



# Independent Environmental Audit 2019



Narrabri Coal Mine

13 February 2020

Project No: 0523817

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Final	01	Heather McKay, Peter Gleadhill	Oliver Moore	Oliver Moore	31 January 2020	Incorporate client feedback

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## Signature Page

13 February 2020

# Independent Environmental Audit 2019

Narrabri Coal Mine

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# Independent Audit Certification Form

Independent Audit Certification Form	
Development Name	Narrabri Mine
Development Consent No.	PA 08_0144 (Mod 6, December 2016)
Description of Development	Narrabri Mine is an underground mine
Development Address	10 Kurragong Creek Road, Baan Baa
Operator	Narrabri Coal operations Pty Ltd
Operator Address	10 Kurragong Creek Road, Baan Baa
Independent Audit	
Title of Audit	Narrabri Coal Mine Independent Environmental Audit 2019
<p>I certify that I have undertaken the independent audit and prepared the contents of the attached independent audit report and to the best of my knowledge:</p> <ul style="list-style-type: none"><li>• The audit has been undertaken in accordance with relevant approval condition(s) and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits</li><li>• The findings of the audit are reported truthfully, accurately and completely;</li><li>• I have exercised due diligence and professional judgement in conducting the audit;</li><li>• I have acted professionally, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the audit;</li><li>• I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;</li><li>• I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);</li><li>• Neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the lead regulator prior to the audit; and</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 development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.</li></ul> <p>Note.</p> <p>a) The Independent Audit is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</p> <p>b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).</p>	
Signature	
Name of Lead / Principal Auditor	Heather McKay
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Date	13 February 2020

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## EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an Independent Environmental Audit (IEA) of the Narrabri Coal Mine ('NCM') on behalf of Whitehaven Coal Limited ('WCL'). The mine is located approximately 17 km south east of Narrabri, New South Wales (NSW). The primary purpose of the audit was to satisfy the Department of Planning, Industry and Environment (DPIE) Ministers' Conditions of Approval (CoA) Project Approval number PA 08\_0144, which requires completion of an independent audit every three years from the date of the approval. The audit period assessed in this IEA is 1 December 2016 through 4 December 2019 (the date the site visit was completed as part of the audit).

The audit included a review of:

- DPIE, Ministers Conditions of Approval PA 08\_0144 (Modification 6) including Statements of Commitments;
- Mining Lease 1609;
- Environment Protection Licence (EPL) 12789; and
- Implementation of Management Plans developed as part of the Ministers Conditions of Approval.

Whitehaven Coal has established the control systems generally required for the stage of development i.e. operational. All staff interviewed demonstrated an understanding of requirements and a commitment to the application of the requisite management systems and plans.

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the Department of Planning & Environment publication "Independent Audit Guidelines" issued October 2015. The number of non-conformances with the statutory conditions and implementation of the management plans is summarised in *Table E1* below.

**Table E.1 Summary of Audit Findings**

Review	Non-compliances (NC)	Administrative non-compliance (ANC)	Observations (Obs NC)	Observations (Obs C)
<b>Statutory Instruments</b>	6	5	-	-
<b>Implementation of Plans</b>	-	-	-	6

An action table addressing all findings of the audit has been developed by Whitehaven Coal and will be issued separately to this report.

## 1. INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an Independent Environmental Audit (IEA) of the Narrabri Coal Mine (NCM), on behalf of Whitehaven Coal Limited (herein referred to as 'WCL'). The mine is located approximately 17 km south east of Narrabri, New South Wales (NSW). The primary purpose of the audit was to satisfy the Department of Planning, Industry and Environment (DPIE)<sup>1</sup> Ministers' Conditions of Approval (CoA) Project Approval number PA 08\_0144 (Modification 6), which requires completion of an independent audit every three years from the date of the approval. The audit period assessed in this IEA is 1 December 2016 through to 4 December 2019 (the date the site visit was completed as part of the audit). The audit must:

- (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- (b) include consultation with the relevant agencies;
- (c) assess the environmental performance of the project and assess whether it is complying with the relevant requirements of this approval and any relevant mining lease or EPL (including any strategy, plan or program required under these approvals);
- (d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate; and
- (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

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.

### 1.1 Overview of Operations and Approvals

The Narrabri Coal Mine is an underground coal mine which was originally approved by the Minister for Planning under Project Approval PA 02\_0144 on 26 July 2010 to Narrabri Coal Operations Pty Ltd (NCO). PA 08\_0144 MOD 6 was approved in December 2016 with an expiry date of 26 July 2031.

