The land capability classification for the relevant nominated agricultural pursuit for each domain is established and self-sustaining within 5 years of land use establishment (first planting of vegetation).</td></tr><tr><td>Community</td><td>Minimise the adverse socio-economic effects associated with mine closure.</td></tr></table>	Table 12: Rehabilitation Objectives		Feature	Objective	Mine site (as a whole of the disturbed lane and water)	Safe, stable & non-polluting, fit for the purpose of the intended post-mining land use(s).	Surface Infrastructure	To be decommissioned and removed, unless the Secretary agrees otherwise.	Coal Shaft Creek Diversion	Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining.	Landforms	Final landforms sustain the intended land use for the post-mining domain(s).  Final landforms are consistent with and complement the topography of the surrounding region to minimise the visual prominence of the final landforms in the post-mining landscape.  Final landforms incorporate design relief patterns and principles for consistent with natural drainage.	Other land affected by the project	Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of: <ul style="list-style-type: none"><li>• local native plant species; and</li><li>• a landform consistent with the surrounding environment.</li></ul>	Water quality	Water retained on site is fit for the intended land use(s) for the post-mining domain(s).  Water discharged from site is consistent with the baseline ecological, hydrological and geomorphic conditions of the creeks prior to mining disturbance. Water management is consistent with the regional catchment management strategy.	Native flora and fauna habitat and corridors	Size, locations and species of native tree lots and corridors are established to sustain biodiversity habitats. Species are selected that re-establishes and complements regional and local biodiversity.	Final void	Safe, stable and non-polluting	Post-mining agricultural pursuits	The land capability classification for the relevant nominated agricultural pursuit for each domain is established and self-sustaining within 5 years of land use establishment (first planting of vegetation).	Community	Minimise the adverse socio-economic effects associated with mine closure.		
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Progressive Rehabilitation																												
3	56	The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.	Compliant	Progressive rehabilitation of the site was observed. Including active final shaping in preparation for Rehabilitation (CR, 2018).																								
Rehabilitation Management Plan																												



Sched	Cond	Requirement	Status	Comment
3	57	<p>The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the <b>Secretary</b> of DTIRIS. This plan must:</p> <p>(a) be prepared in consultation with the Department, OEH, NOW, Council and the CCC;</p> <p>(b) be prepared in accordance with any relevant DRE guideline;</p> <p>(c) build, to the maximum extent practicable, on the other management plans required under this approval;</p> <p>(c1) address all aspects of mine closure and rehabilitation, including post-mining land use domains, rehabilitation objectives, completion criteria and rehabilitation monitoring and management;</p> <p>(d) provide for scientific knowledge gained during the rehabilitation, to be made publicly available;</p> <p>(e) be submitted to the <b>Secretary</b> of DTIRIS for approval within 3 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b>.</p>	Compliant	<p>a) The RMP is now incorporated in the MOP. Viewed DP&amp;E approval letter dated 11/12/17.</p> <p>Viewed email consultation with CCC, Council, OEH, DPI-Water, DP&amp;E dated 7/08/17.</p> <p>b) Section 3.3</p> <p>c) All (Specifically Section 5.6 Offset strategy)</p> <p>c1) All Document</p> <p>d) Section 10</p> <p>e) Compliant. Previous audit confirmed (CR, 2018).</p>
<b>SCHEDULE 4 - ADDITIONAL PROCEDURES</b>				
<b>NOTIFICATION OF LANDOWNERS</b>				
4	1	<p>Within 1 month of the date of this approval, the Proponent shall notify in writing the owners of:</p> <p>(a) the land listed in Table 1 in Condition 1 of Schedule 3 that they have the right (under Condition 1 of Schedule 3) to require the Proponent to acquire their land at any stage during the project;</p> <p>(b) any residence on the land listed in Table 1 in Condition 1 or in Condition 4(b) or (c) of Schedule 3 that they are entitled (under Condition 4 of Schedule 3) to ask for additional noise mitigation measures to be implemented at their residence at any stage during the project;</p> <p>(c) any privately-owned land within 2 kilometres of the approved open cut mining pit on site that they are entitled (under Condition 11 of Schedule 3) to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous inspection report updated;</p> <p>(d) any residence on the land listed as 125(1) and 125(2) on the figure in Appendix 3 that they are entitled (under Condition 21 of Schedule 3) to ask for additional dust mitigation measures to be implemented at their residence at any stage during the project; and</p> <p>(e) the owner the land listed as 125(1), 125(2), and 116 on the figure in Appendix 3 or any residence on privately-owned land which has (or would have) significant direct views of the mining operations on site, that they are entitled (under Condition 50 of Schedule 3) to ask for additional visual mitigation measures to be implemented on their land at any stage during the project</p>	Compliant	Confirmed in last audit.
4	1A	<p>Within 1 month of the approval of the first modification to the conditions of this approval, the Proponent shall prepare a Consultation Plan for the implementation of additional noise mitigation measures at the residences listed in Condition 4(c) of Schedule 3. This plan must provide for:</p> <p>(a) notifying the land owners of these residences that they are entitled to ask for additional noise mitigation measures to be implemented at their residence at any stage during the project;</p> <p>(b) explaining the sorts of mitigation measures that could be implemented to these residences;</p>	Compliant	<p>Confirmed in previous audit.</p> <p>A Consultation Plan was prepared for the implementation of additional noise mitigation measures in November 2013.</p>



Sched	Cond	Requirement	Status	Comment
		(c) following up the initial notification of these owners with detailed discussions about the potential implementation of suitable mitigation measures; (d) explaining to these land owners that they have the right to refer the matter to the Secretary for resolution if there is a dispute about what measures should be implemented or the implementation of any agreed measures. The Plan is to be made publicly available on the Proponent's website and the plan shall be implemented to the satisfaction of the Secretary.		
4	2	Within 2 weeks of obtaining monitoring results showing: (a) an exceedence of the relevant criteria in any condition in Schedule 3, the Proponent shall notify the affected landowner and tenants in writing of the exceedence, and provide monitoring results to each of these parties until the project is complying with the relevant criteria again; (b) an exceedence of the relevant noise acquisition criteria in Condition 3 of Schedule 3, the Proponent shall notify the relevant owner in writing that they have the right (under Condition 3 of Schedule 3) to require the proponent to acquire their land; (c) an exceedence of the relevant noise mitigation criteria in Condition 4(d) or (e) of Schedule 3, the Proponent shall notify the relevant owner in writing that they are entitled (under Condition 4 of Schedule 3) to ask for additional noise mitigation measures to be installed at their residence; (d) an exceedence of the relevant air quality criteria in Schedule 3, the Proponent shall send the affected landowners and tenants (including the tenants of any mine-owned land) a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time); and an (e) exceedence of the relevant air quality criteria in Condition 20 of Schedule 3, the Proponent shall notify the relevant owner in writing that they have the right (under Condition 20 of Schedule 3) to require the Proponent to acquire their land; and (f) an exceedence of the relevant dust mitigation criteria in Condition 21 of Schedule 3, the Proponent shall notify the relevant owner in writing that they are entitled (under Condition 21 of Schedule 3) to ask for additional dust mitigation measures to be implemented at their residence.	Compliant	a-c) Not Triggered. d) Not Triggered e-f) Not Triggered.
<b>INDEPENDENT REVIEW</b>				
4	3	If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 3, then he/she may ask the <b>Secretary</b> in writing for an independent review of the impacts of the project on his/her land. If the <b>Secretary</b> is satisfied that an independent review is warranted, then within 2 months of the <b>Secretary's</b> decision the Proponent shall: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the <b>Secretary</b> , to: • consult with the landowner to determine his/her concerns; • conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and • if the project is not complying with these criteria, then identify the measures that could be implemented to ensure compliance with the relevant criteria; and 22 (b) give the <b>Secretary</b> and landowner a copy of the independent review.	Not Triggered	No requests in audit period (MP pers comms).

Sched	Cond	Requirement	Status	Comment
4	4	<p>If the independent review determines that the project is complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the <b>Secretary</b>. If the independent review determines that the project is not complying with the relevant criteria in Schedule 3, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedences of the relevant criteria, to the satisfaction of the <b>Secretary</b>. If the independent review determines that the project is not complying with the relevant acquisition criteria in Schedule 3, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in Conditions 5–6 below.</p>	Not Triggered	No requests in audit period (MP pers comms).
<b>LAND ACQUISITION</b>				
4	5	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the project, having regard to the:</p> <ul style="list-style-type: none"> <li>• existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and</li> <li>• presence of improvements on the land and/or any approved building or structure which has been physically commenced on the land at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of any additional noise mitigation measures under Condition 4 of Schedule 3;</li> </ul> <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> <li>• relocating within the Great Lakes or Gloucester local government areas, or to any other local government area determined by the <b>Secretary</b>; and</li> <li>• obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and</li> </ul> <p>(c) reasonable compensation for any disturbance caused by the land acquisition process. However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the <b>Secretary</b> for resolution. Upon receiving such a request, the <b>Secretary</b> will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:</p> <ul style="list-style-type: none"> <li>• consider submissions from both parties;</li> <li>• determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;</li> <li>• prepare a detailed report setting out the reasons for any determination; and</li> </ul>	Not Triggered	No requests in audit period (MP pers comms).

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>provide a copy of the report to both parties. Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination. However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the <b>Secretary</b> for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the <b>Secretary</b> will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report disputing the independent valuer's determination, and any other relevant submissions. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the <b>Secretary's</b> determination. If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the <b>Secretary</b> determines otherwise.</li> </ul>		
4	6	The Proponent shall pay all reasonable costs associated with the land acquisition process described in Condition 5 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.	Not Triggered	No requests in audit period (MP pers comms).
<b>SCHEDULE 5 - ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING</b>				
<b>ENVIRONMENTAL MANAGEMENT</b>				
<b>Environmental Management Strategy</b>				
5	1	<p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the <b>Secretary</b>. This strategy must:</p> <ul style="list-style-type: none"> <li>(a) be submitted to the <b>Secretary</b> for approval within 3 months of the date of this approval, unless otherwise agreed by the <b>Secretary</b>;</li> <li>(b) provide the strategic framework for the environmental management of the project;</li> <li>(c) identify the statutory approvals that apply to the project;</li> <li>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</li> <li>(e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>receive, handle, respond to, and record complaints;</li> <li>resolve any disputes that may arise during the course of the project;</li> <li>respond to any non-compliance;</li> <li>respond to emergencies; and</li> </ul> </li> <li>(f) include:</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>a) Previous audit confirmed compliant. EMS approved by DPI on 21/06/11. Viewed approval letter from DP&amp;E dated 24/10/17 for revised EMS.</li> <li>b) The EMS document.</li> <li>c) Section 3 of the EMS.</li> <li>d) Section 4 of the EMS.</li> <li>e) Sections 7, 8 and 9.</li> <li>f) Environmental Management Plans in Appendix C. Section 6 contains monitoring program details.</li> </ul>

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>• copies of any strategies, plans and programs approved under the conditions of this approval; and</li> <li>• a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.</li> </ul>		
<b>Management Plan Requirements</b>				
5	2	<p>The Proponent shall 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> <ul style="list-style-type: none"> <li>• the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>• any relevant limits or performance measures/criteria;</li> <li>• 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;</li> </ul> <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> <ul style="list-style-type: none"> <li>• impacts and environmental performance of the project;</li> <li>• effectiveness of any management measures (see (c) above);</li> </ul> <p>(e) a contingency plan to manage any unpredicted impacts and their consequences;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> <li>• incidents;</li> <li>• complaints;</li> <li>• non-compliances with statutory requirements; and</li> <li>• exceedences of the impact assessment criteria and/or performance criteria; and</li> </ul> <p>(h) a protocol for periodic review of the plan. Note: The <b>Secretary</b> may waive some of these requirements if they are unnecessary or unwarranted.</p>	Complaint	<p>a) AQGGMP Section 5, BDMP Section 4, GBFMP Section 6, HMP Section 5, NMP Section 5, RMP Section 5.1.</p> <p>b) AQGGMP Sections 2 and 4, BDMP Sections 3 and 8, GBFMP Sections 2 and 8, HMP Sections 3 and 6, NMP Sections 2 and 4 and Appendix A, RMP Sections 3 and 6, WAMP Section 2.</p> <p>c) AQGGMP Section 6, BDMP Sections 5 and 6, GBFMP Sections 7,8,9 and 10, HMP Sections 6,7,8 and 9, NMP Section 6, RMP Section 5.</p> <p>d) AQGGMP Section 7, BDMP Section 7, GBFMP Sections 7,8 and 11, HMP Section 6, NMP Section 7, RMP Sections 7 and 10.</p> <p>e) AQGGMP Section 8, BDMP Section 9, GBFMP Section 10, HMP Section 7, NMP Section 8, RMP Section 8.</p> <p>f) AQGGMP Section 9, BDMP Sections 7.4 and 8, GBFMP Sections 7,8 and 11, HMP Section 8, NMP Section 9, RMP Section 10, WMP Section 3.</p> <p>g) AQGGMP Section 10, BDMP Section 7.2, GBFMP Sections 10,13, PIRMP and EMS, HMP Sections 7,8 and 9, NMP Section 10, RMP Section 10.</p> <p>h) AQGGMP Section 9, BDMP Section 7.4, GBFMP Section 12, HMP Section 2, NMP Section 9, RMP Section 10, WMP Section 3.</p>
<b>Annual Review</b>				

Sched	Cond	Requirement	Status	Comment
5	3	By the end of December 2011, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the <b>Secretary</b> . This review must: (a) describe the development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the <ul style="list-style-type: none"> <li>the relevant statutory requirements, limits or performance measures/criteria;</li> <li>the monitoring results of previous years; and</li> <li>the relevant predictions in the EA;</li> </ul> (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the next year to improve the environmental performance of the project.	Compliant	a) Section 2 of the 2015 Annual Review. Section 4 of the 2016 and 2017 Annual Reviews. b) Section 3 of the 2015 Annual Review. Section 6 of the 2016 and 2017 Annual Reviews. c) Section 3 of the 2015 Annual Review. Section 11 of the 2016 and 2017 Annual Reviews. d) Section 3 of the 2015 Annual Review. Section 6 of the 2016 and 2017 Annual Reviews. e) Section 3 of the 2015 Annual Review. Section 6 of the 2016 and 2017 Annual Reviews. f) Section 6 of the 2015 Annual Review. Section 12 of the 2016 and 2017 Annual Reviews.
<b>Revision of Strategies, Plans and Programs</b>				
5	4	Within 3 months of: (a) the submission of an annual review under Condition 3 above; (b) the submission of an incident report under Condition 6 below; (c) the submission of an audit under Condition 8 below; (d) any modification to the conditions of this approval (unless the conditions require otherwise); or (e) prior to the commencement of clearing in EA (Mod 2), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the <b>Secretary</b> . 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.	Compliant	Updates were made during the audit period including: <ul style="list-style-type: none"> <li>MOP – 11/12/17;</li> <li>EMS – 23/06/15;</li> <li>BDMP – 23/06/15;</li> <li>NMP – 25/08/17;</li> <li>PIRMP – April 2017;</li> <li>BMP – September 2017;</li> <li>WMP – 22/06/16;</li> <li>WaMP – 23/06/15;</li> <li>AQGGMP – 23-06/17; and</li> <li>GBFMP – 10/02/16.</li> </ul>
<b>Community Consultative Committee</b>				
5	5	The Proponent shall establish and operate a new Community Consultative Committee (CCC) for the project in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version), and to the satisfaction of the <b>Secretary</b> . This CCC must be operating within 3 months of the date of this approval. Note:	Compliant	Viewed CCC meeting minutes available on website from: <ul style="list-style-type: none"> <li>9/11/17;</li> <li>17/08/17;</li> <li>4/05/17;</li> <li>16/02/17;</li> </ul>

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval;</li> <li>In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community; and</li> <li>With the approval of the <b>Secretary</b>, this CCC may be combined with the current CCC for the Stratford coal mine.</li> </ul>		<ul style="list-style-type: none"> <li>10/11/16;</li> <li>4/08/16;</li> <li>12/05/16;</li> <li>11/02/16;</li> <li>5/11/15; and</li> <li>6/08/15.</li> </ul>
<b>REPORTING</b>				
<b>Incident Reporting</b>				
5	6	The Proponent shall notify the <b>Secretary</b> 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 shall provide the <b>Secretary</b> and any relevant agencies with a detailed report on the incident.	Compliant	<p>No incidents in 2014 within the audit period.</p> <p>One incident in August 2015 for the first flush system due to power outage and battery failure. Valve defaulted to the river as opposed to the drain. Incident was self-reported and default was changed to report to the dam. No further actions required by regulators.</p> <p>Three incidents in 2016:</p> <ul style="list-style-type: none"> <li>Uncontrolled burn in February in offset area. No further regulatory action. BDMP was updated.</li> <li>Blast in March. No regulatory Action.</li> <li>Odour incident as described in <b>Section 5.14.4</b></li> </ul> <p>Two incidents in 2017:</p> <ul style="list-style-type: none"> <li>Dust results in February;</li> <li>Dust Emissions in April due to blast over mining lease boundary only on mine owned land. No further actions required.</li> </ul>
<b>Regular Reporting</b>				
5	7	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval, and to the satisfaction of the <b>Secretary</b> .	Compliant	Viewed Annual Reviews available on website.
<b>AUDITING</b>				
<b>Independent Environmental Audit</b>				

Sched	Cond	Requirement	Status	Comment
5	8	By the end of December 2011, and every 3 years thereafter, unless the <b>Secretary</b> directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the <b>Secretary</b> ; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under the approvals in (c) above; and (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the approvals in (c) above. Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the <b>Secretary</b> .	Compliant	This audit. a) See Appendix B b) See <b>Section 1.5</b> and Appendix B. c) This table. d) This table. e) See <b>Section 6</b> . Viewed email from previous audit to confirm it was submitted. Responses to previous audit are contained within the Annual Reviews. Main IEA volume includes table of previous audit recommendations and status of each.
5	9	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	Compliant	Extension for until 26 <sup>th</sup> February 2018 granted (see Appendix B).
5	9A	By the end of December 2013, and with every Independent Environmental Audit thereafter, unless the <b>Secretary</b> directs otherwise, the Proponent shall commission and pay the full cost of a Rail Haulage Audit of the project. This audit must: (a) be conducted by suitably qualified, experienced and independent experts whose appointment has been endorsed by the <b>Secretary</b> ; (b) review the existing rail haulage operations and determine whether all reasonable and feasible measures are being implemented to minimise the: • noise and dust impacts of these operations; • use of the shuttle train during the approved night-time hours; • dispatch of trains from the site between 9.25pm and 1am the following day; and (c) recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts; and (d) evaluate the use of the exceptional circumstances provision in condition 8 of schedule 2, and the associated reporting on any use of this provision on the Proponent's website (see condition 8A in schedule 2).	Compliant	See Appendix G.
5	9B	Within 6 weeks of the completion of this audit, or as otherwise agreed by the <b>Secretary</b> , the Proponent shall submit a copy of the audit report to the <b>Secretary</b> , together with its response to any recommendations contained in the audit report.	Compliant	Viewed email from DP&E dated 26/08/16 approving DCPL response to DP&E comments on IEA following submission.
<b>ACCESS TO INFORMATION</b>				
5	10	Within 1 month of the date of this approval, the Proponent shall: (a) make copies of the following publicly available on its website:	Compliant	Viewed Duralie Coal website on 20/12/17 and confirmed all publicly available.



Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>• the documents referred to in Condition 2 of Schedule 2;</li> <li>• all relevant statutory approvals for the project;</li> <li>• all approved strategies, plans, programs and studies required under the conditions of this approval;</li> <li>• the monitoring results of the project, reported in accordance with the specifications in any approved strategies, plans, programs or studies required under the conditions of this or any other approval;</li> <li>• a complaints register, which is to be updated on a monthly basis;</li> <li>• <a href="#">the agenda papers and minutes of CCC meetings</a>;</li> <li>• the annual reviews required under this approval;</li> <li>• <a href="#">any audit of the project required under this approval, and the Proponent's response to the recommendations in any audit report</a>;</li> <li>• any other matter required by the <b>Secretary</b>; and</li> </ul> <p>(b) keep this information up-to-date, to the satisfaction of the <b>Secretary</b></p>		<p>Complaints register updated in December 2017.</p> <p>All CCC minutes, agendas and presentations were available. Previous audits, management plans and Annual reviews were available and all up to date.</p>



**Table 2**  
**Other Licences and Approvals**

Document	Status	Comments
EPL 11701	Not Compliant	<p>A1 Reduced amount in 2017 for coal works and mining for coal.</p> <p>A2.1 Details still correct.</p> <p>P1 Air quality monitoring points correct. <b>Recommend considering justifying and removal of Dust Gauges. AQMP would also require update for consistency.</b></p> <p>P1.4 Viewed figure of monitoring locations with coordinates dated 20/10/17.</p> <p>L1.1 No water pollution incidences, however a discharge event occurred on 23/08/15 as discussed in <b>Section 5.14.1.</b></p> <p>L2.4 For First Flush monitoring points. Referred to in Surface Water Monitoring spreadsheets available on website. Last published 11/12/17.</p> <p>L3.1 No waste from offsite allowed in accordance with the WaMP.</p> <p>L3.3 Waste Oil Tank only has 16,000 L capacity.</p> <p>L4.1 No noise exceedances in the audit period.</p> <p>L4.2 Requires noise measurements within 30 m and 1 m of private residences which is not considered reasonable or practical due to likely disturbance to residents, particularly during the night. It is acknowledged that this or a very similar condition is common in EPLs, however <b>a discussion with the EPA is recommended with the aim of modifying this condition to permit acoustically equivalent locations to be adopted for the noise compliance measurements to minimise disturbance to residents.</b></p> <p>L4.7 Noise Monitoring Report</p> <p>L6.1 <b>Not Compliant. Odour incidents as discussed in Section 5.14.4.</b></p> <p>O3 Dust incidences as discussed in <b>Section 5.14.5.</b></p> <p>O4.1 Three systems that are utilised on one area. Irrigated to one area. The site inspection confirmed that the septic irrigation area appears to be contained and adequately managed.</p> <p>O4.2 The approved Irrigation Areas (shown on Figure 3 of the Surface Water Management Plan) drain to mine water storages. Site inspection confirmed that the irrigation areas are within the contained catchments of mine water storages. Mine water and runoff from the irrigation areas does not discharge directly to Mammy Johnsons River.</p> <p>O4.3 Controlled via first flush system. Real-time and daily monitoring report. Viewed continuous monitoring data last updated for November 2017. Viewed Annual Report for 2017 with summary of discharge events in Table 1.</p> <p>O5.1 PIRMP last updated in August 2017. Viewed PIRMP Performance Register with a mock major failure of the Main Water Dam on 4/08/17. <b>Recommend the last sentence of this condition is removed, relating to the development of an emergency response plan as it is no longer relevant.</b></p>

Document	Status	Comments
		<p>O6.1 No reportable incidents.</p> <p>O6.2 Three separate septic systems utilised. Irrigated to one area. The site inspection confirmed that the septic irrigation area appears to be contained and adequately managed (RE, 2018).</p> <p>O7.1 Viewed report on Summary of Giant Barred Frog Monitoring Results 2017 appended to the 2017 Annual Return.</p> <p>O7.2 Viewed letter from EPA dated 13/03/17 requesting response on how DCPL manages potential spills from Ammonium Nitrate Emulsion Tank (unbunded area). Viewed response email 29/05/17 proposing the development of a small dam adjacent to the area. No reply from EPA received. Viewed plan of dam dated 25/05/17 and photo of dam after construction. See Plate 10 in <b>Appendix E</b>.</p> <p>M1.3 Viewed CBased Monitoring report for October 2017 and confirmed on dust field sheet contained parameters under this condition (20/9/17, 7.30am, James Benson, site details). Viewed corresponding lab report. Viewed October field sheet for HVAS sampling dated 3/10/17.</p> <p>M2.1-2.2 Section 2.1 in October CBased Monthly Report.</p> <p>M2.3 Viewed Surface Water Monitoring data last updated 27/10/17. Confirmed daily monitoring is undertaken following a discharge event. Viewed Sediment Dam data.</p> <p>M6.2 Three odour complaints received on 29/07/16. Complaints have significantly decreased over the past three years due to reduced operations as discussed in <b>Section 5.14.4</b>.</p> <p>M6.2-6.3 Viewed internal complaints register containing follow up actions.</p> <p>M7 Viewed on website.</p> <p>M8.1 Viewed blast shot footage directory.</p> <p>M9 Viewed email to EPA dated 24/11/17 and on 31/05/17 with Noise Monitoring results. <b>Recommend this condition is removed.</b></p> <p>R1 Viewed EPL returns</p> <p>R2 Incidents were reported as discussed in <b>Section 5.14</b>.</p> <p>R3 Viewed report for Blast Event incident dated 28/04/17 which was not reportable, however responded to request from EPA.</p>
<b>ML 1646</b>	<b>Not Compliant</b>	<p>ML 1646 was audited as it is relevant to the active area of mining during the audit period.</p> <ol style="list-style-type: none"> <li>1. Not Triggered in period.</li> <li>2. Not Triggered in period.</li> <li>3. Viewed MOP approval letter from DP&amp;E dated 11/12/17.</li> <li>4. Viewed Annual Reviews for the reporting period.</li> </ol>