The Narrabri Coal Mine lies within the mining lease (ML) 1609. The Narrabri Mine is a joint venture between Narrabri Coal Pty Ltd (a company 100% owned by Whitehaven Coal Limited) (70%), Upper Horn Investments (Australia) Pty Ltd (7.5%), EDF Trading Australia Pty Limited (7.5%), J-Power Australia Pty Ltd (7.5%) and Daewoo International Narrabri Investment Pty Ltd & Kores Narrabri Pty Limited (7.5%). Narrabri Coal Operations Pty Ltd (NCO) (a wholly owned subsidiary of Whitehaven) manages the Narrabri Mine on behalf of the Narrabri Mine Joint Venture (NMJV).

The site holds Environmental Protection Licence (EPL) 12957, which was last varied on 3 December 2019.

#### 1.1.1 Description of primary processes undertaken during the audit period

Current activities at the site include the following:

- Construction and Demolition;
- Exploration;
- Land Preparation;
- Mining Operations;
- Coal Processing and Transport;
- Maintenance Activities;

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<sup>1</sup> Formerly the Department of Planning and Environment (DP&E).

- Waste Management;
- Water Management;
- Subsidence Management; and
- Rehabilitation.

#### *1.1.1.1 Construction and demolition*

The following construction activities were conducted during the audit period:

- Installation and completion of the second ventilation shaft;
- Installation of a new power line and substation (close to the second ventilation shaft) to replace the mains power delivery (originally via the mine access drifts);
- Development of the south-eastern long wall panels commenced.

No demolition was completed during the audit period.

#### *1.1.1.2 Exploration*

Exploration drilling was conducted during the audit period as required under the Mining Lease 1609 and Exploration Licence 6243 for coal quality, geotechnical and/or hydrogeological evaluation purposes. A detailed review of compliance with Exploration Licence 6243 conditions of approval is outside the scope of the Audit.

#### *1.1.1.3 Land preparation*

During the audit period, clearing of vegetation was conducted to facilitate surface drilling, gas drainage infrastructure and other operational works. Prior to the commencement of any clearing activities, flora and fauna pre-clearing surveys are conducted in accordance with the Landscape Management Plan. Once cleared, soil stripping and stockpiling is conducted in the cleared areas in order to facilitate gas draining infrastructure works.

#### *1.1.1.4 Mining operations*

NCO operations during the reporting period consisted of Stage 2 underground longwall mining using a longwall mining unit and continuous miners, support by shuttle cars and feeder breakers, to support ongoing development of underground roadways, ventilation overcast and belt chambers. The longwall unit has extracted LW101 to LW108 with the Stage 2 approval allowing for development and mining of LW panels 1 to 20.

Surface features include the Reject Emplacement Area (REA), access tracks, ventilation shaft and goaf gas drainage sites and associated power and water infrastructure including a Water Conditioning Plant. A longwall assembly site and mining supplies storage area is located north of the box-cut Pit Top Area.

#### *1.1.1.5 Coal processing and transport*

ROM coal is stockpiled at the surface for coal handling preparation. The coal conveyor and stacking system includes a washing circuit for larger sized coal (>16mm) and by-pass system for smaller sized coal (<16mm). Product coal is stockpiled before being loaded to rail for transport to Newcastle Port. Coarse reject material is transferred to the on-site Reject Emplacement Area.

It is noted that at the time of the audit no coal processing was being undertaken, due to a scheduled move of the longwall mining unit from LW108 to LW109.



### *1.1.1.6 Maintenance activities*

Maintenance of plant and equipment occurs within the maintenance workshop which is utilised and managed by NCO maintenance staff. Adjacent to the workshop is a concrete washbay which is connected to an in-ground oil water separator pit. Bulk diesel storage is provided in the form of two 68,000 L self-bunded aboveground storage tanks. Drainage lines from the refuelling bay sump is connected to the washbay. Sludge waste from the washbay and refuelling bay is pumped from the oil water separator pits by a third party waste contractor on a routine basis.

### *1.1.1.7 Waste management*

Production wastes generated at the site include mined rock (coarse reject), drill cuttings from exploration and other surface drilling activities, brine generated by the Water Conditioning Plant.

Non-production wastes generated include; general domestic waste from onsite buildings, hydrocarbons and oils generated from the maintenance workshop, wash down pad and fuel storage area, and treated sanitary wastewater. General wastes are disposed of on a routine basis by a waste contractor. The site recycles cardboards/paper and steel. Waste oil is collected by a third party waste contractor for offsite treatment and recycling. Sanitary wastewater is disposed via a self-irrigating eco-cycle septic system, which has been approved by Narrabri Shire Council.