Document	Status	Comments
		<p>5. <b>Not Compliant. No incidents have been reported to DRG. Recommend that any incidents that meet the definition under this condition are reported to DRG in the future.</b></p> <p>6. Not Triggered.</p> <p>7. See discussion on rehabilitation in <b>Section 5.9.</b></p> <p>8. Not Triggered.</p> <p>9. Total of 75 full time employees at Duralie.</p> <p>10. See Schedule 3 Condition 8 of PA 08_0203.</p> <p>11. See Schedule 3 Condition 13 of PA 08_0203.</p> <p>12. Dust pollution incidents as discussed in Section 5.14.5. No incidents were exceedances.</p> <p>13. 132kV lines cross pit. No interference in the period (MP pers comms). No other communications lines on site.</p> <p>14. Not Triggered.</p> <p>15. DCPL own land. No crown land in vicinity.</p> <p>17. Still actively mining in accordance with the MOP. No directions received in the period.</p> <p>18. Not Triggered.</p> <p>19. Viewed approval letter from DRG for revised security deposit of \$12,220,000. Confirms current amount of \$4,985,000 is held.</p> <p>23. Mining operations not suspended in period. Received Section 240 notice under <i>Mining Act 1992</i> dated 16 June 2017 to commence Mine closure planning (DRG) See further discussion at <b>Section 5.14.</b></p> <p>24. No overlapping titles.</p>

**Table 3**  
**Management Plans**

Management Plan	Key Commitments	Comments
MOP	<ul style="list-style-type: none"> <li>General waste minimisation principles (i.e. reduce, re-use and recycle) will continue to be applied at the DCM to minimise the quantity of wastes that require off-site disposal.</li> <li>There are no decommissioning or demolition activities required during the MOP term.</li> <li>Where stripped soils cannot be used directly for progressive rehabilitation, the soil will be stockpiled separately and seeded with grasses to maintain soil viability.</li> <li>To ensure suitable and adequate topsoil resources are available for final rehabilitation a site topsoil balance is undertaken annually and the volume compared to the total remaining disturbed area requiring rehabilitation. Annual reporting of the site soil balance and rehabilitation performance is provided in the DCM Annual Review.</li> <li>Weed management and monitoring results will be reported in the Annual Review.</li> </ul>	<ul style="list-style-type: none"> <li>See discussion in <b>Section 5.2</b>.</li> <li>Viewed example of JR Richards waste report dated 2/11/17.</li> <li>No demolition activities undertaken in audit period (MP pers comms).</li> <li>Viewed topsoil stockpiles during site visit. Topsoils are used in progressive rehabilitation as required.</li> <li>Topsoil balance is contained in Section 8.2 of the 2017 Annual Review.</li> <li>Weed management is contained in Section 6.5.3 of the 2017 Annual Review.</li> </ul>
Environmental Management Strategy	<ul style="list-style-type: none"> <li>Table 2 indicates the site management structure.</li> <li>Maintain visual and bordered screen (Section 6).</li> <li>Monitoring for Aboriginal Artefacts (Section 6).</li> <li>Protection of Honey tree (Section 6).</li> <li>Operate CCC</li> <li>Website will be kept up to date</li> <li>Complaints Handling (Section 8.1): <ul style="list-style-type: none"> <li>Maintain register</li> <li>Public signage with phone number</li> <li>Summary of complaints to CCC</li> </ul> </li> <li>Incidents will be reported (Section 8.2)</li> <li>Section 8.3 – Non-compliances <ul style="list-style-type: none"> <li>EC inspections and audits</li> </ul> </li> <li>Section 9 – Emergency Response</li> </ul>	<ul style="list-style-type: none"> <li>Reviewed site management structure and confirmed consistent with consent.</li> <li>Viewed screening during site visit.</li> <li>Viewed website and CCC minutes to confirm all documents were uploaded</li> <li>Section 8.2 to be updated to include requirements to notify DRG of incidents in accordance with ML</li> </ul>
Biodiversity Management Plan	<ul style="list-style-type: none"> <li>Speed limits would be set at the DCM</li> <li>Wildlife warning signs would be installed on roads in the vicinity of the DCM</li> </ul>	<ul style="list-style-type: none"> <li>Viewed speed limit signage upon entering and existing the site.</li> </ul>

Management Plan	Key Commitments	Comments
	<ul style="list-style-type: none"> <li>Signage would be installed to identify the Offset areas.</li> <li>Pre-clearance surveys and habitat assessment would be undertaken by a suitably trained or qualified person within two weeks prior to the commencement of clearing operations, where practical, to reduce the potential for species to re-occupy surveyed habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Viewed offset area and conservation area signage (see Plate 12 of <b>Appendix E</b>).</li> <li><b>Table 7 of the BMP contains an incorrect reference to Section 6.13 for a discussion on canopy bridges. This should be updated to Section 6.14.</b></li> <li>No clearing was undertaken in the audit period.</li> <li><b>See recommendations</b> in KW report in <b>Appendix E</b>.</li> </ul>
Heritage	<ul style="list-style-type: none"> <li>Consult with Aboriginal Community in relation to relocation or storage of heritage items (Section 4.1)</li> <li>Aboriginal Stakeholders permitted to access site/s (Section 4.2)</li> <li>Biannual Building inspections of Weismantel Inn</li> <li>Historical and current Aboriginal Stakeholders to be present in soil stripping (Section 4.1)</li> </ul>	<ul style="list-style-type: none"> <li>No relocation or storage of heritage items in period.</li> <li>Members of the Aboriginal Community have historically attended soil stripping activities (MP pers comms) but not in audit period.</li> <li>No requests to access site.</li> <li>Viewed Clearing Plan Checklist ID 28417.2. Top Soil Stripping Approval Form containing checklist item for Aboriginal Stakeholders to be present during stripping.</li> <li>Viewed Inspections of Weismantel Inn for October 2017 done every 2 years.</li> </ul>
Pollution Incident Response	<ul style="list-style-type: none"> <li>The PIRMP must be tested every 12 months and within 1 month of an incident (Section 2).</li> <li>Copy of PIRMP to be provided to permanent mining contractors (Section 2.1)</li> <li>Notification of incidents to community (Section 4).</li> <li>Training for employees, contractor and visitors (Section 11).</li> </ul>	<ul style="list-style-type: none"> <li>Review table on Page 1 indicates last review was September 2015.</li> <li>Update Section 2.1 to remove reference to permanent mining contractors</li> <li>No incidents where community is required to be notified</li> <li><b>Recommend that the induction package includes PIRMP (list of inclusions in Section 11) and an assessment of competency.</b></li> <li>Viewed PIRMP register and Sediment Dam</li> <li><b>Section 12.2 should be updated to reference new database (intellect).</b></li> <li>Contingency measures not triggered in period.</li> </ul>

Management Plan	Key Commitments	Comments
		<ul style="list-style-type: none"> <li>Viewed Environmental Awareness Presentation from 14 December 2015 including water, dust, noise and incident reporting and reference to the PIRMP.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>All activities at DCM will be conducted in accordance with a number of licences, permits and leases which have been issued or are pending issue.</li> <li>Trains transporting coal from the DCM will travel on the North Coast Railway, which is controlled and operated by the Australian Rail Track Corporation (ARTC).</li> <li>Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, DCPL will provide a detailed explanation of the exceptional circumstances on the DCPL website in accordance with Condition 8A, Schedule 2 of the NSW Project Approval.</li> <li>Up to 10 train movements per day will be directly associated with DCM operations. These trains will generate pass-by noise at receivers in close proximity to the railway line.</li> <li>Duralie will continue to only use locomotives that are approved to operate on the NSW rail network, in accordance with the noise limits in the ARTC's EPL</li> <li>The effectiveness of noise management measures at the DCM will be assessed through real-time and attended noise monitoring.</li> <li>An awareness of exceedance of noise criteria at the real time noise monitor will be included in pre shift meeting to help reduce occurrence of noise criteria exceedances at private residences</li> <li>Weather conditions will be monitored (as per Section 7.4) and where adverse conditions are experienced or predicted, operational changes will be made to avoid or reduce noise impacts.</li> </ul>	<ul style="list-style-type: none"> <li>The Noise Management Plan refers to the relevant Project Approval 08_0203 and Environment Protection Licence 11701 conditions for noise criteria and describes a number of noise monitoring locations, however does not link these three by clearly deriving and specifying noise criteria at each monitoring location. As some noise monitoring locations represent multiple receptors, a clear statement of which receptors are covered by each monitoring location, and therefore the noise criteria that applies to each monitoring location including any corrections to receptors where relevant, is recommended (MB, 2018).</li> <li>A review of noise monitoring locations is recommended considering the location of private receptors and any access or other relevant issues (MB, 2018).</li> <li>The Noise Management Plan should include relevant EPL conditions and demonstrate the noise monitoring procedure addresses all relevant conditions. An exception is the current EPL Condition L4.2 for which strict compliance is not considered reasonable, however the NMP should ensure compliance with the intent of this condition (that noise compliance measurement results correctly represent mining or shuttle train noise levels at each residence) (MB, 2018).</li> <li>The Noise Management Plan should provide a detailed description and/or plan of each exact noise monitoring location to demonstrate compliance with the intent of EPL Condition L4.2 (MB, 2018).</li> </ul>

Management Plan	Key Commitments	Comments
Water (including the SWMP and GWMP)	<ul style="list-style-type: none"> <li>Excess water within the DCM water management system is disposed of through on-site irrigation of water from the MWD.</li> <li>Water shall be treated before being released from the site to achieve: <ul style="list-style-type: none"> <li>a pH range of 6 to 8;</li> <li>&lt;50 milligrams per litre (mg/L) of suspended solids; and</li> <li>no visible oil and grease.</li> </ul> </li> <li>Following the completion of mining activities at the DCM, a final alignment of Coal Shaft Creek will be established, stabilised and revegetated prior to lease relinquishment.</li> <li>Section 8 of the GWMP contains a contingency plan to be implemented should any of the performance measures be exceeded.</li> <li>No more than a negligible impact on water quality in Coal Shaft Creek as a result of the Duralie Extension Project.</li> <li>No more than a negligible impact on water quality in Mammy Johnsons River as a result of the Duralie Extension Project.</li> </ul>	<ul style="list-style-type: none"> <li>Viewed irrigators during site inspection.</li> <li>Table 32 of the 2017 Annual Review contains an assessment of the performance indicators for Coal Shaft Creek and Mammy Johnsons River. There were some exceedances of the criteria reported e.g. SW2 exceeded criteria for pH, EC, turbidity and aluminium (RE, 2018). In the event that a performance indicator is or is likely to be exceeded, an assessment is made against the performance measure. If a performance measure is considered to have been exceedance, the Contingency Plan is implemented (MP pers comms). No performance measures were considered to have been exceeded for the minor exceedances described above as reported in the Annual Reviews.</li> </ul>
Waste	<ul style="list-style-type: none"> <li>Responsibilities by contractor Leighton Mining (Section 5).</li> <li>Waste minimisation such as segregation of waste, identify waste minimisation opportunities, provide suitable bins for waste segregation (Section 5.2).</li> <li>DCPL will seek opportunities for the reuse of materials. Sewerage effluent use on site in designated area and monitor. (Section 5.3).</li> <li>Waste commitments include: <ul style="list-style-type: none"> <li>Contaminated soils to bioremediation area;</li> <li>Hazardous waste stored separately;</li> <li>Used tyres disposed in pit with location and quantity recorded in a register;</li> <li>Do not receive waste from offsite. (Section 5.4).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>Update contractor to JR Richards in Section 5</b></li> <li>Reviewed consistent with consent</li> <li>Viewed bins on site and confirmed they were well maintained and easily accessible.</li> <li>Viewed example of JR Richards waste report dated 2/11/17.</li> <li><b>Section 7 References a Community Management and separate Coordinator. This need updating to current.</b></li> </ul>
Air Quality and Greenhouse Gas	<ul style="list-style-type: none"> <li>DCPL will do annual NGES Reporting (Section 2.4.1).</li> <li>Report energy usage publicly (Section 2.4.2).</li> <li>Section 3.1.1 references PM2.5.</li> <li>Describes additional dust mitigation measures if systematic exceedance of air criteria occurs (Section 4.1.4).</li> </ul>	<ul style="list-style-type: none"> <li><b>Amend sentence in Section 3.1.1 that states no PM2.5 criteria in NSW to reflect recent legislative changes.</b></li> <li>No additional dust mitigation measures required</li> </ul>

Management Plan	Key Commitments	Comments
	<ul style="list-style-type: none"><li>Describes proactive dust management measures e.g. use of water carts, minimum area for mining only disturbed (Section 6.1.1).</li></ul>	



***APPENDIX D***  
***Audited Documentation***

- DCPL (2017) Environmental Protection Licence 11701 Annual Returns (2014-15, 2015-16, 2016-17)
- DCPL (2017) Pollution Incident Response Management Plan
- DCPL (2012) Consultation Plan Additional Rail Noise Mitigation Measures
- DCPL (2017) Environmental Management Strategy
- DCPL (2015) Air Quality and Greenhouse Gas Management Plan
- DCPL (2017) Biodiversity Management Plan
- DCPL (2017) Blast Management Plan
- DCPL (2017) Giant Barred Frog Management Plan
- DCPL (2015) Heritage Management Plan
- DCPL (2017) Noise Management Plan
- DCPL (2015) Rehabilitation Management Plan
- DCPL (2015) Waste Management Plan
- DCPL (2017) Water Management Plan
- DCPL (2015) Mining Operations Plan
- DCPL (2014) Annual Review
- DCPL (2015) Annual Review
- DCPL (2016) Annual Review
- DCPL (2017) Annual Review
- Resource Strategies Duralie Open Pit Modification Environmental Assessment (Duralie)
- Trevor Brown & Associates (2014) Independent Environmental Audit Duralie Coal Mine Project

***APPENDIX E***  
***Plates from Site Inspection***



**Plate 1**  
**Duralie Hardstand Area near Administration**



**Plate 2**  
**Spill Kits**





**Plate 3**  
**Watercart in Clareval Pit**



**Plate 4**  
**Automatic Sprayers at Duralie ROM Bin**





**Plate 5**  
**Truck Maintenance Area**



**Plate 6**  
**Waste Tyres**



**Plate 7**  
**New Sediment Dam near Explosives Magazine**

***APPENDIX F***  
***Technical Specialist Reports***



23 February 2018

Duralie Coal Pty Ltd  
PO Box 168  
Gloucester NSW 2422

Ref: 2018 02 23 Duralie IEA - Surface Water.Docx

Attention: Michael Plain

Dear Michael

**Independent Environmental Audit  
Duralie Coal Mine**

**1 INTRODUCTION**

Hansen Bailey has been commissioned by Duralie Coal Pty Limited (DCPL) to conduct an independent surface water compliance audit against the development approvals held for the Duralie Coal Mine (Duralie).

Duralie was audited as approved under PA 08\_0203 and described in the Duralie Coal Mine Project EIS (1996).

The auditing period that this report applies to is from 30 November 2014 to 29 November 2017. This surface water compliance audit was conducted by Ross Edwards of Hansen Bailey.

The surface water audit consisted of a detailed desktop review of documentation, interviews with key SCPL staff and a field inspection of the mining areas and relevant surface water infrastructure. The audit was conducted in accordance with the '*Independent Audit Guideline, October 2015*' (Audit Guidelines) (DP&E, 2015).

## **2 SUMMARY OF AUDIT FINDINGS**

### **2.1 PREVIOUS AUDIT RECOMMENDATIONS**

No recommendations were made in relation to surface water or mine water management.

### **2.2 COMPLIANCE WITH DEVELOPMENT CONSENTS, LICENCES AND APPROVALS**

The following non-compliances were identified in relation to development consent PA 08\_0203:

- PA 08\_0203 Schedule 3, Condition 25 – There was a non-compliant discharge from the first flush drainage system in August 2015. The first flush drains have sensor arrays that direct runoff from irrigation areas to either the pit or receiving environment, depending on quality of the runoff and the receiving waters. Due to a power cut, the system automatically defaulted to directing runoff to the receiving environment. The runoff did not meet the water quality criteria for release from site and resulting in the non-compliant discharge of 4 m<sup>3</sup> of site runoff. The release ceased when MP manually redirected the runoff to the pit. DCPL subsequently amended the first flush drainage system to drain to the main pit water storage by default, added battery backups in the event of a power outage and introduced a system of escalating alarms in the event that water quality criteria are exceeded during a release. These measures should prevent this incident recurring. The incident was reported and no further action was taken. Supporting documentation was sighted as part of this audit.

No other non-compliances were identified in relation to other licences and approvals.

### **2.3 COMPLIANCE WITH MANAGEMENT PLANS, PROGRAMS AND STRATEGIES**

Operations are broadly consistent with the key commitments presented in the WMP and subordinate plans. However, there were some minor exceedances of the surface water criteria that represent performance indicators for Coal Shaft Creek and Mammy Johnsons River (e.g. SW2 exceeded criteria for pH, EC, turbidity and aluminium). There is no evidence that this is related to mining activities and is most likely due to variations in background water quality.

### **2.4 COMPLIANCE WITH ENVIRONMENTAL ASSESSMENTS**

Operations are broadly consistent with the key predictions and commitments presented in the environmental assessment documentation.

## 2.5 ENVIRONMENTAL PERFORMANCE

- The existing creek diversion was inspected (limited) during the site inspection. The diversion appears to be stable (largely due to the presence of hard engineering structures), well vegetated and is generally fairly typical of an older-style creek diversions.
- There has been a clear effort to minimise contained catchments draining to the mine by diverting clean runoff around mining areas.
- The contained catchments generally appear to be well managed with no significant erosion observed.
- Erosion and sediment controls relating to surface water drainage appear to be generally well managed and in acceptable condition.
- The dam/water storage embankments appear to be well managed, free of trees and significant erosion (based upon limited observations).
- The irrigation areas appear to be contained and there is a procedure in place to ensure that irrigation does not generate surface runoff.
- The septic effluent irrigation areas appear to be contained and well managed.
- The operations site water balance refers to a surplus under all circumstances. Site personnel (MP pers. comm.) advised that despite significant efforts to maximise evaporation loss and irrigation, the site operates a small surplus in drier than average years, and a large surplus in wetter than average years. This indicates that there will be an increasing water inventory over time. Site personnel (MP pers. comm.) advised that the Clareval and Weismantel pits are currently inactive and there is significant water storage capacity available in each. The current water management strategy therefore involves the storage of excess mine water in the inactive Clareval and Weismantel pits. Environmental assessment documentation indicates that the water management system (including these pits) is predicted to have sufficient available storage capacity to accommodate the estimated increases in inventory and ensure a low potential for discharge from the water management system. The effects of the future recommencement of mining in these pits on the water management system is beyond the scope of this audit and is not discussed in this report.
- For baseline data, the Surface Water Management Plan (SWMP) refers to the monitoring data section of the Duralie website. The website shows data spanning the period 2012 to present but it is not clear (following the documentation) which data constitute the 'baseline' and therefore contribute to the trigger levels. Baseline data was presented in the original environmental assessment documentation, although it is unclear whether this is considered the established baseline.

- The Site Water Balance report is presented in Appendix 1 of the approved Water Management Plan. The Site Water Balance report includes an Annual Water Balance Review report at Attachment 1. This attachment is noted as 'available on request' rather than included in the WMP.

## 2.6 RECOMMENDATIONS FOR IMPROVEMENT

It is recommended that:

- Daily sampling requirement under EPL clause M2.3 is removed;
- Any future updates to the SWMP include additional details on the final void and Coal Shaft Creek reconstruction designs, closure objectives and specific performance criteria;
- Consultation is undertaken for any future revisions to the WMP or approval from DP&E sought not to consult;
- The mine closure planning adequately address the need for any contingency in the event that mine plan timings or availability of the water storages change;
- All attachments are included in the WMP; and
- The SWMP include a summary of the baseline results and a brief overview of the information.

## 3 CLOSURE

Should you have any queries in relation to this letter, please contact Ross Edwards on (07) 3226 0900.

Yours faithfully  
**HANSEN BAILEY**



Ross Edwards  
*Senior Environmental Scientist*

*Attach: Tables 1 to 3 – Duralie IEA Surface Water Conditions*

**Table 1**  
**Duralie PA 08\_0203 Consolidated Conditions of Approval**

Sched	Cond	Requirement	Status	Comment
<b>Water Discharges</b>				
<b>3</b>	<b>25</b>	<p>The Proponent shall ensure that:</p> <p>(a) mine water or runoff from the irrigation area is not discharge directly into Mammy Johnsons River; and</p> <p>(b) all surface water discharges from the site comply with section 120 of the POEO Act or, if an EPL 12 has been issued regulating water discharges from the site, the discharge limits (both volume and quality) set for the project in the EPL.</p>	<b>Not compliant</b>	<p>a) The approved Irrigation Areas (shown on Figure 3 of the Surface Water Management Plan) drain to mine water storages. Site inspection confirmed that the irrigation areas are within the contained catchments of mine water storages. Mine water and runoff from the irrigation areas does not discharge directly to Mammy Johnsons River.</p> <p>b) <b>There was a non-compliant discharge from the first flush drainage system in August 2015. The first flush drains have sensor arrays that direct runoff from irrigation areas to either the pit or receiving environment, depending on quality of the runoff and the receiving waters. Due to a power cut, the system automatically defaulted to directing runoff to the receiving environment. The runoff did not meet the water quality criteria for release from site and resulting in the non-compliant discharge of 4 m3 of site runoff. The release ceased when MP manually redirected the runoff to the pit.</b></p> <p>DCPL subsequently amended the first flush drainage system to drain to the main pit water storage by default, added battery backups in the event of a power outage and introduced a system of escalating alarms in the event that water quality criteria are exceeded during a release. These measures should prevent this incident recurring.</p> <p>The incident was reported and no further action was taken. Supporting documentation was sighted as part of this audit.</p>

Sched	Cond	Requirement	Status	Comment
<b>Irrigation</b>				
3	28	The Proponent shall carry out irrigation: (a) only in the irrigation area; and (b) in accordance with the irrigation system, including the irrigation management plan, in the approved Surface Water Management Plan under Condition 29 of Schedule 3.	Compliant	a) The approved Irrigation Areas (shown on Figure 3 of the Surface Water Management Plan) drain to mine water storages. Site inspection confirmed that the irrigation areas are within the contained catchments of mine water storages. b) Irrigation not currently undertaken onsite. MP (pers. comm.) confirmed that irrigation was undertaken in accordance with the SWMP during the audit period.
<b>Water Management Plan</b>				
3	29	The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with EPA and NOW by suitably qualified and experienced persons whose appointment has been approved by the Secretary, and submitted to the Secretary within 3 months of the date of this approval. In addition to the standard requirements for management plans (see Condition 2 of Schedule 5), this plan must include: (a) a Site Water Balance that: • includes details of: - sources of water supply; - water use on site; - water management on site; and - reporting procedures; and • describes what measures would be implemented to minimise potable water use on site; and (b) a Surface Water Management Plan that includes: • a detailed description of the water management system on site, including the: - clean water diversion systems; - erosion and sediment controls; - water storages; and	Compliant	Viewed DP&E approval letter dated 5/09/17. There is no evidence that the EPA, DPI-Water or DPI were consulted in preparing the WMP. <b>It is recommended that consultation is undertaken for any future revisions or approval from DP&amp;E sought not to consult.</b> a) Appendix 1 of the WMP includes a Site Water Balance that broadly meets the stated requirements. b) Appendix 2 of the WMP includes a Surface Water Management Plan that broadly meets the stated requirements. Coal shaft creek is yet to be reconstructed. Haul road needs to be deconstructed prior. The SWMP describes the management of the post closure final void lakes and Coal Shaft Creek. <b>It is recommended that any future updates to the SWMP include additional details on the final void design, Coal Shaft Creek reconstruction, closure objectives and specific performance criteria.</b>

Sched	Cond	Requirement	Status	Comment
		<ul style="list-style-type: none"> <li>- irrigation system;</li> <li>• an irrigation management plan for the irrigation system under the water management system, which includes: <ul style="list-style-type: none"> <li>- salinity trigger levels for controlling discharges from the irrigation areas to Coal Shaft Creek and the unnamed tributary, representing the 80th percentile value of the relevant data set for the creek/unnamed tributary and Mammy Johnsons River in accordance with the methodology in ANZECC/ARMCANZ (2000), Australian Water Quality Guidelines for Fresh and Marine Water Quality, National Water Quality Management Strategy; and</li> <li>- provision of an automated first flush system for the additional irrigation areas (Northern Areas) shown in the figure in Appendix 4;</li> </ul> </li> <li>• a plan for identifying, extracting, handling, and the long-term storage of potentially acid forming material on site;</li> <li>• detailed plans, including design objectives and performance criteria, for: <ul style="list-style-type: none"> <li>- the reconstruction of Coal Shaft Creek;</li> <li>- design and management of the final voids;</li> <li>- reinstatement of drainage lines on the rehabilitated areas of the site;</li> </ul> </li> <li>and</li> <li>- control of any potential water pollution from the rehabilitated areas of the site;</li> <li>• performance criteria, including trigger levels for investigating any potentially adverse impacts, for the following: <ul style="list-style-type: none"> <li>- the water management system;</li> <li>- surface water quality of the Unnamed Tributary, Coal Shaft Creek and Mammy Johnsons River;</li> <li>- the stream and vegetation health of the Unnamed Tributary, Coal Shaft Creek and Mammy Johnsons River; and</li> <li>- channel stability of the reconstructed Coal Shaft Creek;</li> </ul> </li> <li>• performance criteria for surface water quality attributes relevant to water quality impacts on biological diversity and aquatic ecological integrity,</li> </ul>		

Sched	Cond	Requirement	Status	Comment
		<p>including salinity, heavy metals, sediment load, pH, hardness and biological oxygen demand;</p> <ul style="list-style-type: none"> <li>• trigger levels representing the 80th percentile value of the relevant reference data set in accordance with the methodology in ANZECC/ARMCANZ (2000), Australian Water Quality Guidelines for Fresh and Marine Water Quality, National Water Quality Management Strategy, to determine the levels for investigating any potentially adverse impacts;</li> <li>• a program to monitor: <ul style="list-style-type: none"> <li>- the effectiveness of the water management system;</li> <li>- surface water flows and quality in the Unnamed Tributary, Coal Shaft Creek and Mammy Johnsons River, including utilization of existing monitoring sites together with an additional monitoring site in Mammy Johnsons River immediately downstream of the mixing zone of the confluence of Coal Shaft Creek and Mammy Johnsons River;</li> <li>- the stream and riparian vegetation health of the unnamed tributary, Coal Shaft Creek and Mammy Johnsons River; and</li> <li>- a channel stability of the reconstructed Coal Shaft Creek;</li> </ul> </li> <li>• a program of ecotoxicity testing of water in water storages on-site and at selected water monitoring sites in Mammy Johnsons River and macroinvertebrate sampling at selected monitoring sites in Mammy Johnsons River;</li> <li>• a plan to respond to any exceedances of the performance criteria and mitigate and/or offset any adverse surface water impacts of the project; and</li> </ul>		



**Table 2**  
**Other Licences and Approvals**

Document	Status	Comments
EPL 11701	Compliant	<p>L1.1 No water pollution incidences, however a discharge event occurred on 23/08/15 as discussed in <b>Table 1</b>. No prosecution under the POEO Act.</p> <p>L2.4 Limits relate to First Flush System monitoring points. Limits are correctly referenced in the Surface Water Monitoring spreadsheets available on website (last published 11/12/17).</p> <p>O4.1 Three separate septic systems utilised. Irrigated to one area. The site inspection confirmed that the septic irrigation area appears to be contained and adequately managed.</p> <p>O4.2 The approved Irrigation Areas (shown on Figure 3 of the Surface Water Management Plan) drain to mine water storages. Site inspection confirmed that the irrigation areas are within the contained catchments of mine water storages. Mine water and runoff from the irrigation areas does not discharge directly to Mammy Johnsons River.</p> <p>O4.3 Runoff from irrigation areas controlled via first flush system. Real-time and daily monitoring maintained and reported. Viewed continuous monitoring data last updated for November 2017. Viewed Annual Report for 2017 with summary of discharge events in Table 1.</p> <p>O6.2 Three separate septic systems utilised. Irrigated to one area. The site inspection confirmed that the septic irrigation area appears to be contained and adequately managed.</p> <p>M2.1-2.2 Viewed monthly reporting.</p> <p>M2.3 Viewed site water management and surface water data. Surface water data last updated 27/10/17. Confirmed daily monitoring is undertaken following a discharge event. <b>Recommend daily sampling under this condition is removed.</b> Viewed Sediment Dam monitoring data.</p>

**Table 3  
Management Plans**

Management Plan	Key Commitments	Comments
Water (including the SWMP and GWMP)	<ul style="list-style-type: none"> <li>Excess water within the DCM water management system is disposed of through on-site irrigation of water from the Mine Water Dam.</li> <li>Water shall be treated before being released from the site to achieve: <ul style="list-style-type: none"> <li>a pH range of 6 to 8;</li> <li>&lt;50 milligrams per litre (mg/L) of suspended solids; and</li> <li>no visible oil and grease.</li> </ul> </li> <li>Following the completion of mining activities at the DCM, a final alignment of Coal Shaft Creek will be established, stabilised and revegetated prior to lease relinquishment.</li> <li>No more than a negligible impact on water quality in Coal Shaft Creek as a result of the Duralie Extension Project.</li> <li>No more than a negligible impact on water quality in Mammy Johnsons River as a result of the Duralie Extension Project.</li> </ul>	<ul style="list-style-type: none"> <li>Viewed irrigators and first flush drainage arrangement during site inspection.</li> <li>Table 32 of the 2017 Annual Review contains an assessment of the performance indicators for Coal Shaft Creek and Mammy Johnsons River. <b>There were some exceedances of the criteria reported e.g. SW2 exceeded criteria for pH, EC, turbidity and aluminium.</b></li> </ul>



## Duralie Coal Mine Rehabilitation Audit

Report Number 634.10069A-R01

21 February 2018

Hansen Bailey Pty Ltd  
6/127-129 John Street  
Singleton NSW 2330

Version: v0.1

## Duralie Coal Mine Rehabilitation Audit

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This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of Hansen Bailey Pty Ltd. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

### DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
634.10069A-R01-v0.1	21 February 2018	Clayton Richards		
634.10069A-R01-v0.1	30 January 2018	Clayton Richards		

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## **1 INTRODUCTION**

In accordance with the Development Consent of Duralie Coal Mine PA 08\_0203, every three years an independent environmental audit will be undertaken to the satisfaction of the Department of Planning and Environment (DP&E).

Hansen Bailey Pty Ltd (Hansen Bailey) is undertaking the independent environmental audit. SLR Consulting was engaged by Hansen Bailey to undertake the rehabilitation component of this audit of the Duralie Coal Mine. The rehabilitation component of this audit is to include an assessment of the adequacy of rehabilitation and monitoring program.

This report has been prepared on the basis of a site inspection, a preliminary review of site documentation and consideration of limited material evidence that was made available during the site inspections.

The following planning approvals and documents were reviewed:

- Duralie Coal Mine Project Approval PA 08-0203;
- Duralie Coal Mine Rehabilitation Management Plan (May 2015); and
- Duralie Coal Mine Mining Operations Plan (2015).

### **1.1 Audit Personnel**

The site visit component of the rehabilitation audit was conducted at the Duralie Coal Mine on the 8<sup>th</sup> December 2017 by SLR. Clayton Richards (SLR) was assisted during the audit by Michael Plain (Environment and Community Superintendent).

### **1.2 Audit Context**

As part of the rehabilitation audit, SLR conducted physical inspections of the rehabilitation sites within the Duralie Coal Mine. This Rehabilitation Audit report is aimed at a high level assessment, linking the current state of rehabilitation with the compliance documents for the Duralie Coal Mine, whilst highlighting general recommendations for rehabilitation management and monitoring.

## 2 COMPLIANCE STATUS

Table 1 Duralie PA 08\_0203 Consolidated Conditions of Approval

Sched	Cond	Requirement	Status	Comments
<b>REHABILITATION</b>				
<b>Rehabilitation Objectives</b>				
3	55	The Proponent shall rehabilitate the site to the satisfaction of the Secretary of DTIRIS. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in the figures in Appendix 7), and comply with the objectives in Table 12.	Compliant	The site has established suitable landforms and successful rehabilitation of forest communities are well underway to final completion criteria. Ecological succession was observed in the older rehabilitation. The proposed mine plans provide for rehabilitation of active mining areas and minimization of final voids.

Sched	Cond	Requirement	Status	Comments																						
		<div>Table 12: Rehabilitation Objectives</div> <table><thead><tr><th>Feature</th><th>Objective</th></tr></thead><tbody><tr><td>Mine site (as a whole of the disturbed lane and water)</td><td>Safe, stable &amp; non-polluting, fit for the purpose of the intended post-mining land use(s).</td></tr><tr><td>Surface Infrastructure</td><td>To be decommissioned and removed, unless the Secretary agrees otherwise.</td></tr><tr><td>Coal Shaft Creek Diversion</td><td>Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining.</td></tr><tr><td>Landforms</td><td><p>Final landforms sustain the intended land use for the post-mining domain(s).</p><p>Final landforms are consistent with and complement the topography of the surrounding region to minimise the visual prominence of the final landforms in the post-mining landscape.</p><p>Final landforms incorporate design relief patterns and principles for consistent with natural drainage.</p></td></tr><tr><td>Other land affected by the project</td><td><p>Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of:</p><ul style="list-style-type: none"><li>• local native plant species; and</li><li>• a landform consistent with the surrounding environment.</li></ul></td></tr><tr><td>Water quality</td><td><p>Water retained on site is fit for the intended land use(s) for the post-mining domain(s).</p><p>Water discharged from site is consistent with the baseline ecological, hydrological and geomorphic conditions of the creeks prior to mining disturbance. Water management is consistent with the regional catchment management strategy.</p></td></tr><tr><td>Native flora and fauna habitat and corridors</td><td>Size, locations and species of native tree lots and corridors are established to sustain biodiversity habitats. Species are selected that re-establishes and complements regional and local biodiversity.</td></tr><tr><td>Final void</td><td>Safe, stable and non-polluting</td></tr><tr><td>Post-mining agricultural pursuits</td><td>The land capability classification for the relevant nominated agricultural pursuit for each domain is established and self-sustaining within 5 years of land use establishment (first planting of vegetation).</td></tr><tr><td>Community</td><td>Minimise the adverse socio-economic effects associated with mine closure.</td></tr></tbody></table>	Feature	Objective	Mine site (as a whole of the disturbed lane and water)	Safe, stable & non-polluting, fit for the purpose of the intended post-mining land use(s).	Surface Infrastructure	To be decommissioned and removed, unless the Secretary agrees otherwise.	Coal Shaft Creek Diversion	Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining.	Landforms	<p>Final landforms sustain the intended land use for the post-mining domain(s).</p> <p>Final landforms are consistent with and complement the topography of the surrounding region to minimise the visual prominence of the final landforms in the post-mining landscape.</p> <p>Final landforms incorporate design relief patterns and principles for consistent with natural drainage.</p>	Other land affected by the project	<p>Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of:</p> <ul style="list-style-type: none"><li>• local native plant species; and</li><li>• a landform consistent with the surrounding environment.</li></ul>	Water quality	<p>Water retained on site is fit for the intended land use(s) for the post-mining domain(s).</p> <p>Water discharged from site is consistent with the baseline ecological, hydrological and geomorphic conditions of the creeks prior to mining disturbance. Water management is consistent with the regional catchment management strategy.</p>	Native flora and fauna habitat and corridors	Size, locations and species of native tree lots and corridors are established to sustain biodiversity habitats. Species are selected that re-establishes and complements regional and local biodiversity.	Final void	Safe, stable and non-polluting	Post-mining agricultural pursuits	The land capability classification for the relevant nominated agricultural pursuit for each domain is established and self-sustaining within 5 years of land use establishment (first planting of vegetation).	Community	Minimise the adverse socio-economic effects associated with mine closure.		
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Community	Minimise the adverse socio-economic effects associated with mine closure.																									
Progressive Rehabilitation																										
3	56	The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.	Compliant	Progressive rehabilitation of the site was observed. Including active final shaping in preparation for Rehabilitation.																						
Rehabilitation Management Plan																										
3	57	The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Secretary of DTIRIS. This plan must:	Compliant	a) HB b) Section 3.3																						



Sched	Cond	Requirement	Status	Comments
		<p>(a) be prepared in consultation with the Department, OEH, NOW, Council and the CCC;</p> <p>(b) be prepared in accordance with any relevant DRE guideline;</p> <p>(c) build, to the maximum extent practicable, on the other management plans required under this approval; (c1) address all aspects of mine closure and rehabilitation, including post-mining land use domains, rehabilitation objectives, completion criteria and rehabilitation monitoring and management;</p> <p>(d) provide for scientific knowledge gained during the rehabilitation, to be made publicly available;</p> <p>(e) be submitted to the Secretary of DTIRIS for approval within 3 months of the date of this approval, unless otherwise agreed by the Secretary.</p>		<p>c) All (Specifically Section 5.6 Offset strategy)</p> <p>c1) All Document</p> <p>d) Section 10</p> <p>e) Compliant – Revised RMP approved by DTIRIS on 31<sup>st</sup> May 2013.</p>

### 3 SUMMARY OF ON GROUND FINDINGS

The site inspection covered areas of Duralie Coal Mine rehabilitation at varying stages of development. The sites were inspected for compliance against the documents listed in **Section 1** and detailed in **Section 2** above. Furthermore the sites were inspected for general health, status of erosion, ground cover, species diversity, tree density and weed status to provide on ground observations as to the rehabilitation being on the path towards completion criteria. The results at each inspection site are detailed below in **Section 4**, however the below paragraphs provide a summary of the overall findings from the on ground inspections.

The non-vegetated areas across site were limited to active voids, mining areas, infrastructure or undergoing final shaping, ripping and seeding. The rehabilitated areas were all very healthy, with adequate ground cover to protect from erosion. It was evident that the rehabilitation was being actively managed for weeds and pest plant species.

The areas of rehabilitation were in accordance with the planned staging of areas approved in the relevant Mining Operations Plan. Active final shaping and rehabilitation was observed on site.

The rehabilitation objectives for the Duralie Coal Mine are detailed above in Section 2 and tracking of these general requirements are summarised below:

- The rehabilitation to forest communities is well established having observed early rehabilitation from 2008 as shown in Site 3. The rehabilitation includes adequate ground cover, mid storey and dominant trees. The more recent rehabilitation appears to also be on track with good success of acacias and grasses.

The individual inspection sites were used to provide photographic records of the on ground rehabilitation health and compliance status against documented conditions detailed in **Section 2**. These sites can be located and verified in future audits and to track progress of rehabilitation and compare previous audit findings.

### 4 REHABILITATION INSPECTION SITES

The site visit component of the rehabilitation audit was conducted at the Duralie Coal Mine on the 8th December 2017 by SLR. The inspection included a drive around various areas of the site with four inspection sites recorded as shown on **Figure 1**. Sites were inspected for condition of rehabilitation against consent conditions and management plan requirements. The following sites were observed and general comments/recommended actions are noted below.



#### 4.1 Site 1: View of Rehabilitation along eastern edge of mine area

**Coordinates:** Site 1A Lat: -32.283111°, Long: 151.943280°  
Site 1B Lat: -32.296515°, Long: 151.951485°

**Relevant Conditions:** Duralie PA 08\_0203 Consolidated Conditions of Approval - Rehabilitation Objectives, Schedule 3, Condition 55. The Proponent shall rehabilitate the site to the satisfaction of the Secretary of DTIRIS. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in the figures in Appendix 7), and comply with the objectives in Table 12. And Schedule 3 Condition 56. The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.

**Observations:** Compliant. The area of trees at the foot of the overburden dump will continue once final shaping is completed. The landform and trees will be consistent with the surrounding landform, as per Plate 2 which shows the southern rehabilitation along the horizon.

**Recommended Actions:** Continue rehabilitation techniques and apply upon the final shaping of the overburden emplacements. Continue to monitor and manage weed species as required.



**Plate 1:** Site 1A View of forest rehabilitation along eastern edge of active mine area



**Plate 2:** Site 1B View of forest rehabilitation along south eastern edge of mine



## 4.2 Site 2: Mine Rehabilitation to Forest Community (Est 2010)

**Coordinates:** Lat: -32.292186°, Long: 151.947096°

**Relevant Conditions:** Duralie PA 08\_0203 Consolidated Conditions of Approval - Rehabilitation Objectives, Schedule 3, Condition 55. The Proponent shall rehabilitate the site to the satisfaction of the Secretary of DTIRIS. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in the figures in Appendix 7), and comply with the objectives in Table 12 and Schedule 3 Condition 56. The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.

**Observations:** Compliant. The mine rehabilitation to forest is establishing well with healthy trees and new growth evident. As the rehabilitation develops the successional stages of tree dominance and understorey development will occur. Trees were also noted as flowering and developing seeds.

**Recommended Actions:** Continue to monitor and manage weed species and species diversity as required.



**Plate 3: Site 2 Mine rehabilitation adjacent unmined forest (Northern view)**



**Plate 4: Site 2 Mine rehabilitation adjacent unmined forest (Southern View)**

### 4.3 Site 3: Mine Rehabilitation to Forest Community (Est 2008)

**Coordinates:** Lat: -32.298541°, Long: 151.947351°

**Relevant Conditions:** Duralie PA 08\_0203 Consolidated Conditions of Approval - Rehabilitation Objectives, Schedule 3, Condition 55. The Proponent shall rehabilitate the site to the satisfaction of the Secretary of DTIRIS. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in the figures in Appendix 7), and comply with the objectives in Table 12. And Schedule 3 Condition 56. The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.

**Observations:** Compliant. The mine rehabilitation to forest is well established with healthy trees, second generation saplings evident as well as some successional dying of acacias. Some Acacias were observed in flower and some Eucalypts hard set seed. Thick ground cover provided stability from erosion.

**Recommended Actions:** Continue to monitor and manage weed species and species diversity as required.



**Plate 5:** Site 3 Mine rehabilitation (Est 2008) – large Spotted Gums.



**Plate 6:** Site 3 Mine rehabilitation (Est 2008) – Ground cover and Acacias dying off.



#### 4.4 Site 4: Shaping and topsoiling of Emplacement Areas

**Coordinates:** Lat: -32.285891°, Long: 151.940428°

**Relevant Conditions:** Duralie PA 08\_0203 Consolidated Conditions of Approval - Rehabilitation Objectives, Schedule 3, Condition 55. The Proponent shall rehabilitate the site to the satisfaction of the Secretary of DTIRIS. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in the figures in Appendix 7), and comply with the objectives in Table 12. And Schedule 3 Condition 56. The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.

**Observations:** Compliant. Areas being shaped, topsoiled and rehabilitated once active mining has ceased in the area.

**Recommended Actions:** Continue same process of rehabilitation as per previous efforts to ensure consistent results.



**Plate 7: Site 4 Final shaping of new rehabilitation area.**



**Plate 8: Site 4 Topsoil stockpiles for new rehabilitation area.**

26 February 2018

Dianne Munro  
Principal  
Hansen Bailey  
6/127-129 John Street  
Singleton NSW 2330

**DURALIE COAL MINE 2017 INDEPENDENT ENVIRONMENTAL AUDIT -  
ECOLOGY**

Dear Dianne,

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Cumberland Ecology has been commissioned by Hansen Bailey Environmental Consultants (Hansen Bailey) to conduct the ecology component of the 2017 Independent Environmental Audit of the Duralie Coal Mine.

This letter contains the following:

- **Appendix A:** Compliance table; and
- **Appendix B:** Photographs.

## **1. Background**

Duralie Coal Pty Ltd (DCPL) is a subsidiary of Yancoal Australia Limited (YAL) and operates the Duralie Coal Mine in the Gloucester Basin, NSW. In accordance with the development consent conditions, DCPL are required to undertake an Independent Environmental Audit (IEA) of the operations for the three year period from 30 November 2014 to 29 November 2017. Hansen Bailey has been engaged by DCPL to conduct the IEA.

The requirement for an IEA is set out in the development consent conditions (Duralie PA 08\_0203 Consolidated Conditions of Approval). This IEA includes a review of compliance with ecology requirements as per the respective conditions of consent for the project and any management plans and strategies required under the conditions, as well as management and monitoring data arising from the implementation of such plans and strategies.



## 2. Methodology

### 2.1.1 Document Review

In order to complete the audit, the following documents for the Duralie Coal Mine have been reviewed and/or considered:

1. *Duralie Coal Mine Project Approval (PA 08\_0203) (as modified);*
2. *Duralie Coal Mine Biodiversity Management Plan (BMP) (August 2017);*
3. *Duralie Coal Mine Giant Barred Frog Management Plan (GBFMP) (August 2017);*
4. *Duralie Coal Mine Giant Barred Frog Study (GBFS) (March 2012);*
5. *Duralie Coal Mine Rehabilitation Management Plan (May 2015);*
6. *Duralie Coal Mine Project Independent Environmental Audit (November 2014);*
7. *Duralie Coal Mine Annual Review 2016 (October 2016);*
8. *Duralie Coal Mine Annual Review 2015 (October 2015); and*
9. *Duralie Coal Mine Annual Review 2017 (September 2017).*

### 2.1.2 Site Interview and Inspection

Following the initial desktop review of documentation, Katrina Wolf (Principal, Cumberland Ecology) attended a site interview and inspection on 14 December 2017. Ms Wolf consulted with Michael Plain (Yancoal) both in the site office and during the site inspection.

The site inspection included a visit to the Duralie Extension Project Offset and the North-West Offset Area (also referred to as the Northern Offset Area and Duralie Extension Offset – Northern), as shown in Figure 6 of the BMP, and the portion of the mine rehabilitation area located immediately north of the Bowen's Road North Offset (refer to Figure 6 of the BMP).

Key observations from the site inspection include:

- Biodiversity offset areas:
  - Presence of fencing and signage (see **Photograph 1** and **Photograph 2**);
  - Natural regeneration of canopy species observed adjacent to remnant canopy trees (see **Photograph 3**);
  - Areas subject to revegetation works showing evidence of successful germination of seeds (see **Photograph 4**);
  - Presence of nest boxes (see **Photograph 5**), including various box sizes;

- Existing native grasses and understorey species observed adjacent to revegetation works;
- Mine rehabilitation area:
  - Extensive cover of canopy and shrubs;
  - Various age classes of rehabilitation; and
  - Established stags (see **Photograph 6**).

### 3. Key Findings

In the attached table in **Appendix A**, all development consent conditions relating to ecology have been reproduced. The compliance with each condition is indicated in the table and additional comments added in the final column where necessary.

A review of the aforementioned documents and results of the site interview and inspection indicates that the majority of the relevant biodiversity conditions have been or are being addressed. The documents provided appear to be largely adequate in addressing the relevant conditions.

However, a few items are considered to be not compliant and fall within the categories of 'non-compliant' or 'administrative non-compliance' as described within the NSW Government's *Independent Audit Guideline* (2015).

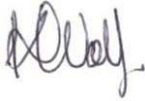
The main reasons for conditions not being met include:

- Non-compliant: Where required task has not been undertaken, where clearing works commenced prior to approved conditions, or
- Administrative non-compliance: Where item was addressed outside of the required timeframe.

One key area identified for improvement in relation to the relevant biodiversity conditions is clarification within the BMP regarding a number of components specifically relevant to the Duralie offsets. Given that the BMP addresses multiple offsetting requirements (i.e. Duralie Mine, Duralie Mine Extension and Bowen's Road North), it is recommended that the BMP be updated to provide clarity in respect to biodiversity values, including fauna habitat, within the offset areas. These recommended amendments are outlined within **Appendix A**.

If you have any questions about matters raised in the tables or in this letter, please contact me on (02) 9868 1933.

Yours sincerely,



Katrina Wolf

Principal

[katrina.wolf@cumberlandecology.com.au](mailto:katrina.wolf@cumberlandecology.com.au)

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*Appendix A*

Compliance Table: Duralie PA 08\_0203

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Sched	Cond	Requirement	Assessment	Risk Level	Comments
<b>Duralie PA 08_0203 Consolidated Conditions of Approval: BIODIVERSITY</b>					
<b>Giant Barred Frog</b>					
3	30	The Proponent shall ensure that the project has no more than a negligible impact on the local Giant Barred Frog population.	Compliant	n/a	No issued identified within this audit. Table 8 of the GBFMP includes this requirement as a project performance measure with associated performance indicators.
3	31	The Proponent shall prepare a Giant Barred Frog Study to the satisfaction of the Secretary. This study must:	-	-	See below for individual assessment of each component.
		(a) be prepared, in consultation with OEH, by a suitably qualified and experienced person, whose appointment has been endorsed by the Secretary;	Compliant	n/a	Previous audit confirmed as compliant.
		(b) be submitted to the Secretary for approval within 2 months of this approval;	Compliant	n/a	Previous audit confirmed as compliant.
		(c) investigate the extent of the Giant Barred Frog population in the Mammy Johnsons River Catchment;	Compliant	n/a	Previous audit confirmed as compliant.
		(d) assess the condition of the Giant Barred Frog habitat where it is recorded within the Catchment, including the presence of any Chytrid fungus;	Compliant	n/a	Previous audit confirmed as compliant.
		(e) analyse the age structure of the frog population and the health of tadpoles; and	Compliant	n/a	Previous audit confirmed as compliant.
		(f) document the relevant hydrological conditions both prior to and during the study, including rainfall, water flows and quality in Mammy Johnsons River, both upstream and downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek, and in Coal Shaft Creek.	Compliant	n/a	Previous audit confirmed as compliant.
3	31A	The Proponent shall review and expand the Giant Barred Frog Study approved under Condition 31 into a longitudinal study of the life cycle of the 'population' of the Giant Barred Frog over the lifetime of the mine and for a 5 year period after the mine ceases to operate (the Giant Barred Frog Long-term Study). The Giant Barred Frog Long-term Study must include to include:	Not Triggered	n/a	The GBFMP indicates that the Giant Barred Frog Long-term Study will be prepared within 3 months from commencement of irrigation activities associated with the Project's irrigation areas. Section 6 of the GBFMP outlines that irrigation activities had not commenced as of October 2015. Section

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					4.3 of the Irrigation Management Plan (dated July 2016) contained within the Water Management Plan indicates that no irrigation activities have commenced within the Project's irrigation areas. The 2015, 2016 and 2017 do not indicate that irrigation activities occurred within the additional irrigation areas.  The latest version of the GBFMP was approved by DP&E on 5 September 2017.
		(a) clarification as to what exactly constitutes 'the population' of the Giant Barred Frog for the purposes of monitoring, and that this is the population at the location most susceptible to impacts from the mine;	Not Triggered	n/a	As above.
		(b) baseline data collected for sites (transects) below and above the site to be used for comparison with data collected in the future;	Not Triggered	n/a	As above.
		(c) testing to determine if any changes to Giant Barred Frog populations identified downstream of the site on the monitoring transects are a result of impacts from the mining operation;	Not Triggered	n/a	As above.
		(d) a requirement for detailed capture/recapture studies using 'Pollocks robust design' at sites above and below the confluence of Coal Shaft Creek and Mammy Johnsons River, and at a series of control sites in the upper reaches of the catchment;	Not Triggered	n/a	As above.
		(e) a requirement that individual frogs encountered during the study should be tagged (or scanned);	Not Triggered	n/a	As above.
		(f) a requirement that transects be of a fixed length (at least 200m), and that the area searched on each occasion be the same;	Not Triggered	n/a	As above.
		(g) a requirement that transects are to be randomly selected;	Not Triggered	n/a	As above.
		(h) a requirement that testing be conducted on a minimum of three nights, on four occasions per season (12 visits to each transect in each season) over the life of the mine, and for a 5 year period after the mine ceases to operate;	Not Triggered	n/a	As above.