Waste segregation was noted to be good during the audit.

### *1.1.1.8 Water management*

Water management at NCM is undertaken in accordance with the approved Water Management Plan. Surface water is managed in a closed loop of ponds located within the rail loop, comprising a series of water storage dams used to collect, store and dispose of pumped out mine water and dirty water runoff, sediment basins, and clean / dirty surface water drains.

Licensed surface water discharge points include sediment dam 2 (SD2), sediment dam 4 (SD4), sediment dam 7 (SD7), Namoi River NR1 and Ventilation Shaft (SD8). At the time of the site tour, SD2, SD4 and SD7 did not contain any water and the Environmental Superintendent advised that no discharge offsite had occurred during the audit period.

A Water Conditioning Plant treats dewatered groundwater from the mine to a sufficient water quality for re-use in mining operations.

The dams are subject to weekly, monthly and quarterly inspections by a trained NCO employee. Annual and 5 yearly inspections are undertaken by a Dam Engineer in accordance with the Dams Safety Act.

All water used at the mine is currently sourced from licensed entitlements. NCO holds a number of water licences for water take from sources including the Namoi River, Upper Namoi Zone 5 Namoi Valley Groundwater Source, and 'Aquifer interference' from the Gunnedah-Oxley Basin MDB Groundwater Source. Pumped volumes are metered, and reported to Water NSW, and recorded in Annual Reviews.

### *1.1.1.9 Subsidence management*

The impacts of subsidence are managed through multiple management plans as well as subsidence prediction and monitoring of subsidence effects.

### *1.1.1.10 Rehabilitation*

Progressive rehabilitation activities have occurred during the audit period and generally comprise filling in sumps associated with drilling activities, re-spreading topsoil/subsoil over drilling/access tracks and weed management.

## 1.2 Audit Objectives

The primary objectives of the audit included:

- assess the environmental performance of the project and assess whether it is complying with the requirements in the CoA and any relevant EPL or Mining Lease and Water Access Licences (including any assessment, plan or program required under these approvals);
- review the adequacy of any approved strategy, plan, or program required under the abovementioned consents/approvals; and
- recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.

## 1.3 Audit Scope

The scope of works in order to complete the Audit includes the following:

- the audit to be carried out in accordance with DP&E's Guidelines for Independent Audits and AS/NZS ISO 19011:2014: Guidelines for auditing management systems;
- review of compliance against the documentation identified in CoA (as it relates to the current activities at the Narrabri Mine) which included;
  - document review of compliance against the CoA, statement of commitments, and any other relevant consents/approvals;
  - a site inspection to assess compliance against field implementation of the active CoA;
  - review of supporting plans developed as part of the CoA and assessment of their adequacy towards effective environmental performance;
- review of monitoring results and trends with comparison of monitoring results against regulatory limits and CoA limits (where applicable);
- confirmation if any additional monitoring required for identified trends;
- community complaints with review completed for any trends and identifying the source of an established trend;
- review of any regulatory actions including any letters, penalty notices and prosecutions;
- review of previous Independent Environment Report audit report to verify close-out of actions;
- consultation with the relevant agencies such as Department of Planning, Industry and Environment (DPIE) (various divisions: planning and post approvals, compliance, water, resources, biodiversity and conservation), Environment Protection Authority (EPA), Narrabri Shire Council (NSC) and Narrabri Coal Mine Community Consultative Committee (CCC);
- draft report with results of compliance assessment to be issued for comment to Whitehaven Coal; and
- final report issued for submission to the DPIE.

The audit covers the period 1 December 2016 to 4 December 2019 and is limited to assessing the activities completed during the audit period.

## 1.4 Audit Criteria

The audit covered the following specifications and standards, with a particular focus on activities associated with the current stages of operation. The documents relevant to this audit included:

- Conditions of Approval PA 08\_0144 (Modification 6) including Statements of Commitments;
- Mining Lease 1609;