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		(i) a requirement that individual frogs encountered during the study be swabbed for the presence of the Chytrid fungus;	Not Triggered	n/a	As above.
		(j) a requirement that weather conditions and search effort should be recorded during each census at the transect site.	Not Triggered	n/a	As above.
3	32	The Proponent shall prepare and implement a Giant Barred Frog Management Plan to the satisfaction of the Secretary. This plan must:	-	-	See below for individual assessment of each component. The previous audit confirmed that the GBFMP was approved by DP&E in March 2012. As this plan has been revised since this approval, further assessment of compliance has been undertaken for the current version of the plan reviewed as part of this audit.
		(a) be prepared in consultation with OEH by a suitably qualified and experienced person, whose appointment has been endorsed by the Director-General;	Compliant	n/a	Previous audit confirmed as compliant.
		(b) be submitted to the Secretary for approval within 3 months of the date of this approval;	Compliant	n/a	Previous audit confirmed as compliant.  <i>It is recommended that the revision status register in the GBFMP be updated to indicate if the current version is approved by DP&amp;E and evidence of such approval included within the plan.</i>
		(c) include a summary of the Giant Barred Frog Study;	Compliant	n/a	Section 5 of the GBFMP provides a summary of the Giant Barred Frog Study.
		(d) establish performance measures for evaluating the impact of the project on the local Giant Barred Frog population;	Compliant	n/a	Section 8 of the GBFMP outlines the performance measures for evaluating the impact of the project on the local Giant Barred Frog population.
		(e) describe the measures that would be implemented to minimise the potential spread of Chytrid fungus, including training of staff in site hygiene management in accordance with the NPWS Hygiene Protocol for the Control	Compliant	n/a	Section 9.6 of the GBFMP outlines the measures that would be implemented to minimise the potential spread of Chytrid

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		of Disease in Frogs 2001;			fungus.
		(f) include a program to monitor the potential impact of the project on the local frog population, which includes:	Compliant	n/a	Section 7 of the GBFMP outlines the monitoring program to assess the potential impact of the project on the local Giant Barred Frog population.
		<ul style="list-style-type: none"> <li>detailed performance indicators for the project, with reference to the performance measures established in (d) above;</li> </ul>	Compliant	n/a	Section 8 of the GBFMP outlines the performance indicators associated with the performance measures identified as part of Condition 32 (d).
		<ul style="list-style-type: none"> <li>annual monitoring of the frog population and its habitat during the breeding season along Mammy Johnson River both upstream and downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek;</li> </ul>	Compliant	n/a	<p>Section 7 of the GBFMP indicates that the timing and frequency of monitoring will be triggered upon commencement of irrigation within the DEP irrigation areas. Section 7.2 specifically addresses survey timing and frequency. It is noted that annual monitoring was undertaken between September 2011 and February 2015 which is considered to form baseline data for the project.</p> <p>Section 7.1 of the GBFMP indicates that monitoring will be undertaken both upstream and downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek.</p>
		<ul style="list-style-type: none"> <li>trigger levels for further investigation; and</li> </ul>	Compliant	n/a	Section 8 of the GBFMP outlines the trigger levels for when a performance indicator is exceeded and that an assessment of that performance measure will be undertaken.
		(g) a contingency plan that would be implemented if monitoring suggests the frog population downstream of the confluence of Mammy Johnsons River and Coal Shaft Creek is declining due to the project, which may include a	Compliant	n/a	Section 10 of the GBFMP outlines the contingency plan and potential contingency measures. Management and contingency



Sched	Cond	Requirement	Assessment	Risk Level	Comments												
		revision of the first flush salinity trigger or the implementation of additional water quality controls.			measures are summarised in Section 8 of the GBFMP.												
Biodiversity Offsets																	
3	33	<p>The Proponent shall implement the offset strategy and achieve the broad completion criteria in Table 11 to the satisfaction of the Secretary.</p> <p><i>Table 11: Offset Strategy Completion Criteria</i></p> <table><tr><th>Domain</th><th>Completion Criteria</th></tr><tr><td>Enhancement Areas (i.e. existing remnant vegetation)</td><td>Areas of existing remnant vegetation within the offset area (299 ha) have been conserved and enhanced.</td></tr><tr><td>Revegetation Areas</td><td>357.5 ha of revegetated woodland/open woodland habitat areas and 36 ha of revegetated forest habitat areas as a self-sustaining ecosystem.</td></tr><tr><td></td><td>The methodology for determining a self-sustaining ecosystem shall be to the satisfaction of the Secretary.</td></tr><tr><td></td><td>Woodland/open woodland and forest revegetation areas that provide habitat resources for the threatened species by including the flora species referred to in approval conditions 35 to 38.</td></tr><tr><td>Direct links between the Offset Area and Rehabilitation Area</td><td>Native vegetation has been established which directly links vegetation areas of the offset area with the Rehabilitation area.</td></tr></table>	Domain	Completion Criteria	Enhancement Areas (i.e. existing remnant vegetation)	Areas of existing remnant vegetation within the offset area (299 ha) have been conserved and enhanced.	Revegetation Areas	357.5 ha of revegetated woodland/open woodland habitat areas and 36 ha of revegetated forest habitat areas as a self-sustaining ecosystem.		The methodology for determining a self-sustaining ecosystem shall be to the satisfaction of the Secretary.		Woodland/open woodland and forest revegetation areas that provide habitat resources for the threatened species by including the flora species referred to in approval conditions 35 to 38.	Direct links between the Offset Area and Rehabilitation Area	Native vegetation has been established which directly links vegetation areas of the offset area with the Rehabilitation area.	Compliant	n/a	Table 2 of the BMP outlines the strategy to comply with Table 11 of the conditions. Whilst compliance with the completion criteria is unable to be confirmed during the current audit (longer timeframes required), there is sufficient evidence to demonstrate the intent to comply.
Domain	Completion Criteria																
Enhancement Areas (i.e. existing remnant vegetation)	Areas of existing remnant vegetation within the offset area (299 ha) have been conserved and enhanced.																
Revegetation Areas	357.5 ha of revegetated woodland/open woodland habitat areas and 36 ha of revegetated forest habitat areas as a self-sustaining ecosystem.																
	The methodology for determining a self-sustaining ecosystem shall be to the satisfaction of the Secretary.																
	Woodland/open woodland and forest revegetation areas that provide habitat resources for the threatened species by including the flora species referred to in approval conditions 35 to 38.																
Direct links between the Offset Area and Rehabilitation Area	Native vegetation has been established which directly links vegetation areas of the offset area with the Rehabilitation area.																
Habitat for Threatened Fauna Species																	
3	34	The Proponent shall ensure that the offset area:	-	-	See below for individual assessment of each component.												
		(a) provides suitable habitat for all the threatened fauna species recorded in the surface development area, namely the Swift Parrot, Brown Treecreeper (eastern subspecies), Speckled Warbler, Grey-crowned Babbler (eastern subspecies), Varied Sittella and Squirrel Glider; and	Compliant	n/a	Table 10 of the BMP described the habitat for each of these species within the offset areas, except the Varied Sittella. Table 3 of the BMP outlines the resources present within the offset areas for these species. Appendix C indicates that this habitat type is present within the offset areas for the extension project.												
					<i>It is recommended that Table 10 of the BMP</i>												

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					<i>is updated to include details for the Varied Sittella for consistency. Additionally, given that the BMP addresses multiple offsetting requirements, it is recommended that the BMP includes a summary table indicating the list of threatened fauna species recorded within the surface development area and the areas of habitat (current and future) within each of the different offset areas.</i>
		(b) includes the following habitat types:	-	-	See below for individual assessment of each component.
		• Woodland/open woodland;	Compliant	n/a	Table 3 of the BMP indicates the presence of woodland/open woodland within the offset areas. Appendix C indicates that this habitat type is present within the offset areas for the extension project.
		• Forest; and	Compliant	n/a	Table 3 of the BMP indicates the presence of forest habitat within the offset areas. Appendix C indicates that this habitat type is present within the offset areas for the extension project.
		• Riparian forest.	Compliant	n/a	Table 3 of the BMP indicates the presence of riparian forest habitat within the offset areas. Appendix C indicates that this habitat type is present within the offset areas for the extension project.
<b>3</b>	<b>35</b>	The Proponent shall ensure that the offset area:	-	-	See below for individual assessment of each component.
		(a) provides appropriate habitat resources for the Swift Parrot, Brown Treecreeper and Grey-crowned Babbler;	Compliant	n/a	Table 3 of the BMP outlines the resources present within the offset areas for these species. Appendix C indicates that the

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					<p>associated habitat types are present within the offset areas for the extension project.</p> <p><i>Given that the BMP addresses multiple offsetting requirements (i.e. Duralie Mine, Duralie Mine Extension and Bowen's Road North), it is recommended that the BMP includes a summary table indicating the habitat resources available within each of the different offset areas.</i></p>
		<p>(b) contains a total of 174ha of the following vegetation types :</p> <ul style="list-style-type: none"> <li>• Spotted Gum – Grey Ironbark forest dry open forest of the lower foothills of the Barrington Tops, North Coast;</li> <li>• Grey Box – Forest Red Gum – Grey Ironbark open forest of the hinterland ranges of the North Coast; and</li> <li>• Sydney Peppermint – Smooth-barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin; and</li> </ul>	Compliant	n/a	Appendix C of the BMP indicates that greater than 174 ha of remnant vegetation within the offset areas for the extension project comprises these vegetation communities.
		(c) the revegetation areas within the offset area contains:	-	-	See below for individual assessment of each component.
		<ul style="list-style-type: none"> <li>• Winter flowering eucalypts (such as Spotted Gum [<i>Corymbia maculata</i>], Narrow-leaved Ironbark [<i>Eucalyptus crebra</i>], White Stringybark [<i>Eucalyptus globoidea</i>]) as habitat resources for the Swift Parrot.</li> </ul>	Compliant	n/a	Appendix F contains plant palettes for revegetation area which include <i>Corymbia maculata</i> and <i>Eucalyptus globoidea</i> . 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. <i>Corymbia maculata</i> is included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017).
		<ul style="list-style-type: none"> <li>• Species typical of open eucalypt woodlands (such as Spotted Gum [<i>Corymbia maculata</i>], Red Ironbark [<i>Eucalyptus fibrosa</i>], Grey Ironbark</li> </ul>	Compliant	n/a	Appendix F contains plant palettes for revegetation area which include <i>Corymbia</i>

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		[ <i>Eucalyptus siderophloia</i> ] as habitat resources for the Grey-crowned Babbler; and			<i>maculata</i> , <i>Eucalyptus fibrosa</i> and <i>Eucalyptus siderophloia</i> . 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. <i>Corymbia maculata</i> and <i>Eucalyptus siderophloia</i> are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017).
		<ul style="list-style-type: none"> <li>• Appropriate understorey species (such as tussock grasses).</li> </ul>	Compliant	n/a	Appendix F contains plant palettes for revegetation area which includes shrub species. Table 3 of the BMP notes that tussock grasses already occur within the offset areas, which were noted during the site inspection. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. Understorey species comprising grasses are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017).
3	36	The Proponent shall ensure that the offset area:	-	-	See below for individual assessment of each component.
		(a) provides appropriate habitat resources for the Speckled Warbler:	Compliant	n/a	<p>Table 3 of the BMP outlines the resources present within the offset areas for this species. Appendix C indicates that the associated habitat types are present within the offset areas for the extension project.</p> <p><i>Given that the BMP addresses multiple</i></p>

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					<i>offsetting requirements (i.e. Duralie Mine, Duralie Mine Extension and Bowen's Road North), it is recommended that the BMP includes a summary table indicating the habitat resources available within each of the different offset areas.</i>
		(b) contains a total of 126ha of Spotted Gum - Grey Ironbark forest dry open forest of the lower foothills of the Barrington Tops, North Coast1 ; and	Compliant	n/a	Appendix C of the BMP indicates that greater than 126 ha of remnant vegetation within the offset areas for the extension project comprises these vegetation communities.
		(c) the revegetation areas within the offset area includes Eucalyptus species, tussock grasses and shrub species as habitat resources for the Speckled Warbler.	Compliant	n/a	Appendix F contains plant palettes for revegetation area which include <i>Eucalyptus</i> species and shrub species. Table 3 of the BMP notes that tussock grasses already occur within the offset areas, which were noted during the site inspection. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. Eucalypt and shrub species are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017).
<b>3</b>	<b>37</b>	The Proponent shall ensure that the offset area:	-	-	See below for individual assessment of each component.
		(a) provides appropriate habitat resources for the Varied Sittella;	Compliant	n/a	Table 3 of the BMP outlines the resources present within the offset areas for this species. Appendix C indicates that the associated habitat types are present within the offset areas for the extension project.

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					<i>Given that the BMP addresses multiple offsetting requirements (i.e. Duralie Mine, Duralie Mine Extension and Bowen's Road North), it is recommended that the BMP includes a summary table indicating the habitat resources available within each of the different offset areas.</i>
		(b) contains a total of 172ha of the following vegetation types <sup>1</sup> : <ul style="list-style-type: none"> <li>• Spotted Gum – Grey Ironbark forest dry open forest of the lower foothills of Barrington Tops, North Coast; and</li> <li>• Sydney Peppermint – Smooth-barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin.</li> </ul>	Compliant	n/a	Appendix C of the BMP indicates that greater than 172 ha of remnant vegetation within the offset areas for the extension project comprises these vegetation communities.
		(c) the revegetation areas within the offset area includes species typical of eucalypt forests and woodlands, especially rough-barked species, smooth-barked gums and Acacia species as habitat resources for the Varied Stilleto.	Compliant	n/a	Appendix F contains plant palettes for revegetation area which include rough-barked species, smooth-barked gums and <i>Acacia</i> species. 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. Smooth-barked gums and <i>Acacia</i> species are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017).
<b>3</b>	<b>38</b>	The Proponent shall ensure that the offset area:	-	-	See below for individual assessment of each component.
		(a) provides appropriate habitat resources for the Squirrel Glider;	Compliant	n/a	Table 3 of the BMP outlines the resources present within the offset areas for this species. Appendix C indicates that the associated habitat types are present within the offset areas for the extension project.

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					<i>Given that the BMP addresses multiple offsetting requirements (i.e. Duralie Mine, Duralie Mine Extension and Bowen's Road North), it is recommended that the BMP includes a summary table indicating the habitat resources available within each of the different offset areas.</i>
		(b) contains a total of 128ha of the following vegetation types <sup>1</sup> : <ul style="list-style-type: none"> <li>• Spotted Gum - Grey Ironbark forest dry open forest of the lower foothills of the Barrington Tops, North Coast; and</li> <li>• Sydney Peppermint - Smooth-barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin.</li> </ul>	Compliant	n/a	Appendix C of the BMP indicates that greater than 128 ha of remnant vegetation within the offset areas for the extension project comprises these vegetation communities.
		(c) the revegetation areas within the offset area includes species typical of woodland/forest (such as Spotted Gum [ <i>Corymbia maculata</i> ], Red Ironbark [ <i>Eucalyptus fibrosa</i> ], Grey Ironbark [ <i>Eucalyptus siderophloia</i> ]) as habitat resources for the Squirrel Glider.	Compliant	n/a	Appendix F contains plant palettes for revegetation area which include <i>Corymbia maculata</i> , <i>Eucalyptus fibrosa</i> and <i>Eucalyptus siderophloia</i> . 2017 AEMR indicates that revegetation works have been undertaken in accordance with Appendix F. <i>Corymbia maculata</i> and <i>Eucalyptus siderophloia</i> are included in the seed list outlined within the Spring 2016 and Autumn 2017 Report for the Biodiversity Offsets Revegetation Program (Kleinfelder 2017).
3	39	Hollow bearing habitat features must be introduced into the areas of habitat resources and the revegetation areas identified in approval condition 38.	Compliant	n/a	Nest boxes were observed within the Duralie Extension Offset and Duralie Extension Offset – Northern during the site inspection. It is noted that these nest boxes have been established within remnant vegetation only. The BMP indicates that nest box installation is only planned to occur within management units containing remnant vegetation or

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					rehabilitation areas.  <i>It is recommended the BMP be updated to include allowance for installation of hollow-bearing habitat features within revegetation areas.</i>
		Note: For clarity, the total areas included in approval conditions 35-38 are not cumulative, whereby the area of habitat resources provided for one of the fauna species identified in approval condition 35 may be the same for all species mentioned in approval conditions 35 to 38.	-	-	-
<b>Endangered Ecological Communities</b>					
<b>3</b>	<b>40</b>	The Proponent shall ensure that the offset area contains at least:	-	-	See below for individual assessment of each component.
		<ul style="list-style-type: none"> <li>2 ha of Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions.</li> </ul>	Compliant	n/a	Table 3 of the BMP indicates that 2 ha of Freshwater Wetlands on Coastal Floodplains occurs within the offset areas, as mapped in Figure 5. Appendix C of the BMP indicates that there is a total of 2.2 ha of this community within the offset areas.
		<ul style="list-style-type: none"> <li>10 ha of River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions (Cabbage Gum Floodplain Forest).</li> </ul>	Compliant	n/a	Table 3 of the BMP indicates that 10 ha of River-Flat Eucalypt Forest occurs within the offset areas, as mapped in Figure 5. Appendix C of the BMP indicates that there is a total of 10.1 ha of this community within the offset areas.
		<ul style="list-style-type: none"> <li>19 ha of Lowland Forest on Floodplain in the NSW North Coast Bioregion.</li> </ul> Note: See the mapped areas in the figure in Appendix 5	Compliant	n/a	Table 3 of the BMP indicates that 19 ha of Lowland Rainforest on Floodplain occurs within the offset areas, as mapped in Figure 5. Appendix C of the BMP indicates that there is a total of 20.2 ha of this community within the offset areas.



Sched	Cond	Requirement	Assessment	Risk Level	Comments
<b>Operating Conditions</b>					
3	41	The Proponent must:	-	-	See below for individual assessment of each component.
		(a) not destroy, damage, remove or harm any native flora or fauna in the offset area; or	Compliant	n/a	Section 6.13 of the BMP outlines the measures to minimise harm to native flora and fauna within the offset areas.  Whilst compliance with the condition is unable to be confirmed as part of this audit, there is sufficient evidence to demonstrate the intent to comply.
		(b) not carry out in the offset area or the vicinity of the offset area any activity that may cause, or is likely to result in, or will or might threaten the viability of, native flora or fauna in the offset area, or threaten the success of the offset strategy; and	Compliant	n/a	Section 6.13 of the BMP outlines the measures to minimise harm to native flora and fauna within the offset areas.  Whilst compliance with the condition is unable to be confirmed as part of this audit, there is sufficient evidence to demonstrate the intent to comply.
		(c) ensure that its agents, contractors, licensees and invitees (and use best endeavours to ensure that any other persons) also comply with condition 41(a) and (b).	Compliant	n/a	Section 6.13 of the BMP includes a requirement to brief employees and contractors prior to undertaking works within the offset areas.  Whilst compliance with the condition is unable to be confirmed as part of this audit, there is sufficient evidence to demonstrate the intent to comply.
<b>Long Term Security of Offset</b>					
3	42	Within 12 months of the date of this approval, unless otherwise agreed by the Secretary, the Proponent shall either:	Administrative non-	n/a	A number of extensions were granted to extend the timeframe to secure the offset

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		<p>(a) enter into a conservation agreement pursuant to s 69B of the National Parks and Wildlife Act 1974 relating to the offset area, recording the obligations assumed by the Proponent under the conditions of this approval in relation to the offset area, and register that agreement pursuant to s 69F of the National Parks and Wildlife Act 1974; or</p> <p>(b) cause to be registered against the titles of the offset area a public positive covenant and/or restriction on the use of the land, in favour of the Director-General, requiring the proponent to implement and observe the conditions of this approval in relation to the offset area. The conservation agreement or the public positive covenant and/or restriction on the use of the land in relation to the offset area, shall remain in force in perpetuity.</p>	compliance		<p>area. This audit has cited a letter from DP&amp;E dated 11 December 2014, for the further extension until 30 June 2015. The letter from DP&amp;E noted that the completed instruments were submitted on 31 October 2014, however a number of actions were still required to complete formal registration of the instrument which gave rise to the extension.</p> <p>DCPL issued a letter to DP&amp;E on 7 September 2015 to indicated that Positive Covenants and Restrictions on the Use of Land for the project's offsets were registered on titles with the NSW Department of Land &amp; Property Information.</p>
<b>Biodiversity Management Plan</b>					
<b>3</b>	<b>43</b>	The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:	-	-	See below for individual assessment of each component. The previous audit confirmed that the GBFMP was last approved by DP&E in September 2013. As this plan has been revised since this approval, further assessment of compliance has been undertaken for the current version of the plan reviewed as part of this audit.
		(a) be prepared in consultation with OEH by suitably qualified and experienced persons whose appointment has been approved by the Secretary;	Compliant	n/a	Previous audit confirmed as compliant.
		(b) be submitted to the Secretary for approval within 3 months of the date of this approval;	Compliant	n/a	<p>Previous audit confirmed as compliant.</p> <p>A revised version of the BMP was approved</p>

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					by DP&E on 24 October 2017.
		(b1) be approved by the Secretary prior to the commencement of clearing in EA (Mod 2);	Non-compliant	Medium	The BMP was amended as part of the Duralie Open Pit Modification. The revision status table in the Version H indicated that DP&E approved Version G of the BMP on 14 January 2016. No letter of approval has been cited as part of this assessment. It is understood that clearing for MOD2 commenced in December 2015 (M. Plain pers comm), which is prior to the reported approval date.
		(c) describe how the offset strategy and its implementation will be integrated with other strategies, plans and programs required under this approval, including the Giant Barred Frog Management Plan, Water Management Plan and Rehabilitation Management Plan, and their implementation;	Compliant	n/a	Section 1.2 of the BMP outlines the relationship of the plan to other management plans, including the GBFMP, Water Management Plan and Rehabilitation Management Plan.
		(d) include:	-	-	See below for individual assessment of each component.
		<ul style="list-style-type: none"> <li>a description, based on field surveys, and in consultation with OEH, of the biodiversity values of the vegetation communities in the offset area, including remnant vegetation and derived grasslands, including as habitat for the threatened species that are recorded in the surface development area;</li> </ul>	Compliant	n/a	<p>Section 4.2 and its associated subsections provide an overview of the offset areas.</p> <p><i>Given that the BMP addresses multiple offsetting requirements (i.e. Duralie Mine, Duralie Mine Extension and Bowen's Road North), it is recommended that the BMP includes a description summary table indicating the habitat resources available within each of the different offset areas. It is also recommended that derived native grassland be included within Table 9 of the BMP.</i></p>

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		<ul style="list-style-type: none"> <li>a description of the biodiversity values to be lost through clearing of vegetation communities in the surface development area, including remnant vegetation and derived grasslands, including as habitat for the threatened species that are recorded in the surface development area;</li> </ul>	Compliant	n/a	Section 4.1.8 of the BMP provides an overview of the biodiversity values lost through clearing of vegetation and habitat. The BMP refers to previous ecological assessment for detailed descriptions.
		<ul style="list-style-type: none"> <li>a description of the short, medium and long term measures that would be implemented to:</li> </ul>	-	-	<p>See below for individual assessment of each component.</p> <p><i>It is recommended the BMP be updated to include clear short, medium and long term measures for the offset areas, or indicate that medium and long term measures have been amalgamated.</i></p>
		<ul style="list-style-type: none"> <li>implement the Offset Strategy;</li> </ul>	Compliant	n/a	Table 2 of the BMP outlines the offset strategy for the extension project and Section 6 outlines the management actions proposed for the offset areas.
		<ul style="list-style-type: none"> <li>maintain and enhance biodiversity values in the offset area to offset the loss of biodiversity values in the surface development area;</li> </ul>	Compliant	n/a	Section 6 of the BMP outlines the management measures that are to be implemented to maintain and enhance biodiversity values in the offset areas.
		<ul style="list-style-type: none"> <li>provide and enhance suitable habitat in the offset area for the threatened species that are recorded in the surface development area;</li> </ul>	Compliant	n/a	<p>Table 10 of the BMP described the habitat within the offset areas for each of the threatened fauna species recorded within the surface development area.</p> <p><i>Given that the BMP addresses multiple offsetting requirements (i.e. Duralie Mine, Duralie Mine Extension and Bowen's Road North), it is recommended that the BMP</i></p>

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					<i>includes a summary table indicating the list of threatened fauna species recorded within the surface development area and the areas of habitat (current and future) within each of the different offset areas.</i>
		– manage the remnant vegetation and habitat on the site (including in the offset area);	Compliant	n/a	Section 5 of the BMP outlines management measures for the remaining biodiversity at the mine and Section 6 of the BMP outlines management measures for the offset areas.
		• detailed completion criteria, as well as performance criteria for the measuring the short, medium and long term success of the Offset Strategy;	Compliant	n/a	<p>Sections 6.4-6.12 outline the performance criteria and completion criteria for the following management measures: nest box programme, weed control, management of grazing and agriculture, access control, Mammy Johnsons River bank stabilisation, bushfire management, seed collection and tubestock supply, tubestock installation, and direct seeding.</p> <p><i>It is recommended that the BMP be updated to include specific performance criteria and completion criteria for regeneration areas to measure the success over the short, medium and long term.</i></p> <p><i>It is also recommended the BMP be updated to include clear short, medium and long term measures for the offset areas, or indicate that medium and long term measures have been amalgamated.</i></p>
		• the measures described in the EA and in the expert report of Dr Goldney	Compliant	n/a	Table 7 of the BMP lists additional

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		dated 7 April 2011 in Land and Environment Court proceedings No 10090 of 2011 to avoid or mitigate impacts on biological diversity, native flora and fauna and threatened species;			management measures.
		<ul style="list-style-type: none"> <li>a detailed description of the measures that would be implemented in the short, medium and long term to implement the Offset Strategy, including the procedures to be implemented for:</li> </ul>	-	-	<p>See below for individual assessment of each component.</p> <p><i>It is recommended the BMP be updated to include clear short, medium and long term measures for the offset areas, or indicate that medium and long term measures have been amalgamated.</i></p>
		– implementing revegetation and regeneration within the offset area, including establishment of canopy, understorey and ground strategy;	Compliant	n/a	Section 6.3 of the BMP outlines the vegetation treatment types to implement revegetation and regeneration within the offset areas. Additional information relating to these measures is provided in Section 6.11, Section 6.12, Appendix E and Appendix F.
		– the introduction of hollow bearing habitat features;	Compliant	n/a	Section 6.4 of the BMP outlines the nest box programme that constitutes introduction of hollow-bearing habitat features.
		– controlling weeds and feral pests, including the engagement of appropriately qualified contractors;	Compliant	n/a	Section 6.5 of the BMP outlines the weed control measures within the offset areas. Section 5.10 of the BMP outlines feral control within the DCM site. The 2017 AEMR summarises feral pest control undertaken.
		– managing grazing and agriculture, including provision to exclude livestock grazing from existing treed areas and Endangered Ecological Communities within the offset area;	Compliant	n/a	Section 6.6 of the BMP outlines the management of grazing and agriculture within the offset areas.
		– controlling vehicular access to minimise the potential for vehicle strike of native fauna; and	Compliant	n/a	Section 6.7 of the BMP outlines control of site access within the offset areas.

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		– bushfire management;	Compliant	n/a	Section 6.9 of the BMP outlines bushfire management within the offset areas.
		• a description of the measures that would be implemented in the short, medium and long term to manage the remnant vegetation and habitat on site, including the procedures to be implemented for:	-	-	See below for individual assessment of each component.
		– protecting vegetation and soil outside the disturbance areas;	Compliant	n/a	Section 5.1 of the BMP outlines measures for protection of vegetation and soil at the mine site, outside of disturbance areas.
		– rehabilitating creeks and drainage lines on the site (both inside and outside the disturbance areas), to ensure no net loss of stream length and aquatic habitat;	Compliant	n/a	Section 5.2 of the BMP refers to the RMP to address measures relating to rehabilitation of creeks and drainage lines.
		– managing salinity;	Compliant	n/a	Section 5.3 of the BMP outlines measures for managing salinity resulting from irrigation.
		– undertaking pre-clearance surveys including for threatened species;	Compliant	n/a	Section 5.4.1 of the BMP outlines measures for pre-clearance surveys.
		– if pre-clearance surveys identify any breeding pair of threatened species, including the Varied Sittella, deferral of clearing of their habitat until the breeding site is vacated;	Compliant	n/a	Section 5.4.1 of the BMP outlines measures for clearing activities should breeding pairs of threatened fauna species be detected during pre-clearance surveys.
		– managing impacts on fauna;	Compliant	n/a	Section 5.4.1 of the BMP outlines general fauna management measures to be undertaken during pre-clearance surveys and clearing supervision. Further general measures are outlined in Section 5.5 of the BMP.
		– landscaping the site, and particularly the land adjoining public roads, to minimise visual and lighting impacts;	Compliant	n/a	Section 5.6 of the BMP outlines measures for landscaping at the site, including the provisions of screening vegetation.
		– collecting and propagating seed;	Compliant	n/a	Section 5.7 of the BMP outlines measures for collecting and propagating seed.
		– salvaging and reusing material from the site for habitat enhancement;	Compliant	n/a	Section 5.8 of the BMP outlines measures

Sched	Cond	Requirement	Assessment	Risk Level	Comments
					for salvaging and reusing material for habitat enhancement.
		– controlling weeds and feral pests, including the engagement of appropriately qualified contractors;	Compliant	n/a	Section 5.9 of the BMP outlines the weed control measures within the mine site and Section 5.9 outlines the feral pest control measures within the mine site. However neither of these sections explicitly state that these measures will be undertaken by an appropriately qualified contractor.  <i>It is recommended the BMP be updated to include the requirement for an appropriately qualified contractor to undertake the required works.</i>
		– controlling vehicular access to minimise the potential for vehicle strike of native fauna; and	Compliant	n/a	Section 5.11 of the BMP outlines measures for controlling vehicle access at the mine site.
		– bushfire management;	Compliant	n/a	Section 5.12 of the BMP outlines measures for bushfire management at the mine site.
		• a Vegetation Clearing Plan (VCP) that must include the following:	-	-	Section 5.4 of the BMP outlines the vegetation clearance plan at the mine site. See below for individual assessment of each component.
		– clear delineation of disturbance areas and restriction of clearing to the minimum area necessary to undertake the approved activities;	Compliant	n/a	Section 5.1 of the BMP outline measures to delineate boundary of disturbance areas.
		– a methodology for recording the approximate size and number of hollow bearing trees to be removed and their replacement with the same number of nesting boxes of appropriate sizing within similar vegetation within the Project site or offset lands;	Compliant	n/a	Section 5.4.1 outlines the methodology for recording the approximate size and number of hollow-bearing trees to be removed. Section 5.4.2 outlines the replacement of these hollow features.
		– a methodology for the management of hollow bearing trees during	Compliant	n/a	Section 5.4.1 outlines the methodology for



Sched	Cond	Requirement	Assessment	Risk Level	Comments
		vegetation clearing to minimize impacts on hollow dependent fauna which may be present;			management of clearing of hollow-bearing trees to minimise impacts to fauna species.
		– provision for a suitably trained or qualified person to the satisfaction of the Director-General to be present during the felling of identified hollow bearing trees to provide assistance with the care of any injured fauna;	Compliant	n/a	Section 5.4.1 outlines the requirement for a suitably trained or qualified person to be present during clearing of identified hollow-bearing trees.
		– provision for the checking of any animals found and recording of the species, number and condition (age class, pregnant or lactating females etc) and for details to be provided to the National Parks and Wildlife Service and Department within 3 months of the clearing event;	Compliant	n/a	Section 5.4.1 outlines the protocols for managing injured fauna.  <i>It is recommended the BMP be updated to include the requirement for the submission of records of captured individuals.</i>
		– provision for the annual inspection of the nesting boxes for the life of the mine. An inspection report shall be prepared and include a review of the condition and use of the nesting boxes;	Compliant	n/a	Section 7.1.5 of the BMP outlines the annual inspection and reporting relating to nest boxes.
		– provision for the checking of vegetation to be cleared for threatened species and recording of the species, number and condition and for details to be provided to the National Parks and Wildlife Service and the Department within 3 months of the clearing event;	Compliant	n/a	Section 5.4.1 of the BMP outlines measures for clearing activities should breeding pairs of threatened fauna species be detected during pre-clearance surveys.  <i>It is recommended the BMP be updated to include the requirement for the submission of records of captured individuals.</i>
		• a description of the contingency measures that would be implemented to improve the performance of the offset strategy and the detailed performance criteria that are not being met in any given year; and	Compliant	n/a	Section 9 of the BMP outlines the contingency measures.
		• details of who would be responsible for monitoring, reviewing, and implementing the plan;	Compliant	n/a	Section 10 of the BMP outlines the responsibilities for monitoring, review and implementation of the plan.
		• a program to monitor and report on the effectiveness of the measures in the Biodiversity Management Plan and conditions 33–43 of this approval, and	Compliant	n/a	Section 7 of the BMP outlines the monitoring, reporting and review of the plan.

Sched	Cond	Requirement	Assessment	Risk Level	Comments
		the performance of the Offset Strategy, with summary reporting to be carried out annually and comprehensive reporting every three years following the independent environmental audit (see condition 8 of Schedule 5).			

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*Appendix B*

Photographs

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**Photograph 1**      **Signage and fencing within the Southern Offset Area**



**Photograph 2**      **Signage within the Northern Offset Area**





**Photograph 3**      **Natural regeneration within the Southern Offset Area**



**Photograph 4**      **Area subject to revegetation works within the Southern Offset Area**



**Photograph 5      Nest box within the Southern Offset Area**





**Photograph 6      Stag within mine rehabilitation area**

***APPENDIX G***  
***Rail Haulage Audit***



## **Duralie Coal Mine**

### **Audit of rail haulage for Hansen Bailey**

**Version 1.1**

23 February 2018

**Distribution:**

1. Hansen Bailey, by .pdf

**Revision History:**

Version	Prepared By	Date	Comments
0.1 (draft)	Bill Palazzi	19/1/2018	Initial version for review and discussion
0.2 (draft)	Bill Palazzi	28/1/2018	Updated version for review
1.0	Bill Palazzi	2/2/2018	First version
1.1	Bill Palazzi	23/2/2018	Minor updates following DCPL review

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## Appendix A: Train operations records

# 1. Details of the audit

**Table 1-1 Details of the audit**

<b>Name of the project</b>	Duralie Coal Mine Extension, approval granted in November 2010
<b>Name of the project approval holder</b>	Duralie Coal Pty Ltd (DCPL), a subsidiary of Yancoal Australia Limited
<b>Details of the approval to which the audit relates</b>	Duralie Coal Mine Project Approval (PA 08_0203)
<b>Scope of the audit</b>	<p>Hansen Bailey has been engaged by DCPL to undertake an Independent Environmental Audit (IEA) of the Stratford Mining Complex (Stratford) and Duralie Coal Mine (Duralie).</p> <p>Palazzirail has been engaged by Hansen Bailey as rail haulage specialist for to consider the logistics component of the Duralie shuttle train operations only. Relevant specialist consultants separately conducted audits on dust and noise impacts, as required by the conditions of approval.</p> <p>The audit covers the period 30 November 2014 to 29 November 2017.</p>
<b>Dates and locations of the audit</b>	The audit was conducted in December 2017 and January 2018.
<b>Methods used to assess compliance</b>	The audit relied on desktop review of documentation only. The auditor retained familiarity with the shuttle train operations from previous work, and based on the documentation analysed, judged that a site visit was not necessary.
<b>Evidence reviewed</b>	<p>In preparing this audit report, the following information was referenced:</p> <ul style="list-style-type: none"> <li>• Information contained on the DCPL website (<a href="http://www.duraliecoal.com.au/">http://www.duraliecoal.com.au/</a>).</li> <li>• Train performance data provided by DCPL.</li> <li>• Source data on train movements (traco forms), which are generated by the train crews of the rail operator Genesee and Wyoming Australia.</li> <li>• Additional data such as train inspection and maintenance data.</li> <li>• Data from the previous palazzirail audit, conducted in December 2013, and the Independent Environmental Audit conducted by Trevor Brown and Associates, November 2014.</li> </ul>

## 2. Certification

I certify that I have prepared the contents of the attached independent audit and to the best of my knowledge:

- It is in accordance with relevant approval condition(s)
- I have acted professionally, accurately and in an unbiased manner in conducting the audit
- I am not related to any owner or operator of the project as a spouse, partner, parent, child, sibling, employer, employee, business partner, in sharing a common employer, or in a contractual arrangement outside the audit
- I do not have any pecuniary interest in the project, including where there is a reasonable likelihood or expectation of appreciable financial gain or loss to me or to a person to whom I am related
- Neither I nor my employer have provided consultancy services for the project that were subject to this audit

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 project, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Name: William Palazzi

Signature:

Date: 2 February 2018

### 3. Project overview

Palazzirail's 2013 audit report on the Duralie Coal Mine shuttle train operation (available at <http://www.duraliecoal.com.au/page/environment/environmental-audit/>) included:

- an overview of the Duralie coal mine operations,
- a description of the operation of the North Coast railway, in particular that component of the railway line used by the shuttle train,
- the operating interface between Duralie's operation and ARTC, the corridor managers, and
- the processes applied in planning and operating the shuttle train.

Much of this discussion remains relevant and hence will not be repeated here.

Salient differences between the operations discussed in the 2013 report and the present operation (end 2017) are as follows:

- The contracted rail operator is now Genesee & Wyoming Australia (GWA) – previously the rail operator was Aurizon.
- The base daily train plan has been amended and is now as shown in Table 3-1.

**Table 3-1 Typical daily train plan**

Train Number	Depart Duralie	Arrive Stratford	Train Number	Depart Stratford	Arrive Duralie
DU601	0615	0645	DU602	0805	0847
DU603	1250	1320	DU604	1430	1500
DU605	1710	1740	DU606	1900	1930
DU607	2100	2130	DU608	2300	2330

## 4. Detailed audit findings

### 4.1 Conditions of operation

The conditions placed on the operation of the Duralie shuttle train are documented in the Project Approval for the Duralie Coal Mine Extension, issued under Section 75J of the NSW *Environmental Planning and Assessment Act 1979*. Approval of the Duralie Extension Project was granted in November 2010. On 1 November 2012, the NSW Project Approval (08\_0203) was modified as a result of the Duralie Rail Hours Modification.

The conditions set out in the approval, as relevant to the operation of the shuttle train and considered as part of this audit are summarised below:

#### **SCHEDULE 2 ADMINISTRATIVE CONDITIONS**

##### **LIMITS ON APPROVAL**

7. The Proponent shall ensure that:

- (a) all coal is transported from the site by rail;
- (b) no more than 5 laden trains leave the site each day; and
- (c) no more than 4 laden trains leave the site each day, when averaged over a 12 month period.

8. The Proponent shall:

- (a) only dispatch shuttle trains from the site between 6am and 10pm;
- (b) only receive shuttle trains on site between 6am and midnight; and
- (c) only operate shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances.

8A. Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, the Proponent shall provide a detailed explanation of the exceptional circumstances on its website.

In the above statements the following definitions apply:

**“The site** – is defined as the Duralie Coal Mine site (i.e. not the Stratford site).”

**“Exceptional Circumstances** – Circumstances when ARTC determines that the shuttle train must operate on the North Coast railway between midnight and 1am because there have been significant disruptions to the services on the railway over the last 12 hours, or where there have been power outages at either the Stratford or Duralie mines that have materially affected the operation of the shuttle train on the North Coast railway.”

Further relevant requirements of the approval are:

#### **SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS**

##### **TRANSPORT**

##### **Monitoring of Coal Transport**

48. The Proponent shall keep accurate records of:

- (a) the amount of coal transported from the site each month, and make these records publically available on its website at the end of each calendar year; and

(b) the:

- number of train movements to and from the site each day;
- date and time of each train movement to the site between 10pm and midnight; and
- instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances.

and make these records publically available on its website on a fortnightly basis.

## **SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING**

### **AUDITING**

#### **Independent Environmental Audit**

9A. By the end of December 2013, and with every Independent Environmental Audit thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of a Rail Haulage Audit of the project. This audit must:

- (a) be conducted by a suitably qualified, experienced and independent experts whose appointment has been endorsed by the Director-General;
- (b) review the existing rail haulage operations and determine whether all reasonable and feasible measures are being implemented to minimise the:
  - noise and dust impacts of these operations;
  - use of the shuttle train during the approved night-time hours;
  - dispatch of trains from the site between 9.25pm and 1am the following day; and
- (c) recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts; and
- (d) evaluate the use of the exceptional circumstances provision in condition 8 of schedule 2, and the associated reporting on any use of this provision on the Proponent's website (see condition 8A in schedule 2).

9B. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

As noted previously, Palazzirail has been engaged to consider the logistics component of the Duralie shuttle train operations only. Audits on dust and noise impacts have been separately conducted.

## **4.2 Schedule 2 Condition 7: Number of trains operated**

### **4.2.1 Analysis**

Data on the number of shuttle trains operated is provided on the DCPL website at <http://www.duraliecoal.com.au/page/environment/shuttle-train-performance-summary/>. To assist the audit, DCPL also provided an internal tracking spreadsheet for each of the audit years. *Table 4-1* provides a summary of the number of trains operated per day across the audit period, as well as the average number of trains operated in each year of the audit period. Note that this table and analysis draws on data from the DCPL tracking spreadsheet rather than the website data, due to discrepancies found between the two sources. The issue of discrepancies between data sources is discussed further in Section 4.5 below.

It is noted that the greatest number of laden trains operated in any one day is four.



**Table 4-1 Number of trains operated**

No. of trains operated / day	2014 (part)	2015	2016	2017 (part)
0	11	140	182	190
1	0	12	25	32
2	3	40	48	32
3	10	83	76	76
4	8	90	35	3
5	0	0	0	0
<b>Total days in audit period</b>	32	365	366	333
<b>Total trains for audit period</b>	68	701	489	336
<b>Average / day</b>	2.13	1.92	1.34	1.01

Note: the audit period included 30 November 2014 to 29 November 2017.

DCPL's website records the following total run-of-mine (ROM) coal railings per year:

- 2104 (Dec only): 163,565 tonnes = average 2,405 tonnes per trip
- 2015: 1,769,614 tonnes; = average 2,524 tonnes per trip
- 2016: 1,149,384 tonnes; = average 2,350 tonnes per trip
- 2017 (Jan – Nov): 845,889 tonnes. = average 2,376 tonnes per trip

## 4.2.2 Audit findings with respect to the Conditions

**Table 4-2 Audit findings with respect to Schedule 2 Condition 7: Number of trains operated**

Condition of Operation	Comments	Finding
7. The Proponent shall ensure that:		
(a) all coal is transported from the site by rail;	The Duralie annual review states that "All ROM coal is transported from site to Stratford Mining Complex by rail." The volumes of ROM coal reported on the website appear consistent with the number of trains operated.	Compliant
(b) no more than 5 laden trains leave the site each day; and	Based on the data provided, the operation complies with this requirement. There is no evidence to suggest that more than 5 laden trains have left the Duralie site on any given day in the period under analysis. A maximum of 4 are planned on any day and even this number is frequently not achieved.	Compliant
(c) no more than 4 laden trains leave the site each day, when averaged over a 12 month period.	Based on the data provided, the operation complies with this requirement. As can be seen from Table 4-1, the average number of trains that have left the site on any given day is less than two, for each of the years considered.	Compliant

## 4.3 Schedule 2 Condition 8: Times of train operation

### 4.3.1 Analysis

DCPL has provided records of shuttle train movements for 2015, 2016 and 2017, including times of departure and arrival times at Duralie for all trains. This information was reviewed to determine compliance with the conditions of operation.

#### Train dispatch

Two discrepancies in train dispatch times (one shown before 6am, the other shown after 10pm) were identified and queried with DCPL. On comparing the DCPL records against the source data (the train running data sheet, known as “traco”, compiled by the GWA train crew) it was apparent that both instances were an error in transposing the information from the traco to the DCPL spreadsheet.

Accordingly, no instances have been identified over the audit period where a train was dispatched from Duralie either before 6am or after 10pm. The earliest and latest dispatch times are shown in Table 4-3, for each of the audit years.

**Table 4-3 Earliest and latest train dispatch times**

Year	Earliest train dispatch	Latest train dispatch	Trains dispatched after 9:25pm
2014 (part)	6:00am	9:00pm	zero
2015	6:00am	9:30pm	one train dispatched at 9:30pm, one at 9:28pm
2016	6:00am	9:30pm	three trains dispatched at 9:30pm
2017 (part)	6:00am	9:10pm	zero

Note: the audit period included 30 November 2014 to 29 November 2017.

For the discrepancy noted above where the DCPL data showed a train departing before 6am, the traco showed a scheduled departure time of 5:50am (and it was this scheduled time that was transposed onto the DCPL records, as against the actual departure time of 6am). Given the restrictions on shuttle train operations imposed by the Conditions of Consent, it is unclear why a train should be scheduled to operate outside the authorised period.

**Recommendation: This audit recommends that the scheduling of trains be reviewed to ensure all movements are scheduled to occur within the Conditions of Consent.**

A requirement of the rail logistics audit is to review the existing rail haulage operations and determine whether all reasonable and feasible measures are being implemented to minimise the dispatch of trains from the site between 9.25pm and 1am the following day. The number of trains dispatched from Duralie between 9.25pm and 1am the following day is shown in Table 4-3.

A review of DCPL's procedures for the shuttle train operation indicates that the operation is well managed. Coupled with the very few trains that are dispatched after 9:25pm (a total of 5 trains over a three year period and zero complaints in this regard) leads the audit to

conclude that all reasonable and feasible measures are being implemented to minimise the dispatch of trains from the site after 9.25pm.

### Train arrivals

The earliest and latest train arrival times are shown in Table 4-4, for each of the audit years.

**Table 4-4 Earliest and latest train arrival times**

Year	Earliest train arrival	Latest train arrival	Trains arrived after midnight
2014 (part)	8:35am	11:20pm	zero
2015	8:20am	12:00am	zero
2016	8:20am	12:05am	one train arrived at 12:03am, one at 12:05am
2017 (part)	8:03am	11:55pm	zero

Note: the audit period included 30 November 2014 to 29 November 2017.

### Use of the exceptional circumstances provision

The conditions of consent permit the operation of the shuttle train on the North Coast railway between midnight and 1am only in exceptional circumstances. The definition of exceptional circumstances is provided in Section 4.1 above.

As shown in Table 4-4, over the audit period two trains arrived at Duralie after midnight, hence operating outside the conditions of consent unless exceptional circumstances applied.

DCPL maintains a record of the reasons why trains are received after midnight and this is published on the DCPL website at <http://www.duraliecoal.com.au/page/environment/shuttle-train-performance-summary/>. Table 4-5 provides the explanation provided by DCPL and comments pertaining to the use of the exceptional circumstances provision.

**Table 4-5 Use of the exceptional circumstances provision**

Date and time of train arrival at Duralie	DCPL explanation	Comments
17 August 2016, 12:03am	The Duralie Shuttle locomotive had battery issues and was unable to start. The train was delayed at Craven for 4 hours. A second loco was used off the train to jump start it at Craven. Due to this delay the shuttle departed Stratford at 23:30hrs.	<p>A review of the traco for this day shows that the issue with the battery and the resultant delay occurred between 2pm and 5pm, i.e. impacting on an earlier shuttle train journey and therefore not the immediate reason why a later run of the shuttle train arrived back at Duralie after midnight). However, this incident did mean that subsequent shuttle train trips were no longer running to the timetable for the day.</p> <p>The traco shows that the last departure of the shuttle train from Stratford was 19:30pm, which would normally leave enough time to travel to Stratford, unload and return prior to midnight. However, the train was placed into South Craven loop on the return trip to cross another train, losing 15 minutes and thus causing the shuttle train to arrive late back at Duralie. It is noted that traco shows that 6 wagons were not unloaded in order to permit an on-time arrival back at Duralie.</p> <p>The exceptional circumstances provision allows for circumstances when ARTC determines that the shuttle train must operate on the North Coast railway between</p>

Date and time of train arrival at Duralie	DCPL explanation	Comments
		<p>midnight and 1am because there have been significant disruptions to the services on the railway over the last 12 hours. This particular circumstance reflects an operational decision made by ARTC, which was brought about by the earlier disruption.</p> <p>It is the auditor's view that this instance falls reasonably within the exceptional circumstances provision.</p>
29 August 2016, 12:05am	Shuttle finished unloading (at) Stratford 23:20, called (Coast) A for line out and were advised they would be back at Duralie before midnight. (Coast) A let export into Stratford which the Shuttle had to wait until 23:35 to depart Stratford	<p>The exceptional circumstances provision specifically allows for "circumstances when ARTC determines that the shuttle train must operate on the North Coast railway between midnight and 1am because there have been significant disruptions to the services on the railway over the last 12 hours."</p> <p>Although the reasons for the ARTC controller's decision are unspecified, it is clear that there was a need to accommodate other services operating out of course. Equally, it is clear that this circumstance is out of DCPL's control; the impacted train left Duralie at 9:10, providing ample time to travel to Stratford, unload and return prior to midnight.</p> <p>It is the auditor's view that this instance falls reasonably within the exceptional circumstances provision.</p>

#### 4.3.2 Audit findings with respect to the Conditions

**Table 4-6 Audit findings with respect to Schedule 2 Condition 8: Times of train operation**

Condition of Operation	Comments	Finding
8. The Proponent shall:		
(a) only dispatch shuttle trains from the site between 6am and 10pm;	<p>The analysis shows that, over the audit period, no shuttle trains have departed the Duralie site either before 6am or after 10pm.</p> <p>It is recommended that scheduling of trains be reviewed to ensure all scheduled train movements occur within the Conditions of Consent</p>	Compliant
(b) only receive shuttle trains on site between 6am and midnight; and	The analysis shows that, with the exception of the two trains where exceptional circumstances have been invoked by DCPL, all trains have been received at Duralie between 6am and midnight.	Compliant
(c) only operate shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances.	During the audit period, two trains are recorded as arriving at Duralie after midnight, and hence were operating on the North Coast railway between midnight and 1am. In both instances the audit has concluded that the exceptional circumstances provision has been reasonably applied.	Compliant

## 4.4 Schedule 2 Condition 8A: Reporting of exceptional circumstances

The Conditions of Operation require that, within 12 hours of invoking the exceptional circumstances provision, DCPL provides a detailed explanation of the exceptional circumstances on its website.

The audit notes that DCPL maintains a record of the reasons why trains are received after midnight and this is published on the DCPL website.

However, the audit has not been able to confirm if this information is made available within 12 hours of invoking the exceptional circumstances provision. DCPL advised that “The upload time isn’t recorded although this is done as soon as possible”.

**Recommendation: This audit recommends that procedures are amended and documented to ensure that information is made available on the website within 12 hours of invoking the exceptional circumstances provision.**

**Table 4-7 Audit findings with respect to Schedule 2 Condition 8A: Advice of exceptional circumstances**

Condition of Operation	Comments	Finding
8A. Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, the Proponent shall provide a detailed explanation of the exceptional circumstances on its website.	The DCPL website has an explanation of the use of the exceptional circumstances provisions on its website.	Compliant
	DCPL cannot confirm if this information is made available within 12 hours of the event  <b>It is recommended that procedures are amended and documented to ensure this is undertaken in future.</b>	Not verified

## 4.5 Schedule 3 Condition 48: Keeping and publishing records

### 4.5.1 Analysis

DCPL keeps records of the amount of coal transported from the site and this data has been used in the foregoing analysis. Records are publically available on the DCPL website at <http://www.duraliecoal.com.au/page/environment/shuttle-train-coal-transported/>, and in the Duralie Coal Annual Reviews (also available on the DCPL website).

The DCPL website also includes data on:

- the number of train movements to and from the site each day;
- the date and time of each train movement to the site between 10pm and midnight; and
- instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances,

as referenced elsewhere in this report.

In conducting this audit, a range of discrepancies were found between the information on the DCPL website and source information provided by DCPL. These discrepancies include:

- Discrepancies between the original data (the daily traco) and DCPL's tracking spreadsheet. Two examples are noted above in the discussion on train dispatch time (Section 4.3).
- Discrepancies between DCPL's tracking spreadsheet and the data published on the website. Specific examples include:
  - For 2015, the DCPL website shows a total of 681 trains operated, whereas the DCPL tracking spreadsheet indicates this total was 701, a difference of 20 trains. Similar discrepancies exist for 2016 and 2017.
  - An amount (but not all) of this difference related to times when the shuttle train has travelled to Stratford to rehandle coal. These trips do not seem to be counted in the number of trains on the website data at all. As an illustration, the data for 21 March 2017 shows zero trains operated, but one train returning at 22:20.

Analysis of the two sources of data indicated that the data in the tracking spreadsheet was more accurate than that on the website, and hence the spreadsheet data has been used for the analysis in this report. Further, where it was found necessary to clarify the data in the spreadsheet, the traco was referenced as the original record of events.

In addition to the above, two further areas of discrepancy were noted in the course of the audit, albeit not relating to the audit period. These were:

- The website is missing data for 23 May 2014 – 31 May 2014.
- The data on the website for the period from 19 September 2013 – 7 December 2013 does not align with the data used in the 2013 audit report. In particular, from 4 November 2013 to 31 December 2013 there are no train movements recorded in the current website data (the 2013 audit recorded train movements up to 5 December, which was when the audit was compiled).

**Recommendation: This audit recommends that that the process of collecting, recording and publishing data be reviewed to ensure accuracy is maintained.**

Additionally, the audit has not been able to confirm if information relating to train movements is made available on the DCPL website fortnightly.

**Recommendation: This audit recommends that procedures are amended and documented to ensure that information relating to train movements is made available on the website fortnightly.**

## 4.5.2 Audit findings with respect to the Conditions

**Table 4-8 Audit findings with respect to Schedule 3 Condition 48: Keeping and publishing records**

Condition of Operation	Comments	Finding
48. The Proponent shall keep accurate records of:		
(a) the amount of coal transported from the site each month, and make these records publically available on its website at the end of each calendar year; and	Records can be found in the DCPL website	Compliant
(b) the: <ul style="list-style-type: none"> <li>number of train movements to and from the site each day;</li> <li>date and time of each train movement to the site between 10pm and midnight; and</li> <li>instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances.</li> </ul>	Records can be found in the DCPL website. However, a number of instances have been found where the website data is incomplete or inaccurate.  <b>It is recommended that the process of collecting, recording and publishing data be reviewed to ensure accuracy.</b>	Administrative non-compliance
and make these records publically available on its website on a fortnightly basis.	DCPL records indicate that the website data is updated regularly, but not necessarily on a fortnightly basis.  <b>It is recommended that procedures are amended to ensure this is undertaken and documented in future.</b>	Not verified

## 4.6 Observations with respect to the efficiency of the rail haulage operations

The audit is required to recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts.

The previous palazzirail audit report (December 2013) included a detailed discussion of the processes applied in planning and operating the shuttle train. As noted previously, these same processes remain relevant.

A number of recommendations were made in the 2013 audit report relating to the efficiency of operation. These were responded to by DCPL, with the responses published to the DCPL website. Table 4-9 provides a summary of these recommendations, the actions taken by DCPL and the response by the auditor.

No additional recommendations have been made with respect to the efficiency of the rail haulage operations during this audit.

**Table 4-9 Response to previous audit recommendations**

Recommendation from previous audit	DCPL action	Audit response
It is recommended that the requirement that no train departs the site before 6am is reinforced with Aurizon staff.	This action has been completed and was confirmed by email from Aurizon on 20 December 2013.	Compliant  The actions taken by DCPL appear reasonable and effective.
It is recommended that DCPL review its procedures for posting of train performance data on its website to ensure that this information is made available consistently on a fortnightly basis.	This action has been addressed and measures have been taken to ensure fortnightly update of train data.	Compliant  The actions taken by DCPL appear reasonable and effective.
Given the limited number of movements after 9:25pm, it appears possible to transport the same amount of coal yet avoid any departures after 9:25 by instituting more movements on a Saturday. It is recommended that this issue be investigated by DCPL, Aurizon and ARTC to determine if it is feasible to reduce or eliminate dispatch of trains after 9.25pm.	<p>The review period of this audit was during one of DCPL's lower railed coal periods. When DCPL rail an increased tonnage the use of Saturdays will be required to reach this output. Our current manning structure of the Duralie CHP and the Stratford CHPP does not currently allow for consistent operation of shuttle on Saturdays. Therefore using Saturdays in place of operating after 9:25pm is not viable.</p> <p>Also the 13 trains represents approx.. 5% of weekdays (exclude public holidays) that the train operated after 9:25pm. This is not statistically significant enough to warrant such a structural shift in shuttle operations to use Saturdays instead.</p> <p>Additionally, Wilkinson Murray's report states if reduced night time movements were to be considered by increasing movements on weekends, this should be done carefully in consultation with the community as there might be a community preference of having less weekend movements.</p> <p>Review undertaken and recommendation will not be pursued.</p>	Compliant  The response provided by DCPL is reasonable.
It is recommended that the process is formalised and a Shuttle Train Management Plan put in place, which would assist to ensure a consistent approach is taken regardless of individual staff and would demonstrate management oversight and governance.	DCPL will collate existing protocols and formalise standard procedures to meet the audit recommendation. This will require consultation between DCPL and Aurizon.	Compliant  DCPL has provided the consolidated procedures for review during the 2017 Audit. No further action required.



Recommendation from previous audit	DCPL action	Audit response
<p>Condition 6, Schedule 3 of the Conditions of Operation for the Stratford Coal Mine states that the Stratford rail loop must only be occupied simultaneously by two trains at night no more than 25 times in a calendar year from the start of 2014, and no more than once a week.. It is recommended that some level of coordination be put in place between the Duralie shuttle train and the Stratford export train, to ensure compliance with this Condition of Operation at Stratford and to potentially eliminate inefficiencies in the operation of the shuttle train.</p>	<p>In 2012 DCPL engaged both HVCCC and ARTC regarding co-ordination of the shuttle train into the export train pathing. Several meetings were held and it involved the GM of logistics for our company who at the time was on the board of NCIG.</p> <p>Progress was made until the last approval by the head of ARTC did not proceed. All of this work to improve co-ordination now cannot proceed as the senior levels of ARTC will not allow control of the north coast line to go to HVCCC. So after 18 months of meetings, lobbying and constructive work we are now at the limit of co-ordination we can expect.</p> <p>DCPL will continue to work with ARTC and HVCC to minimise inefficiencies in the operation of the shuttle train and meet SCM Condition 6, Schedule 3.</p>	<p>Compliant</p> <p>The response provided by DCPL is reasonable.</p>

## 5. Summary and conclusions

Palazzirail was engaged by Hansen Bailey to undertake an audit into the rail haulage logistics of the Duralie Coal shuttle train operations, as required by the Conditions of Operation included in the Duralie Coal Mine Extension Approval.

The documentation and evidence provide during the audit demonstrate that there are effective processes in place to manage the operation in accordance with the Conditions of Operation, and that no non-compliances with the conditions were found.

A summary of the findings of the audit against the Conditions of Operation are as follows:

**Table 5-1 Summary of audit findings in relation to the Conditions of Operation**

Condition of Operation	Comments	Finding
<b>Schedule 2, Condition 7. The Proponent shall ensure that:</b>		
(a) all coal is transported from the site by rail;	The Duralie annual review states that "All ROM coal is transported from site to Stratford Mining Complex by rail." The volumes of ROM coal reported on the website appear consistent with the number of trains operated.	Compliant
(b) no more than 5 laden trains leave the site each day; and	Based on the data provided, the operation complies with this requirement. There is no evidence to suggest that more than 5 laden trains have left the Duralie site on any given day in the period under analysis. A maximum of 4 are planned on any day and even this number is frequently not achieved.	Compliant
(c) no more than 4 laden trains leave the site each day, when averaged over a 12 month period.	Based on the data provided, the operation complies with this requirement. The average number of trains that have left the site on any given day is less than two, for each of the years considered.	Compliant
<b>Schedule 2, Condition 8. The Proponent shall:</b>		
(a) only dispatch shuttle trains from the site between 6am and 10pm;	The analysis shows that, over the audit period, no shuttle trains have departed the Duralie site either before 6am or after 10pm.  <b>It is recommended that scheduling of trains be reviewed to ensure all scheduled train movements occur within the Conditions of Consent</b>	Compliant
(b) only receive shuttle trains on site between 6am and midnight; and	The analysis shows that, with the exception of the two trains where exceptional circumstances have been invoked by DCPL, all trains have been received at Duralie between 6am and midnight.	Compliant
(c) only operate shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances.	During the audit period, two trains are recorded as arriving at Duralie after midnight, and hence were operating on the North Coast railway between midnight and 1am. In both instances the audit has concluded that the exceptional circumstances provision has been reasonably applied.	Compliant

Condition of Operation	Comments	Finding
<b>Schedule 2, Condition 8A.</b>		
Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, the Proponent shall provide a detailed explanation of the exceptional circumstances on its website.	The DCPL website has an explanation of the use of the exceptional circumstances provisions on its website.	Compliant
	DCPL cannot confirm if this information is made available within 12 hours of the event  <b>It is recommended that procedures are amended and documented to ensure this is undertaken in future.</b>	Not verified
<b>Schedule 3, Condition 48. The Proponent shall keep accurate records of:</b>		
(a) the amount of coal transported from the site each month, and make these records publically available on its website at the end of each calendar year; and	Records can be found in the DCPL website	Compliant
(b) the: <ul style="list-style-type: none"> <li>number of train movements to and from the site each day;</li> <li>date and time of each train movement to the site between 10pm and midnight; and</li> <li>instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances.</li> </ul>	Records can be found in the DCPL website. However, a number of instances have been found where the website data is incomplete or inaccurate.  <b>It is recommended that the process of collecting, recording and publishing data be reviewed to ensure accuracy.</b>	Administrative non-compliance
and make these records publically available on its website on a fortnightly basis.	DCPL records indicate that the website data is updated regularly, but not necessarily on a fortnightly basis.  <b>It is recommended that procedures are amended to ensure this is undertaken and documented in future.</b>	Not verified

## Appendix A

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### Train operations records

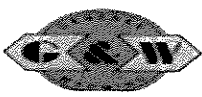
## **Appendix A: Train operations records**

The following data is provided in this Appendix A


- Typical train timetable
- Genesee & Wyoming Australia completed train traco (2 pages each) from 17 August 2106 and 29 August 2016.
- DCPL Train Loading Manual

Additional data referenced during the course of this audit includes:

- The published train operation data on the DCPL website  
([http://www.duraliecoal.com.au/environment/shuttle\\_train\\_performance.php](http://www.duraliecoal.com.au/environment/shuttle_train_performance.php))
- Additional data on daily train movements and loads provided by DCPL.

		DURALIE TRAIN TRACO: DAY:				DATE:		
		DRIVER 1		DRIVER 2		DRIVER 3		FUEL
DAY SHIFT		P HATCH		W BLOWS		B HAYES		1 :
AFTERNOON		A HOURAGAN		R MULRY		A MITCHELL		2 :
LOCATION		ARRIVE		DEPART				
		TIMETABLE	ACTUAL	TIMETABLE	ACTUAL			
Dep: Duralie DU601				615	713	LOAD : Type Start Finish		
Arr: STRAT		645	800			UNLOAD : START 802 FINISH 923		
Dep: STRAT DU602				805	927			
Arr: DURALIE		847	1000			LOAD : Type 2 Start 1010 Finish 1052		
Dep: DURALIE DU603				1250	1150			
Arr: STRAT		1320	1228			UNLOAD : START 1230 FINISH 1350		
Dep: STRAT DU604				1430	1455			
Arr: DURALIE		1500	1530			LOAD : Type 2 Start 1545 Finish 1625		
Dep: DURALIE DU605				1710	1710			
Arr: STRAT		1740	1740			UNLOAD : START 1745 FINISH 1900		
Dep: STRAT DU606				1900	1915			
Arr: DURALIE		1930	1945			LOAD : Type 2 - Start 1955 Finish		
Dep: DURALIE 607				2100	2100			
Arr: STRAT		2130	2130			UNLOAD : START 2135 FINISH 2235		
Dep: STRAT DU608				2300	2245			
Arr: DURALIE DU608		2330	2310			LOAD : Type 1 -2 -3 Start Finish		
	TONNES							
601	2388	<b>ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2</b> <b>REPORT ALL WAGON FAULTS TO YANCOAL DURALIE SUPERVISOR 0427 397 128</b> <b>OR DURALIE CRUSHER 0487 940 123 and BRADKEN - 0409777945</b>						
603	2395							
605	?							
607	1841	<b>ALL LOCO DEFECTS TO BE REPORTED TO UGL 0409 450 613 &amp; OPS COORD - 4927 2601</b>						
TOTAL	6614	TRAINS PATHED 4				TRAINS ACHIEVED 4		

[illegible]

 <b>DURALIE TRAIN TRACO: DAY- WED DATE - 17-8-17</b>							
		DRIVER 1	DRIVER 2		DRIVER 3		DRIVER 4(OPTIONAL)
DAY SHIFT		D. TULLOCH	B. MURPHY		R. MURPHY		
AFTERNOON		S. WALKER	E. TOWERS		M. DEARLE		
WORK SAFE							
LOCATION	Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading # Please circle coal class loaded Type 1 - 2 - 3		
	Timetable	Actual	Timetable	Actual			
Dep: DURALIE 601			0750	0605	LOAD: Type 1 - 2 - 3 START FINISH		
Arr: STRAT	0920	0640			UNLOAD: START 0645 FINISH 0805		
Dep: STRAT 602			0930	0845			
Arr: DURALIE	1030	0910			LOAD: Type 1 - 2 - 3 START 0920 FINISH		
Dep: DURALIE 603			1140	1040	DEPARTED 6 EMPTY WAGONS		
Arr: STRAT	1240	1145			UNLOAD: START 1120 FINISH 1230		
Dep: STRAT 604			1320	1240			
Arr: DURALIE	1350	1340			LOAD: Type 1 - 2 - 3 START 1345 FINISH 1431		
Dep: DURALIE 605			1500	1723			
Arr: STRAT	1530	1755			UNLOAD: START 1800 FINISH 1925		
Dep: STRAT 606			1640	1955			
Arr: DURALIE	1710	2025			LOAD: Type 1 - 2 - 3 START 2035 FINISH 2143		
Dep: DURALIE 607			1850	2130			
Arr: STRAT	1920	2205			UNLOAD: START 2210 FINISH 2320		
Dep: STRAT 608			2030	2330	BROUGHT BACK 6 FULL WAGONS TO MAKE MIDNIGHT CURFEW		
Arr: DURALIE 608	2100	0003			LOAD: Type 1 - 2 - 3 START 0015 FINISH 0055		
TONNES							
601	2356	ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2					
603	1989	REPORT ALL WAGON FAULTS TO Y/COAL DURALIE CRUSHER 0487940123 AND					
605	2512	BRADKEN - 0409777945 ALL LOCO DEFECTS REPORT TO RDC ASAP					
607	2036	RDC Phone - 1800068033					
TOTAL	8893	TRAINS PATHED 4		TRAINS ACHIEVED 4			





## DURALIE TRAIN TRACO - DELAY FORM

DAY: WEDNESDAY

DATE: 17/8/17

FROM	TO	REASON FOR DELAY
015	0945	SLOW DEAD ENGINE @ CRAVEN SOUTH.
0955		
		DUBOIS DEPARTED WITH 6 EMPTY WAGONS 26 LOADED
		UNDER DIRECTIONS FROM C. COAL TO MAKE 10.40 DEPARTURE
1230	1315	STH CRAVEN LOOP & CUT OF 6003
1417	1427	WAIT COAL
1410	1710	DRIVE TO STH CRAVEN TO PICK UP (6003, 6008)
		TO BRING BACK TO DURALIE & CROSS DOWN FREIGHTER,
		+ UP & DOWN XPT'S.
1925	1955	SET TRAIN BACK @ STRATFORD LOOP TO ALLOW
		FOR DOORS TO BE CLOSED ON WAGON 00023
		& CROSS DOWN FREIGHTER BEFORE HEADING BACK
		TO DURALIE.
		POINTS SET
		PERMISSION 11-11 @ STOP INSURE CROSSING
		IS WORKING 11-13 @ STOP.
2320		6. FULL WAGONS BROUGHT BACK TO ALLOW TIME
		BACK TO DURALIE BEFORE MIDNIGHT CURFEW
2335	2340	INTO STH CRAVEN TO CROSS STRATFORD EXPORTER

AURIZON		DURALIE TRAIN TRACO: DAY- <i>mon</i>				DATE - <i>29.8.16</i>	
		DRIVER 1		DRIVER 2		DRIVER 3	
DAY SHIFT		<i>D RICHARDS</i>		<i>D MICHEAL</i>		<i>0500</i>	
AFTERNOON		<i>M DEARLE</i>		<i>SWALKER</i>		<i>5 TOWERS</i>	
WORK SAFE							
LOCATION	Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading # Please circle coal class loaded Type 1 - 2 - 3		
	Timetable	Actual	Timetable	Actual			
Dep: DURALIE 601			<i>0615</i>	<i>0930</i>	LOAD: Type <i>1</i> -2-3 START <i>0647</i> FINISH <i>0856</i>		
Arr: STRAT	<i>0645</i>	<i>1000</i>			UNLOAD: START <i>1010</i> FINISH <i>1140</i>		
Dep: STRAT 602			<i>0905</i>	<i>1145</i>			
Arr: DURALIE	<i>0835</i>	<i>1215</i>			LOAD: Type 1-2-3 START FINISH		
Dep: DURALIE 603			<i>1015</i>				
Arr: STRAT	<i>1045</i>				UNLOAD: START FINISH		
Dep: STRAT 604			<i>1205</i>				
Arr: DURALIE	<i>1235</i>				LOAD: Type 1-2-3 START FINISH		
Dep: DURALIE 605			<i>1345</i>				
Arr: STRAT	<i>1415</i>				UNLOAD: START FINISH		
Dep: STRAT 606			<i>1610</i>				
Arr: DURALIE	<i>1640</i>				LOAD: Type <i>1</i> -2-3 START <i>2015</i> FINISH <i>2058</i>		
Dep: DURALIE 607			<i>1850</i>	<i>2110</i>			
Arr: STRAT	<i>1920</i>	<i>2150</i>			UNLOAD: START <i>2155</i> FINISH <i>2320</i>		
Dep: STRAT 608			<i>2010</i>	<i>2338</i>			
Arr: DURALIE 608	<i>2110</i>	<i>0005</i>			LOAD: Type 1-2-3 START <i>0015</i> FINISH <i>0100</i>		
TONNES							
601	<i>2726</i>	ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2					
603	<i>—</i>	REPORT ALL WAGON FAULTS TO Y/COAL DURALIE CRUSHER 0487940123 AND					
605	<i>—</i>	BRADKEN - 0409777945 ALL LOCO DEFECTS REPORT TO RDC ASAP					
607	<i>2648</i>	RDC Phone - 1800068033					
TOTAL	<i>5374</i>	TRAINS PATHED <i>4</i>		TRAINS ACHIEVED <i>2</i>			

*CANCEL DU 603-605*

FAXED



DATE: 29.8.16

REASON FOR DELAY

944 16

129, 960

1225	2015	NO COAL LOCK OUT TRAIN AT DURALE, @ 1225
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AFTER CONFIRMING WITH CRUSHER AND COAST "A" WAS TOLD WE WOULD BE BACK IN DURALIE BY MIDNIGHT.

2320	2335	wait for Xboat to get in clear on loop at Stratford
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Dubos - S. CAMELINA NO CM  
AVAILABLE

**FAKES**





# **STRATFORDCOAL**

Part of the Yancoal Australia Group

## **Training Manual Duralie ROM Loader & Stratford Unloader Monitor, Control and Rail Dispatch Operations**



**HST TRAINING PACKAGE**

## **1. REFERENCES**

**Coal Mining Safety and Health Regulations (2001) Part 11 Training S82,S83,S84,S85**

## **2. COMPLIANCE**

As an operator you must be aware of the legislative and site requirements regarding the operation of the Duralie ROM loader and Stratford Unloader.

These may include:

- Coal Mining Safety & Health Act
- Coal Mining Safety & Health Regulations
- Site procedures – SOPs / SWIs / MP
- Australian Standards
- Codes of Practice
- Work orders

### **2.1. Shift Changeover**

These meetings are conducted to ensure the oncoming shift is aware of any details relating to:

- Work requirements
- Hazards
- Control measures in place
- Plant status
- Coordination issues
- Weather conditions
- Manning levels

### **2.2. Environmental Issues**

All operators must identify any environmental issues prior to commencing work and they must be addressed and reported as for the site's procedures.

Some environmental issues you may encounter:

- Culturally sensitive sites and artefacts
- Dust
- Hazardous chemicals
- Noise
- Spills



### **3.1. PPE**

It is the Operators responsibility to ensure that any person working in their work area is provided with and wearing the minimum PPE requirement for that area. Additional PPE may be required for tasks posing a higher degree of risk and is available on request (e.g. dust masks, hearing protection, gloves and fall arrest equipment).

All PPE must comply with the appropriate Australian Standard and should be replaced immediately if damaged.

### **3.2. Authorisation**

No mobile equipment is to be operated without SSE authorisation.

### **3.3. Hazards**

Work area or task risk assessments should be conducted by all personnel prior to commencing any task. Tasks that are not deemed normal duties or tasks not covered by a Standard Work Procedure should be subject to a formal or written risk assessment prior to commencing. If in doubt for any reason the Supervisor should be consulted.

A PRIDE must be completed at the beginning of every shift and placed in the slam PRIDE box at the end of each shift.

The operator must determine the job requirements which includes controlling hazards. All hazards **MUST** be identified prior to work.

You need to address these hazards in accordance with the site requirements

### **3.4. Isolation and Maintenance**

When a piece of equipment is found to be damaged or defective, the equipment must then be isolated with an "Out of Service" tag and reported to the Supervisor.

The supervisor will submit a notification in SAP which is then raised in Geobank and the maintenance planners will raise a work order that is submitted into for repair or replacement of the equipment. The Supervisor is to be notified of any unscheduled shutdown of plant or equipment. Operational maintenance is only permitted on machinery, plant or equipment after the site standard for Isolation and Tagging has been adhered to ("Danger Tag", Lock Out & Tag Out).

Information Tags are also provided as a means of conveying a message or instruction to other personnel operating or working on a particular item of equipment or machinery. The tag will highlight information that should be brought to the attention of all personnel who work with or around the particular equipment item.

### **3.5. Production Targets**

It is the Operators responsibility to ensure all set process parameters are adhered to and production targets achieved as required. In the event of process bottlenecks or inefficiencies the Supervisor should be notified immediately.

## 4. INTRODUCTION

A contracting company is used to load the ROM onto trains at the Duralie mine, rail it and then unload at the Stratford CHPP.

ROM coal from the Duralie mine is stockpiled in the Duralie ROM stockpile area or dumped directly into the ROM dump hopper. The coal is segregated according to its quality including ash & sulphur. The coal is managed on the stockpile using trucks and FEL.

ROM coal from the stockpiles is then reclaimed using a FEL and trucks to load the coal into the ROM dump hopper where it is conveyed to a surge bin via the Rotary Breaker where it is sized to 140mm. The coal is then railed, to the Stratford CHPP and unloaded and conveyed to one of the Stratford ROM stockpiles.

The train wagon consist is usually made up to carry approximately 2,000t to 2,600t tonne of coal depending on wagon size.

The train loading operation has a number of environmental operating constraints, including hours of operation that must be strictly adhered to i.e. no train to leave Duralie before 0:600am and return before 0:00.

## 5. OPERATIONAL SUMMARY

A rail schedule is prepared by the Duralie Mine Plant Technician and loaded onto the Duralie Coal Rail programme (Sharepoint) by a Duralie CHP Technician.

The ROM is delivered to the ROM dump hopper either by:

- a FEL from one of the stockpiles; or
- dump trucks directly from the mine

The ROM is reclaimed at a maximum rate of 1420 tph. The reclaim operation can be initiated and monitored from either the CHPP or train loading control room. The rate is controlled by adjusting the feeder via the CITECT operating system.

The product coal is conveyed to the train load out surge bin 'TLO Bin'. This bin has a capacity of approximately 2,000 tonnes, using an ultrasonic level control.

The train enters under the bin where it is controlled via 'stop lights' and two way radio communication between the loco driver and the train loader operator (the train drivers also load and unload the train).

The coal is loaded into the wagons via a hydraulically controlled chute at a nominal rate of 2,000tph. The train loading operation is manually operated via the CITECT operating system from the train loading control room.

The train is dispatched to the Stratford CHPP on completion of loading the train.

The train drivers contact CTC to verify rail path and other rail movements in the area. The train travels approximately 20km to Stratford.



- Refer to appropriate SOP's e.g. 'Duralie CHP Operation Guidelines'

Discuss requirements with other Technicians and outgoing train loading operators (if change of shift or relief). Clarification of any specific train loading requirements should be discussed with the Supervisor as required.

The Duralie Mine determine the train loading requirements. The information is then passed onto the Duralie CHP Technicians to load onto SharePoint. This is done between 07:00am and 08:00am each morning.

## 7.2. Pre-start inspection (Train Driver)

On arrival at the Bin ensure rail track is clear of spillage or any other debris. Check for any other operations or maintenance in the area that may impact on safe train loading operations.

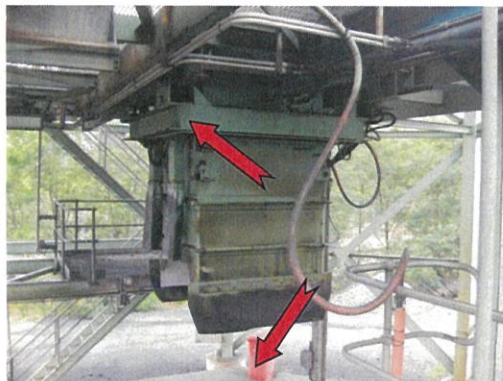
Note: Report any spillage & document on Train 'Traco'



## 7.3. Pre-start inspection (CHP Technician)

Check chute skirts & signs of hydraulic oil leaks.

Note: Report all hydraulic leaks





Visual check of chute for leaks and damaged hoses. Check proximity switches for damage.



#### 7.5. Start train loading (Train Driver or CHP Technician)

The Train Driver contacts the Duralie CHP Technician/Supervisor when they first arrive at the Bin, communication is then ongoing for the remainder of the shift.

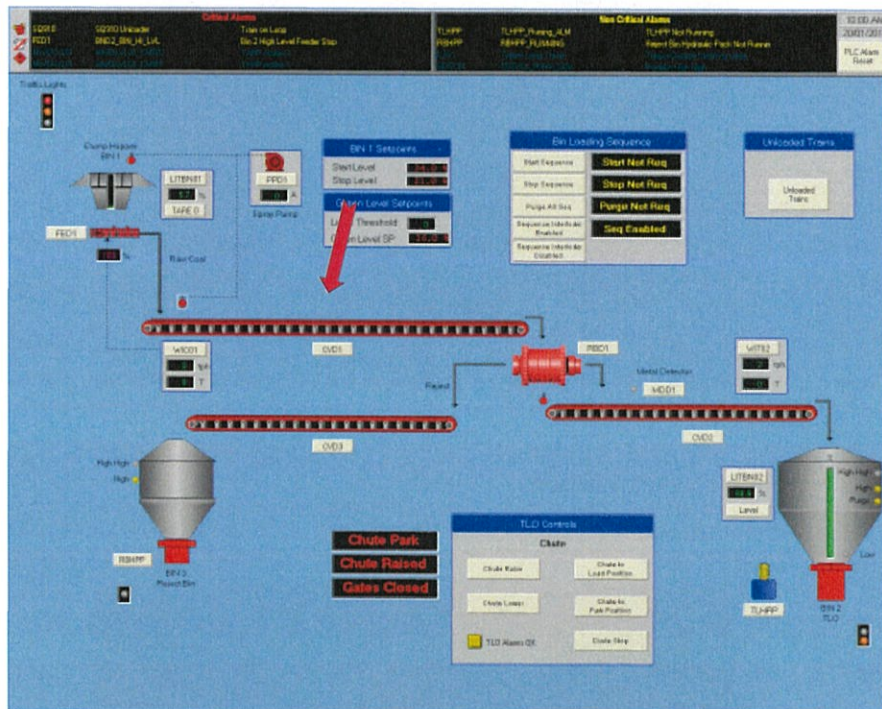
On arrival position the first wagon into the loading position under the Train Loading Chute (TLC).



Select 'Chute to Load Position'.

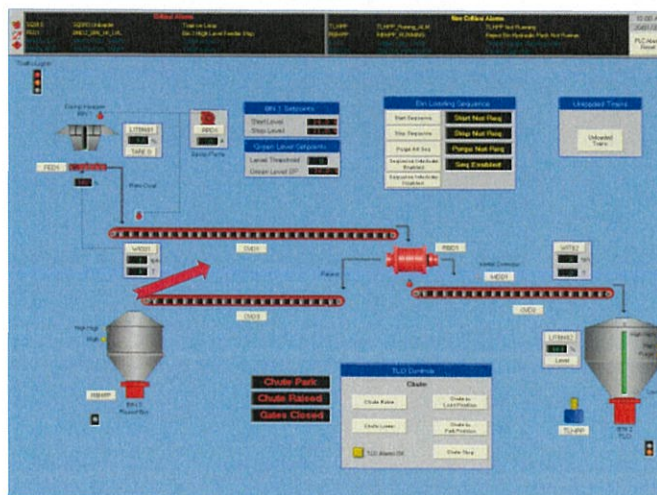
The chute will travel until it is in the load position.

NOTE: Check that the train loco is clear of the chute before lowering the chute.



Select 'Chute Lower'.

The chute will lower to the loading position.





Contact the Train Driver by two way radio (there is a two way dedicated to the train frequency only). Indicate to the driver the required train speed and other information relevant to the train loading process.



**Do not start loading until a positive communication is established with the Train Driver.**

The train speed may vary between 0.7 and 1.0kph (usually 0.7kph, the speed will vary depending on recharge rate, wagon size and handleability).

NOTE:

- If the dead man switch is released the slide gate will close.
- The slide-gate will not open if the 'wagon presence' is not detected. The 'slide-gate' will close automatically when the 'end of wagon' is detected.
- The train loco detectors will close the slide-gate, raise and drive the TLC back into its 'park' position if the loco is detected.

## 7.6. Loading train

Open slide-gate to allow coal flow into the wagon by pushing the joystick forward whilst holding down the dead-man switch (on top of the joy stick).



During loading, record any delays that involve stopping the Train on the Duralie Train Traco.

DURALIE TRAIN TRACO				DRIVER'S	
DAY SHIFT				DATE	
AFTERNOON				TIME	
LOCATION				LOADING - UNLOADING DETAILS - CHUTE TO THE TRACK	
Train	Arrive	Depart	Train	Arrive	Depart
DURALIE 801	12:00	12:30	DURALIE 802	12:30	13:00
DURALIE 803	13:00	13:30	DURALIE 804	13:30	14:00
DURALIE 805	14:00	14:30	DURALIE 806	14:30	15:00
DURALIE 807	15:00	15:30	DURALIE 808	15:30	16:00
DURALIE 809	16:00	16:30	DURALIE 810	16:30	17:00
DURALIE 811	17:00	17:30	DURALIE 812	17:30	18:00
DURALIE 813	18:00	18:30	DURALIE 814	18:30	19:00
DURALIE 815	19:00	19:30	DURALIE 816	19:30	20:00
DURALIE 817	20:00	20:30	DURALIE 818	20:30	21:00
DURALIE 819	21:00	21:30	DURALIE 820	21:30	22:00
DURALIE 821	22:00	22:30	DURALIE 822	22:30	23:00
DURALIE 823	23:00	23:30	DURALIE 824	23:30	24:00
DURALIE 825	24:00	24:30	DURALIE 826	24:30	25:00
DURALIE 827	25:00	25:30	DURALIE 828	25:30	26:00
DURALIE 829	26:00	26:30	DURALIE 830	26:30	27:00
DURALIE 831	27:00	27:30	DURALIE 832	27:30	28:00
DURALIE 833	28:00	28:30	DURALIE 834	28:30	29:00
DURALIE 835	29:00	29:30	DURALIE 836	29:30	30:00
DURALIE 837	30:00	30:30	DURALIE 838	30:30	31:00
DURALIE 839	31:00	31:30	DURALIE 840	31:30	32:00
DURALIE 841	32:00	32:30	DURALIE 842	32:30	33:00
DURALIE 843	33:00	33:30	DURALIE 844	33:30	34:00
DURALIE 845	34:00	34:30	DURALIE 846	34:30	35:00
DURALIE 847	35:00	35:30	DURALIE 848	35:30	36:00
DURALIE 849	36:00	36:30	DURALIE 850	36:30	37:00
DURALIE 851	37:00	37:30	DURALIE 852	37:30	38:00
DURALIE 853	38:00	38:30	DURALIE 854	38:30	39:00
DURALIE 855	39:00	39:30	DURALIE 856	39:30	40:00
DURALIE 857	40:00	40:30	DURALIE 858	40:30	41:00
DURALIE 859	41:00	41:30	DURALIE 860	41:30	42:00
DURALIE 861	42:00	42:30	DURALIE 862	42:30	43:00
DURALIE 863	43:00	43:30	DURALIE 864	43:30	44:00
DURALIE 865	44:00	44:30	DURALIE 866	44:30	45:00
DURALIE 867	45:00	45:30	DURALIE 868	45:30	46:00
DURALIE 869	46:00	46:30	DURALIE 870	46:30	47:00
DURALIE 871	47:00	47:30	DURALIE 872	47:30	48:00
DURALIE 873	48:00	48:30	DURALIE 874	48:30	49:00
DURALIE 875	49:00	49:30	DURALIE 876	49:30	50:00
DURALIE 877	50:00	50:30	DURALIE 878	50:30	51:00
DURALIE 879	51:00	51:30	DURALIE 880	51:30	52:00
DURALIE 881	52:00	52:30	DURALIE 882	52:30	53:00
DURALIE 883	53:00	53:30	DURALIE 884	53:30	54:00
DURALIE 885	54:00	54:30	DURALIE 886	54:30	55:00
DURALIE 887	55:00	55:30	DURALIE 888	55:30	56:00
DURALIE 889	56:00	56:30	DURALIE 890	56:30	57:00
DURALIE 891	57:00	57:30	DURALIE 892	57:30	58:00
DURALIE 893	58:00	58:30	DURALIE 894	58:30	59:00
DURALIE 895	59:00	59:30	DURALIE 896	59:30	60:00
DURALIE 897	60:00	60:30	DURALIE 898	60:30	61:00
DURALIE 899	61:00	61:30	DURALIE 900	61:30	62:00
DURALIE 901	62:00	62:30	DURALIE 902	62:30	63:00
DURALIE 903	63:00	63:30	DURALIE 904	63:30	64:00
DURALIE 905	64:00	64:30	DURALIE 906	64:30	65:00
DURALIE 907	65:00	65:30	DURALIE 908	65:30	66:00
DURALIE 909	66:00	66:30	DURALIE 910	66:30	67:00
DURALIE 911	67:00	67:30	DURALIE 912	67:30	68:00
DURALIE 913	68:00	68:30	DURALIE 914	68:30	69:00
DURALIE 915	69:00	69:30	DURALIE 916	69:30	70:00
DURALIE 917	70:00	70:30	DURALIE 918	70:30	71:00
DURALIE 919	71:00	71:30	DURALIE 920	71:30	72:00
DURALIE 921	72:00	72:30	DURALIE 922	72:30	73:00
DURALIE 923	73:00	73:30	DURALIE 924	73:30	74:00
DURALIE 925	74:00	74:30	DURALIE 926	74:30	75:00
DURALIE 927	75:00	75:30	DURALIE 928	75:30	76:00
DURALIE 929	76:00	76:30	DURALIE 930	76:30	77:00
DURALIE 931	77:00	77:30	DURALIE 932	77:30	78:00
DURALIE 933	78:00	78:30	DURALIE 934	78:30	79:00
DURALIE 935	79:00	79:30	DURALIE 936	79:30	80:00
DURALIE 937	80:00	80:30	DURALIE 938	80:30	81:00
DURALIE 939	81:00	81:30	DURALIE 940	81:30	82:00
DURALIE 941	82:00	82:30	DURALIE 942	82:30	83:00
DURALIE 943	83:00	83:30	DURALIE 944	83:30	84:00
DURALIE 945	84:00	84:30	DURALIE 946	84:30	85:00
DURALIE 947	85:00	85:30	DURALIE 948	85:30	86:00
DURALIE 949	86:00	86:30	DURALIE 950	86:30	87:00
DURALIE 951	87:00	87:30	DURALIE 952	87:30	88:00
DURALIE 953	88:00	88:30	DURALIE 954	88:30	89:00
DURALIE 955	89:00	89:30	DURALIE 956	89:30	90:00
DURALIE 957	90:00	90:30	DURALIE 958	90:30	91:00
DURALIE 959	91:00	91:30	DURALIE 960	91:30	92:00
DURALIE 961	92:00	92:30	DURALIE 962	92:30	93:00
DURALIE 963	93:00	93:30	DURALIE 964	93:30	94:00
DURALIE 965	94:00	94:30	DURALIE 966	94:30	95:00
DURALIE 967	95:00	95:30	DURALIE 968	95:30	96:00
DURALIE 969	96:00	96:30	DURALIE 970	96:30	97:00
DURALIE 971	97:00	97:30	DURALIE 972	97:30	98:00
DURALIE 973	98:00	98:30	DURALIE 974	98:30	99:00
DURALIE 975	99:00	99:30	DURALIE 976	99:30	100:00
DURALIE 977	100:00	100:30	DURALIE 978	100:30	101:00
DURALIE 979	101:00	101:30	DURALIE 980	101:30	102:00
DURALIE 981	102:00	102:30	DURALIE 982	102:30	103:00
DURALIE 983	103:00	103:30	DURALIE 984	103:30	104:00
DURALIE 985	104:00	104:30	DURALIE 986	104:30	105:00
DURALIE 987	105:00	105:30	DURALIE 988	105:30	106:00
DURALIE 989	106:00	106:30	DURALIE 990	106:30	107:00
DURALIE 991	107:00	107:30	DURALIE 992	107:30	108:00
DURALIE 993	108:00	108:30	DURALIE 994	108:30	109:00
DURALIE 995	109:00	109:30	DURALIE 996	109:30	110:00
DURALIE 997	110:00	110:30	DURALIE 998	110:30	111:00
DURALIE 999	111:00	111:30	DURALIE 1000	111:30	112:00
DURALIE 1001	112:00	112:30	DURALIE 1002	112:30	113:00
DURALIE 1003	113:00	113:30	DURALIE 1004	113:30	114:00
DURALIE 1005	114:00	114:30	DURALIE 1006	114:30	115:00
DURALIE 1007	115:00	115:30	DURALIE 1008	115:30	116:00
DURALIE 1009	116:00	116:30	DURALIE 1010	116:30	117:00
DURALIE 1011	117:00	117:30	DURALIE 1012	117:30	118:00
DURALIE 1013	118:00	118:30	DURALIE 1014	118:30	119:00
DURALIE 1015	119:00	119:30	DURALIE 1016	119:30	120:00
DURALIE 1017	120:00	120:30	DURALIE 1018	120:30	121:00
DURALIE 1019	121:00	121:30	DURALIE 1020	121:30	122:00
DURALIE 1021	122:00	122:30	DURALIE 1022	122:30	123:00
DURALIE 1023	123:00	123:30	DURALIE 1024	123:30	124:00
DURALIE 1025	124:00	124:30	DURALIE 1026	124:30	125:00
DURALIE 1027	125:00	125:30	DURALIE 1028	125:30	126:00
DURALIE 1029	126:00	126:30	DURALIE 1030	126:30	127:00
DURALIE 1031	127:00	127:30	DURALIE 1032	127:30	128:00
DURALIE 1033	128:00	128:30	DURALIE 1034	128:30	129:00
DURALIE 1035	129:00	129:30	DURALIE 1036	129:30	130:00
DURALIE 1037	130:00	130:30	DURALIE 1038	130:30	131:00
DURALIE 1039	131:00	131:30	DURALIE 1040	131:30	132:00
DURALIE 1041	132:00	132:30	DURALIE 1042	132:30	133:00
DURALIE 1043	133:00	133:30	DURALIE 1044	133:30	134:00
DURALIE 1045	134:00	134:30	DURALIE 1046	134:30	135:00
DURALIE 1047	135:00	135:30	DURALIE 1048	135:30	136:00
DURALIE 1049	136:00	136:30	DURALIE 1050	136:30	137:00
DURALIE 1051	137:00	137:30	DURALIE 1052	137:30	138:00
DURALIE 1053	138:00	138:30	DURALIE 1054	138:30	139:00
DURALIE 1055	139:00	139:30	DURALIE 1056	139:30	140:00
DURALIE 1057	140:00	140:30	DURALIE 1058	140:30	141:00
DURALIE 1059	141:00	141:30	DURALIE 1060	141:30	142:00
DURALIE 1061	142:00	142:30	DURALIE 1062	142:30	143:00
DURALIE 1063	143:00	143:30	DURALIE 1064	143:30	144:00
DURALIE 1065	144:00	144:30	DURALIE 1066	144:30	145:00
DURALIE 1067	145:00	145:30	DURALIE 1068	145:30	146:00
DURALIE 1069	146:00	146:30	DURALIE 1070	146:30	147:00
DURALIE 1071	147:00	147:30	DURALIE 1072	147:30	148:00
DURALIE 1073	148:00	148:30	DURALIE 1074	148:30	149:00
DURALIE 1075	149:00	149:30	DURALIE 1076	149:30	150:00
DURALIE 1077	150:00	150:30	DURALIE 1078	150:30	151:00
DURALIE 1079	151:00	151:30	DURALIE 1080	151:30	152:00
DURALIE 1081	152:00	152:30	DURALIE 1082	152:30	153:00
DURALIE 1083	153:00	153:30	DURALIE 1084	153:30	154:00
DURALIE 1085	154:00	154:30	DURALIE 1086	154:30	155:00
DURALIE 1087	155:00	155:30	DURALIE 1088	155:30	156:00
DURALIE 1089	156:00	156:30	DURALIE 1090	156:30	157:00
DURALIE 1091	157:00	157:30	DURALIE 1092	157:30	158:00
DURALIE 1093	158:00	158:30	DURALIE 1094	158:30	159:00
DURALIE 1095	159:00	159:30	DURALIE 1096	159:30	160:00
DURALIE 1097	160:00	160:30	DURALIE 1098	160:30	161:00
DURALIE 1099	161:00	161:30	DURALIE 1100	161:30	162:00
DURALIE 1101	162:00	162:30	DURALIE 1102	162:30	163:00
DURALIE 1103	163:00	163:30	DURALIE 1104	163:30	164:00
DURALIE 1105	164:00	164:30	DURALIE 1106	164:30	165:00
DURALIE 1107	165:00	165:30	DURALIE 1108	165:30	166:00
DURALIE 1109	166:00	166:30	DURALIE 1110	166:30	167:00
DURALIE 1111					

- Train finish time
- Check that track is clear of coal or any other debris
- Record any delays
- Record any incidents & remedial action
- Record any hazards & remedial action
- Record cancellations

[illegible]

**At the end of the shift complete the totals on the Duralie Train Traco and give it to the site Train Controller.**



Before unloading commences, check that the walkway and dump hopper is clear of spillage.

**CAUTION – Open dump hoppers.**

There are two sets of indication lights that indicate permission to dump in the two dump zones (Zone A & Zone B).



### 8.3. Train unloading complete

On completion of the train unloading ensure that the area has been clean of all spillage and other debris before departure.



No later than 5 minutes after completion of the train unloading and cleaned up any spillages. Contact the Stratford CHPP Control Room Operator, to advise of completion of the unloading process and the Train Unloading System can be shutdown.



NOTE: On departure from the Stratford Rail Loop, the two-way radio shall be changed to the Duralie Mine frequency and shall remain on Channel 4 to ensure that communication lines are open at all times.

### 8.5. Emergency response

Should a major spillage occur or a train derailment, loading must cease and the train must be stopped immediately.

**Note:** Refer to the 'Train loading Emergency Procedures' and Isolation Guidelines for working over rail tracks.

In the event of a train derailment at the unloading hopper, it is expected that CHPP operators will organise Bradken contractors to provide a work crew to right the wagons.

Normally there will be four hours elapse before this crew arrives.

In the meantime, please contact:

- CHPP Manager and advise him on the situation, he will ask for anything else he requires that is not mentioned in this procedure.
- Port Waratah, Pacific National Train Control on 02 4968 7671 and advise of the incident.
- Yancoal logistics on 02 4925 8120 to discuss export train disruptions, if applicable.

After the train is back on the rails, no traffic can pass the section of effected track until it has been inspected by a certified track inspector. The best contact person for this is:

Track Inspectors	Contact Numbers
Laing O'Rourke Contracting - Track Superintendent	02 4913 7645 office or Ian Blair 0437 054 754
Certified Track Inspector	See CHPP Crib Room Notice Board for current on-call inspector's phone numbers.

After a Certified Track Inspector has visited and cleared the site, please ensure they provide written advice to that effect, for forwarding to Pacific National as proof.



23 February 2018  
Ref: J0130-124-L1

Hansen Bailey Pty Ltd  
P.O. Box 473  
SINGLETON NSW 2330

**Attn: Mrs Dianne Munro**

Dear Dianne,

## **RE: ENVIRONMENTAL COMPLIANCE AUDIT – DURALIE COAL MINE**

### **INTRODUCTION**

Duralie Coal Pty Ltd, a wholly owned subsidiary of Yancoal Australia Limited (Yancoal), owns and operates Duralie Coal Mine (DCM) which is located approximately 100 km north of Newcastle. DCM is operated according to Project Approval 08\_0203.

Hansen Bailey was engaged by Yancoal to complete an Independent Environmental Audit for DCM. Bridges Acoustics was engaged by Hansen Bailey to provide specialist advice regarding acoustic issues associated with the audit, in consultation with the Secretary.

### **INITIAL DOCUMENT REVIEW**

A number of relevant documents were supplied by Yancoal and Hansen Bailey for initial review, or obtained from the DCM website, including:

- PA 08\_0203;
- Environment Protection Licence 11701 dated 8 November 2017;
- Environmental Management Strategy dated September 2017;
- Noise Management Plan dated August 2017;
- Annual Review 2014;
- Annual Review 2015;
- Annual Review 2016;
- Annual Review 2017;
- Noise compliance reports November 2016 – October 2017;
- Blast Management Plan dated September 2017;
- Coal shuttle train data including trip times and tonnes transported; and
- EPL monitoring data in spreadsheet form.

## **SITE VISIT**

Hansen Bailey's audit team visited the site from Tuesday 12 to Thursday 14 December 2017, in conjunction with a similar IEA for Stratford Coal Mine (SCM) and the Bowens Road North Open Cut (BRNOC), and requested clarification of issues raised during the initial document review. Further information supplied by Yancoal during and subsequent to the site visit was then reviewed to complete the audit.

## **OUTCOMES**

Information gathered during the document reviews and site visit indicated DCM was largely compliant with relevant project approval conditions.

One non-compliance with the project approval conditions was noted.

- The 2016 Annual Review reported a blast event at 5:34 pm on 17 March 2016 which is outside the permitted hours for blasting specified in PA 08\_0203 Schedule 3 Condition 9.

Environment Protection Licence (EPL) 11701 issued by the Environment Protection Authority (EPA) includes similar and equivalent noise and blasting conditions to those listed in PA 08\_0203, therefore noise and blasting levels during the audit period complied with the acoustic conditions of the EPL except:

- Noise monitoring locations are not sufficiently described in the Noise Management Plan or noise monitoring reports to confirm compliance with EPL Condition L4.2, which requires LAeq,15min noise measurements to occur within 30 m of a residence and LA1,1min measurements to occur 1 m from the residence façade. For example the noise monitoring reports state measurements at NM1 were taken at the entrance to the property, which is not within 30 m from the residence. However, strict compliance with this condition is not considered necessary or desirable as doing so would unreasonably disturb residents, particularly at night. Amendments to the NMP are recommended, as further described below, to address this condition. Ideally, a revision to the EPL to amend this unreasonable condition should be sought; and
- The 2016 Annual Review reported a blast event at 5:34 pm on 17 March 2016 which is outside the permitted hours for blasting specified in EPL Condition L5.5. No evidence has been provided that the EPA was notified of this blast event prior to the event or that compelling safety reasons existed for this blast to occur outside permitted hours.

## **RECOMMENDATIONS**

A number of recommendations, to correct issues or to improve noise and blasting outcomes, have been developed during the course of the audit investigation.

### **Noise Management Plan**

- The Noise Management Plan refers to the relevant Project Approval 08\_0203 and Environment Protection Licence 11701 conditions for noise criteria and describes a number of noise monitoring locations, however does not link these three by clearly deriving and specifying noise criteria at each monitoring location. As some noise monitoring locations represent multiple receptors, a clear statement of which receptors are covered by each monitoring location, and therefore the noise criteria that applies to each monitoring location including any corrections to receptors where relevant, is recommended. At the same time, a review of noise monitoring locations is recommended considering the location of private receptors, private agreements at one or more receptors, and any access or other relevant issues. Such a statement would avoid an exceedance at one monitoring location on land owned by Yancoal being justified by noting compliance with limits at another nearby monitoring location. A

similar comment applies to the noise monitoring reports, however a revised NMP will assist DCM's consultants to revise future monitoring reports;

- The Noise Management Plan should include relevant EPL conditions and demonstrate the noise monitoring procedure addresses all relevant conditions. An exception is the current EPL Condition L4.2 for which strict compliance is not considered reasonable, however the NMP should ensure compliance with the intent of this condition (that noise compliance measurement results correctly represent mining or shuttle train noise levels at each residence);
- The Noise Management Plan should provide a detailed description and/or plan of each exact noise monitoring location to demonstrate compliance with the intent of EPL Condition L4.2.

### **Noise Monitoring Reports**

- Table 2 in the noise monitoring reports prepared by SLR Consulting present MGA coordinates for each monitoring location, however the reported coordinates do not appear correct. The coordinates reported for NM1 Woodley appear to coincide with the centre of the residence itself which contrasts with the report stating the monitoring location is at the entrance to the property, while the coordinates reported for NM4 Fisher-Webster indicate a location adjacent to NM5 Moylan. Future noise monitoring reports should correctly describe and report the exact noise monitoring locations, particularly after recommended revisions to the NMP are completed; and
- The noise monitoring reports should include a copy of current calibration certificates/reports for the sound level meter and acoustic calibrator used for each noise survey.

### **EPL 11701**

- Condition L4.2 of EPL 11701 requires noise measurements within 30 m and 1 m of private residences which is not considered reasonable or practical due to likely disturbance to residents, particularly during the night. It is acknowledged that this or a very similar condition is common in EPLs, however a discussion with the EPA is recommended with the aim of modifying this condition to permit acoustically equivalent locations to be adopted for the noise compliance measurements to minimise disturbance to residents. It would be reasonable for a revised condition to require justification for alternative monitoring locations to be presented in a revised Noise Management Plan.

### **RAIL HAULAGE**

Schedule 5 Condition 9A requires a Rail Haulage Audit of the project, including whether all reasonable and feasible measures are being implemented to minimise the noise impacts of these operations. This audit involved a review of:

- The Shuttle Train Performance Summary which lists the number of trains per day, the number of trains that return after 10 pm and the number that return after midnight in exceptional circumstances; and
- Annual Reviews which report noise monitoring results from locations adjacent to the railway and predicted noise levels based on monitoring results at potentially affected residences.

The Shuttle Train Performance Summary for the audit period indicates the shuttle train returned after 10 pm on approximately 10% of operating days. This included significantly fewer occurrences in 2017 than in previous years, indicating significant improvement in the management of trip and return times over the audit period. Return times after 10 pm varied, with the majority within the period 10 pm to 11 pm. Only two shuttle train trips returned after midnight during the audit period, with each returning within 5 minutes after midnight and each with an explanation sufficient to justify exceptional circumstances.

The Annual Reviews describe results of noise monitoring completed at three locations adjacent to the railway. The reports indicate results generally complied with the LA<sub>max</sub> and LA<sub>eq</sub> noise criteria when extrapolated to nearby potentially affected residences, with intermittent reported exceedances of the LA<sub>eq</sub> criterion by typically 1 dBA and occasional exceedances of the LA<sub>max</sub> criterion by 1 dBA.

However, a review of the relevant noise monitoring reports associated with these exceedances indicated the results were obtained using unattended noise monitors with no ability to separate noise from the railway and passing traffic on the Bucketts Way, therefore average and maximum noise levels from the shuttle train are generally overstated. In addition, LA<sub>eq</sub> noise levels were incorrectly averaged over the few minutes of each train passby event, not over the entire 15 hour day period from 7 am to 10 pm. Exceedances of the LA<sub>eq</sub> criteria therefore did not occur as reported. More recent noise surveys have corrected these deficiencies, with results indicating compliance with relevant criteria.

This review has therefore indicated rail haulage operations complied with relevant noise criteria and management of return times significantly improved over the audit period.

## CONCLUSION

This audit of DCM's environmental performance has indicated substantial compliance with the relevant project approval and environment protection licence conditions, with one relatively minor acoustic related non-compliance identified during the audit. The identified non-compliance has not resulted in significant harm to the environment or significant sustained impacts to nearby residents.

A number of recommendations have been made to more clearly demonstrate compliance or identify non-compliances with relevant conditions.

Yours faithfully,



**MARK BRIDGES BE (Mech) (Hons) MAAS**  
**Principal Consultant**

**Duralie PA 08\_0203 Consolidated Conditions of Approval - Acoustics**

Sched.	Cond.	Requirement	Status	Comments																																																																										
<b>SCHEDULE 3 - ENVIRONMENTAL PERFORMANCE CONDITIONS</b>																																																																														
<b>NOISE</b>																																																																														
<b>Noise Criteria</b>																																																																														
3	2	<p>Except for the land referred to in Table 1, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table 2: Noise criteria dB(A)</i></p> <table> <tr> <th rowspan="2">Location</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr> <tr> <th><i>L<sub>Aeq</sub>(15 minute)</i></th><th><i>L<sub>Aeq</sub>(15 minute)</i></th><th><i>L<sub>Aeq</sub>(15 minute)</i></th><th><i>L<sub>A1</sub>(1 minute)</i></th></tr> <tr> <td>172 - Lyall</td><td>35</td><td>39</td><td>40</td><td>45</td></tr> <tr> <td>126 – Hamann Pixalu PL</td><td>35</td><td>35</td><td>39</td><td>45</td></tr> <tr> <td>123 – Oleksiuk &amp; Carmody</td><td></td><td></td><td></td><td></td></tr> <tr> <td>173 – Trigg &amp; Holland</td><td>35</td><td>36</td><td>37</td><td>45</td></tr> <tr> <td>116 - Weismantel</td><td></td><td></td><td></td><td></td></tr> <tr> <td>127 – Fisher-Webster</td><td>35</td><td>35</td><td>37</td><td>45</td></tr> <tr> <td>131(1) - Relton</td><td></td><td></td><td></td><td></td></tr> <tr> <td>180 (1) - Thompson</td><td>35</td><td>36</td><td>36</td><td>45</td></tr> <tr> <td>95 - Smith &amp; Ransley</td><td>35</td><td>35</td><td>36</td><td>45</td></tr> <tr> <td>144 - Wielgosinski</td><td></td><td></td><td></td><td></td></tr> <tr> <td>169 - Williams</td><td>35</td><td>36</td><td>35</td><td>45</td></tr> <tr> <td>177 - Thompson</td><td></td><td></td><td></td><td></td></tr> <tr> <td>All other privately-owned land</td><td>35</td><td>35</td><td>35</td><td>45</td></tr> </table> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>To identify the locations referred to in Table 2, see the figure in Appendix 3; and</li> <li>Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.</li> </ul> <p>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	Location	Day	Evening	Night		<i>L<sub>Aeq</sub>(15 minute)</i>	<i>L<sub>Aeq</sub>(15 minute)</i>	<i>L<sub>Aeq</sub>(15 minute)</i>	<i>L<sub>A1</sub>(1 minute)</i>	172 - Lyall	35	39	40	45	126 – Hamann Pixalu PL	35	35	39	45	123 – Oleksiuk & Carmody					173 – Trigg & Holland	35	36	37	45	116 - Weismantel					127 – Fisher-Webster	35	35	37	45	131(1) - Relton					180 (1) - Thompson	35	36	36	45	95 - Smith & Ransley	35	35	36	45	144 - Wielgosinski					169 - Williams	35	36	35	45	177 - Thompson					All other privately-owned land	35	35	35	45	Compliant	<p>Annual Review 2015 – compliant.</p> <p>Annual Review 2016 – compliant. A 2 dB criterion exceedance occurred at NM2 Zulumovski Nth during the July 2015 noise survey during the evening under strong temperature inversion conditions. Reported weather conditions were outside the valid range specified in the NSW Industrial Noise Policy, therefore this criterion exceedance is not considered a non-compliance.</p> <p>Annual Review 2017 – compliant. Section 6.8.2 of the Annual Review reports a 3 dB exceedance of the evening noise criterion during the evening in April 2017 at NM2 Zulumovski Nth. The Annual Review and the corresponding noise monitoring report dismiss this exceedance as unimportant given the monitoring location is on a mine-owned property and compliance with criteria occurred at NM4, however NM2 and NM4 represent different receptors so this statement is not adequately justified. The nearest receptor to NM2 is subject to a private agreement, therefore the exceedance at NM2 is acceptable however a significant revision to the NMP is recommended to prevent a recurrence of this situation.</p> <p>July 2017 noise monitoring report – compliant.</p> <p>October 2017 noise monitoring report – compliant.</p>
Location	Day	Evening		Night																																																																										
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<b>Noise Acquisition Criteria</b>																																																																														
3	3	If the noise generated by the project exceeds the criteria in Table 3 at any residence on privately owned land or on more than 25 percent of any privately-owned land, then upon	Compliant	Based on reported noise survey results in Annual Reviews and noise monitoring reports.																																																																										

Sched.	Cond.	Requirement	Status	Comments								
		<p>receiving a written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in Conditions 5-6 of Schedule 4.</p> <p><i>Table 3: Noise acquisition criteria dB(A) L<sub>Aeq</sub>(15 min)</i></p> <table><tr><th>Location</th><th>Day</th><th>Evening</th><th>Night</th></tr><tr><td>All privately-owned land</td><td>40</td><td>40</td><td>40</td></tr></table> <p><i>Notes:</i></p> <ul style="list-style-type: none"><li>Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy; and</li><li>For this condition to apply, the exceedances of the criteria must be systemic.</li></ul>	Location	Day	Evening	Night	All privately-owned land	40	40	40		
Location	Day	Evening	Night									
All privately-owned land	40	40	40									
Additional Noise Mitigation Measures												
3	4	<p>Upon receiving a written request from the owner of any residence:</p> <p>(a) On the land listed in Table 1;</p> <p>(b) On the land listed as 123, 126 and 172 on the figure in Appendix 3;</p> <p>(c) On the land listed as R2, R4-R12 on the figure in Appendix 3;</p> <p>(d) On privately-owned land where subsequent noise monitoring shows that noise generated by the project is greater than or equal to L<sub>Aeq</sub> (15 min) 38 dB(A); or</p> <p>(e) On privately-owned land between the Stratford and Duralie mines where the maximum passby rail traffic noise from the Project exceeds 85 dB(A), the Proponent shall implement additional noise mitigation measures (such as double glazing, insulation and/or air conditioning) at the residence in consultation with the owner. These measures must be reasonable and feasible.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p>	Not triggered	Information provided at site visit								
Rail Noise												
3	5	<p>By the end of December 2011, or as otherwise agreed by the Secretary, the Proponent shall only use locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in the ARTC’s EPL (No. 3142).</p>	Compliant	Rail audit report 2013 states commitment to use type-approved GL class locos. No known change during audit period.								
Operating Conditions												
3	6	<p>The Proponent shall:</p> <p>(a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the operational, low frequency and rail noise</p>	Compliant	<p>a) ref NMP Section 6.2.</p> <p>b) ref NMP Section 7.3.5.</p>								

Sched.	Cond.	Requirement	Status	Comments
		generated by the project; and (b) regularly assess the real-time noise monitoring and meteorological forecasting data and relocate, modify and/or stop operations on site to ensure compliance with the relevant conditions of this approval, to the satisfaction of the Secretary.		
<b>Noise Management Plan</b>				
3	7	<p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA, and submitted to the Secretary for approval within 3 months of the date of this approval, unless otherwise agreed by the Secretary;</p> <p>(b) describe the noise mitigation measures that would be implemented to ensure compliance with conditions 2-6 of Schedule 3 of this approval, including:</p> <ul style="list-style-type: none"> <li>• a real-time noise management system that employs both reactive and proactive mitigation measures;</li> <li>• a detailed program for the replacement and attenuation of existing plant on site; and</li> <li>• the specific measures that would be implemented to minimise the rail noise impacts of the project, and in particular: <ul style="list-style-type: none"> <li>- the braking and train horn impacts of the project;</li> <li>- the use of the shuttle train during the approved night-time hours;</li> </ul> </li> <li>• the construction of earth bund walls around evaporative fan units located on the waste rock emplacement area; and</li> </ul> <p>(c) include a noise monitoring program that:</p> <ul style="list-style-type: none"> <li>• uses a combination of real-time and supplementary attended monitoring measures to evaluate the performance of the project;</li> <li>• includes a program to evaluate the effectiveness of the noise mitigation measures referred to in 7(b) above;</li> <li>• includes a protocol for determining exceedances of the relevant conditions of this approval; and</li> <li>• includes a program to monitor the actual sound power levels of the plant on site, compare it with the benchmark levels used in the EA, and evaluate the effectiveness of any attenuation.</li> </ul> <p>Note: The effectiveness of the Noise Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 5. Following this review and audit, the plan is to be revised to ensure it remains up to date (see Condition 4 of Schedule 5).</p>	Compliant	<p>Latest NMP reviewed.</p> <p>a) NMP was approved on 25-8-2017</p> <p>b1) ref NMP Sect 7.3 and 7.4.</p> <p>b2) ref NMP Sect 6.2.2 and 7.5.</p> <p>b3a) ref NMP Sect 6.2.3.</p> <p>b3b) ref NMP Sect 6.2.3.</p> <p>b4) ref NMP Sect 6.2.2</p> <p>c1) ref NMP Sect 7.2, 7.3</p> <p>c2) NMP Sect 7.7 includes a commitment to develop a program.</p> <p>c3) ref NMP Sect 7.3.4 and 7.3.5.</p> <p>c4) ref NMP Sect 7.5.</p> <p>Note) ref NMP Sect 9.2.</p>



Sched.	Cond.	Requirement	Status	Comments																			
BLASTING																							
Blasting Criteria																							
3	8	<p>The Proponent shall ensure that the blasting on the site does not cause exceedances of the criteria in Table 4.</p> <p><i>Table 4: Blasting criteria</i></p> <table><tr><th>Location</th><th>Airblast overpressure (dB(Lin Peak))</th><th>Ground vibration (mm/s)</th><th>Allowable exceedance</th></tr><tr><td rowspan="2">Residence on privately owned land</td><td>115</td><td>5</td><td>5% of the total number of blasts over a period of 12 months</td></tr><tr><td>120</td><td>10</td><td>0%</td></tr><tr><td>Mammy Johnson's Grave</td><td>-</td><td>5</td><td>0%</td></tr><tr><td>Former Weismantel's Inn</td><td>-</td><td>10</td><td>0%</td></tr></table> <p>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance	Residence on privately owned land	115	5	5% of the total number of blasts over a period of 12 months	120	10	0%	Mammy Johnson's Grave	-	5	0%	Former Weismantel's Inn	-	10	0%	Compliant	Ann Review 2015 – compliant Ann Review 2016 – compliant Ann Review 2017 – compliant EPL 11701 monitoring data spreadsheet - compliant
Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance																				
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Mammy Johnson's Grave	-	5	0%																				
Former Weismantel's Inn	-	10	0%																				
Blasting Hours																							
3	9	The Proponent shall only carry out blasting on site between 9am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approved of the Secretary.	Not compliant	Appendix 5 of each Annual Review: Ann Review 2015 – compliant Ann Review 2016 – <b>17-3-2016 included a blast event at 5:34pm, without written approval</b> from the Secretary, which does not comply with the condition. Ann Review 2017 – compliant EPL 11701 monitoring data spreadsheet – compliant after period covered by Annual Review 2017																			
Blasting Frequency																							
3	10	The Proponent shall not carry out more than: (a) 1 blast a day on site, unless an additional blast is required following a blast misfire; and (b) 3 blasts a week on site, averaged over any 12 month period.	Compliant	Appendix 5 of each Annual Review: Ann Review 2015 – compliant Ann Review 2016 – compliant Ann Review 2017 – compliant EPL 11701 monitoring data spreadsheet – compliant after period covered by Annual Review 2017																			

Sched.	Cond.	Requirement	Status	Comments
<b>Property Inspections</b>				
3	11	<p>If the Proponent receives a written request for the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection report updated, then within 2 months of receiving this request the Proponent shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:</p> <ul style="list-style-type: none"> <li>• establish the baseline condition of the buildings and/or structures on the land, or update the previous property inspection report;</li> <li>• identify any measures that should be implemented to minimise the potential blasting impacts of the project on these buildings and/or structures; and</li> </ul> <p>(b) give the landowner a copy of the new or updated property inspection report.</p>	Compliant	<p>Ann Review 2015 – 1 request later withdrawn, no inspections occurred.</p> <p>Ann Review 2016 Section 6.7.1 – 1 request and 1 inspection of private residence, with the report indicating no blast-related damage to the residence. 1 inspection former Weismantels Inn, with the report indicating no blast-related damage to the building.</p> <p>Ann Review 2017 Section 6.7.3 – no requests, no inspections occurred.</p>
<b>Property Investigations</b>				
3	12	<p>If the owner of any privately-owned land claims that the buildings and/or structures on his/her land have been damaged as a result of blasting on site, then within 2 months of receiving this claim, the Proponent shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to investigate the claim; and</p> <p>(b) give the landowner a copy of the property inspection report.</p> <p>If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damages to the satisfaction of the Secretary.</p> <p>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.</p>	Not Triggered	No known trigger for this condition

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Hansen Bailey  
6 / 127-129 John Street  
Singleton NSW 2330

Attention: Dianne Munro

23 January 2018

IA172700

Dear Dianne

**Duralie Coal Independent Environmental Audit – Rail Haulage Operations**

This letter report provides an assessment of compliance with Schedule 5 Condition 9A(b) of Project Approval (PA) 08\_0203. The assessment forms part of the Independent Environmental Audit, led by Hansen Bailey.

Specific outcomes of the audit, in terms of air quality, are provided in **Sections 1 to 7** which follow. In summary, the outcomes indicate that Duralie Coal has been operating in compliance with the Condition 9A(b) in relation to air quality.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Shane Lakmaker".

**Shane Lakmaker**  
Principal (Air Quality)  
02 4979 2663  
[shane.lakmaker@jacobs.com](mailto:shane.lakmaker@jacobs.com)



## 1. Audit Background and Scope

Duralie Coal Pty Ltd (Duralie) holds Project Approval (PA 08\_0203) for the Duralie Coal Mine, located in the southern part of the Gloucester Basin. This Approval requires the undertaking of an Independent Environment Audit (IEA) every three years and one of the conditions requires a review of rail haulage operations.

Specifically, Schedule 5, Condition 9A includes the following requirements of the IEA:

...

*9A (b) review the existing rail haulage operations and determine whether all reasonable and feasible measures are being implemented to minimise the:*

- *Noise and dust impacts of these operations;*

...

Hansen Bailey led the IEA and Jacobs was engaged to audit the operation against the condition listed above, as relevant to “dust”. The site component of the audit was carried out in December 2017, by Hansen Bailey.

In terms of air quality, the scope of the audit was to:

- Assess compliance with Condition 9A(b), as relevant to air quality.
- Prepare this letter report which summarises the air quality audit outcomes.

One of the objectives of the audit was to understand the end-to-end process related to rail haulage operations. This was done by obtaining information on the procedures for:

- train movements in and out of site;
- loading to trains;
- emission control equipment, measures and practices;
- maintenance of emission control equipment and hardstand areas;
- engineering to manage emissions; and
- checking the operation of current dust controls.

In addition, the audit against Condition 9A(b) involved:

- Examining outcomes from the previous audit, including the 2012 study on dust emissions from the rail transport;
- Reviewing mitigation measures, as outlined in site procedures and management plans;
- Checking complaints records; and
- Analysing monitoring data from Annual Environmental Management Reports (AEMRs) for the audit period (including additional monitoring data for the second half of 2017).

The audit period under examination was from 30 November 2014 to 29 November 2017. It is noted that Duralie Coal is currently developing mine closure strategies for the Duralie Coal Mine and as such production rates have decreased.



## 2. Rail Haulage Operations

From the point of ROM coal extraction at Duralie mine, the rail haulage operations can be summarised as:

- Stockpiling ROM coal at the Duralie ROM stockpile, or dumping directly to the hopper.
- Segregating the ROM coal according to quality (e.g. ash and sulphur).
- Stockpile management by trucks and front-end loader.
- Reclaiming ROM coal from the stockpile and loading to the dump hopper.
- Conveying ROM coal to a surge bin via a rotary breaker.
- Loading ROM coal from the surge bin to trains.
- Transporting, by rail, to the Stratford CHPP.
- Unloading ROM coal to the Stratford CHPP.

A contracting company is used to load ROM coal onto trains, and transport and unload to Stratford CHPP.

## 3. Previous Audit Outcomes

Trevor Brown and Associates carried out the last audit for the Duralie Coal mine (Trevor Brown and Associates, 2014). The conclusions of this audit, with respect to dust from rail haulage operations, have been examined.

The audit concluded that the rail haulage operations were in compliance with the requirements of the Project Approval. This conclusion was informed by two studies:

- 1) "Duralie Extension Project, Study of Dust Emissions from Rail Transport". Prepared for Duralie Coal Pty Ltd by Katestone Environmental Pty Ltd, dated April 2012; and
- 2) "Rail Haulage Dust Audit – Duralie Coal Mine". Prepared by Todoroski Air Sciences, dated 13 January 2014.

There were two relevant conclusions from the last audit. These were:

*"The current dust mitigation practice of two-stage watering at the Duralie rail load out facility was found to be appropriate for controlling potential dust emissions from laden trains and no further controls are recommended (Katestone 2012)".*

*"Based on the findings of this audit report, it would not appear to be necessary to conduct further dust audits, provided the operator continues to implement its current controls to the rail haulage operations (Todoroski 2012)".*

The current audit seeks to identify any changes in the mitigation measures, management measures or procedures, complaints history or monitoring records which would indicate that Duralie Coal is not implementing its current controls relating to the rail haulage operations.



#### **4. Mitigation and Management Measures**

The Air Quality and Greenhouse Gas Management Plan (AQ&GGMP, dated Apr 2015) has been reviewed in terms of adequacy and implementation. The plan takes the following general approach to air quality management:

- Identifies the sources and types of emissions to air;
- Provides information on the regulatory requirements, air quality criteria and performance indicators for which the plan aims to address;
- Provides a description of the air quality management measures in terms of design controls, operational controls, reactive controls and proactive controls; and
- Outlines the monitoring program which is used as part of the air quality management system.

Section 6.1.2 of the AQ&GGMP outlines the mitigation measures which are specific to controlling “rail dust”. The main mitigation measure is the implementation of a two-stage watering system. This system involves (1) application of water to the coal surface as each wagon is loaded and (2) re-wetting of the coal surface by sprayers when the loaded trains depart from the rail loadout facility. Katestone (2012) examined the effectiveness of the rail dust mitigation measures and found them “adequate for the purpose and requirements of Condition 21A, Schedule 3 of the Project Approval”.

Implementation of measures to control dust emissions from rail loadout and haulage operations was evident by:

- Recent (23 Oct 2017) records relating to 28 day wagon servicing;
- Job Safety Analysis records which prescribed the control measures for correct train loadout;
- A clear procedure for loading wagons (from the contracting company) including the loading sequence for various coal types;
- Recent (23 Oct 2017) train examination certificates;
- Logs of train arrivals and departures which include Yancoal Duralie contact details to be used in the event that the contracting company identifies any issues or faults with equipment; and
- A specific Stratford Coal training manual relating to “Duralie ROM Loader & Stratford Unloader Monitor, Control and Rail Dispatch Operations”. This manual identifies dust as a key issue to be managed, as well as the procedures to be followed in the event of issues or spillages.

There are no recommendations in terms of the management plan adequacy and implementation.

#### **5. Complaints**

No complaints related to coal dust from rail haulage were made during the audit period.



## 6. Monitoring Data

Duralie Coal operates an air quality monitoring program which consists of nine (9) dust deposition gauges and four (4) high volumes air samplers (HVASs) measuring TSP and PM<sub>10</sub>. The results from these monitors are used to assess compliance with the criteria in the Project Approval relating to dust deposition and particulate matter concentrations (as TSP and PM<sub>10</sub>). A tapered element oscillating microbalance (TEOM) measuring PM<sub>10</sub> is also used as a management tool.

Air quality monitoring data from the 2015, 2016 and 2017 AEMRs and additional monitoring data for the second half of 2017 from the Duralie Coal website have been reviewed. These data are summarised below:

- In the 2015 AEMR, the PM<sub>10</sub> and TSP concentrations were below the Project Approval air quality criteria, demonstrating compliance.
- In the 2016 AEMR, the PM<sub>10</sub> and TSP concentrations were below the Project Approval air quality criteria, demonstrating compliance.
- In the 2017 AEMR, the PM<sub>10</sub> and TSP concentrations were below the Project Approval air quality criteria, with the exception of two days when the PM<sub>10</sub> concentrations were higher than 50 µg/m<sup>3</sup> (24-hour average) at a mine-owned property and not in the vicinity of the rail loadout facility. On one of these days, 31/12/2016, the mine was not operating. The results did not show that rail haulage operations were non-compliant with the Project Approval air quality criteria at nearest private sensitive receptors.

The monitoring results demonstrated compliance with the Project Approval criteria. It also can therefore be inferred that the rail haulage operations did not cause any adverse air quality impacts during the audit period.

## 7. Conclusions

It is concluded that Duralie Coal has been operating in compliance with Schedule 5 Condition 9 A(b) of Project Approval 08\_0203, in relation to dust. This conclusion is based on:

- Evidence of recent servicing and train examination records;
- Clear procedures for training loading from the contracting company;
- Mitigation measures which have been determined to be effective and adequate for the purpose and requirements of the Project Approval;
- Training documentation which includes managing dust from rail haulage operations;
- No complaints relating to dust from rail haulage operations; and
- Air quality monitoring data which do not reveal any compliance issues relating to dust from rail haulage operations.





## **8. References**

Katestone (2012) "Duralie Extension Project, Study of Dust Emissions from Rail Transport". Prepared for Duralie Coal Pty Ltd by Katestone Environmental Pty Ltd, dated April 2012.

Trevor Brown and Associates (2014) "Duralie Coal Mine Project – Independent Environmental Audit". November 2014.

Todoroski (2014) "Rail Haulage Dust Audit – Duralie Coal Mine". Prepared by Todoroski Air Sciences, 13 January 2014.

Yancoal (2015) "Duralie Coal Mine Annual Review 2015".

Yancoal (2016) "Duralie Coal Mine Annual Review 2016".

Yancoal (2017) "Duralie Coal Mine Annual Review 2017".