- EPL 12789; and
- implementation of approved Management Plans:
  - Noise Management Plan (Sch4, C4.4) dated 1 June 2018
  - Air Quality Management Plan (Sch4, C4.7A) dated 26 May 2015
  - Water Management Plan (Sch4, 4.13) dated 6 March 2013
  - Aboriginal Cultural Heritage Management Plan (Sch4, C4.23) dated 24 June 2019
  - Energy Saving Action Plan (Sch3, C4.30) dated 11 August 2014
  - Greenhouse Gas Minimisation Plan (Sch4, C4.32) dated 7 June 2012
  - Waste Management Plan (Sch4, C4.33) dated 26 May 2015
  - Landscape Management Plan (Sch5, C5.3) dated 6 April 2017
  - Rehabilitation Management Plan (Sch5, C5.4) dated 6 April 2017
  - Mine Closure Plan (Sch5, C5.5) dated September 2016
  - Environmental Management Strategy (Sch6, C6.1) dated 26 May 2015

## 1.5 Limitations of this Report

This disclaimer, together with any limitations specified in the report, applies to this report and its use.

This report was prepared in accordance with the contracted scope of services for the specific purpose stated and subject to the applicable cost, time and other constraints. In preparing this report, ERM relied on:

- a) client/third party information which was not verified by ERM except to the extent required by the scope of services, and ERM do not accept responsibility for omissions or inaccuracies in the client/third party information; and
- b) information taken at or under the particular times and conditions specified, and ERM do not accept responsibility for any subsequent changes.

This report has been prepared solely for use by, and is confidential to, the client and ERM accepts no responsibility for its use by other persons. This report is subject to copyright protection and the copyright owner reserves its rights. This report does not constitute legal or financial advice.

## 2. AUDIT METHODOLOGY

### 2.1 Methodology and Process

The audit comprised a site inspection during the dates 2 to 4 December 2019, interviews with key personnel, and review of records and other related documentation.

The audit process included the following primary components:

- development of a Terms of Reference developed which included:
  - audit scope and objectives;
  - date and location of audit;
  - members of audit team;
  - list of people to be audited;
  - list of reference documents and audit criteria;
- a project inception meeting was held on 15 November 2019 to confirm details of the Terms of Reference, site inspection logistics and request for documentation required prior to the site inspection component of the audit;
- an opening meeting was held on 2 December 2019 at site to confirm the audit objectives and scope for the site inspection. Attendees included:
  - Heather McKay (ERM Lead Auditor);
  - Peter Gleadhill (ERM Support Auditor);
  - Brent Baker (Site Environment Superintendent);
  - Lynden Cini (Group Superintendent – Environment);
- Site inspections were undertaken between 2 and 4 December 2019;
- A debrief / closeout meeting was held at the site on 4 December 2019 to discuss initial findings and recommendations. Attendees were:
  - Heather McKay (ERM Lead Auditor);
  - Peter Gleadhill (ERM Support Auditor);
  - Brent Baker (Site Environment Superintendent);
  - Lynden Cini (Group Superintendent – Environment); and
  - Garry Pearson (NCO Contractor).
- Preparation of the draft audit report (this report).

### 2.2 Agency and Community Consultation

ERM consulted with the agencies and stakeholders as required including Department of Planning, Industry and Environment (DPIE) (including its various departments such as Compliance, Post approvals, Resources Regulator and Biodiversity and Conservation Division), CCC, New South Wales Environment Protection Authority (NSW EPA), as well as Narrabri Council. Emails were issued on 7 November 2019, with a follow up email submitted on 30 November 2019 to those that had not yet replied. Responses are outlined in *Table 2.1*.

Table 2.1 Agency and Stakeholder Consultation Summary

Agency/Stakeholder	Method	Consultation summary	Response	Location Addressed in Report
Department of Planning, Industry and Environment (DPIE) – Compliance	Email on 7 November 2019.	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	Response received outlining standard IEA requirements including compliance with the MOP and rehabilitation practices.	Review of compliance with the MOP and rehabilitation management plans listed in the CoA and Mining Lease were conducted as part of the audit.
Department of Planning, Industry and Environment (DPIE) – Resource Regulator	Email on 7 November 2019.	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	Response received outlining the following areas of interest: <ul style="list-style-type: none"> <li>■ Status of 2016 IEA actions</li> <li>■ Noise ;management</li> <li>■ Monitoring programs;</li> <li>■ Air quality and noise impacts; and</li> <li>■ Complaints management.</li> </ul>	Review of compliance with the relevant provisions listed in the CoA and EPL were conducted as part of the audit.
Natural Resource Access Regulator (Water)	Email on 7 November 2019 and 28 November 2019.	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received.	N/A
New South Wales Environment Protection Authority (NSW EPA)	Email on 7 November 2019 and 28 November 2019.	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	Response received on 29 November outlining the following areas of interest: <ul style="list-style-type: none"> <li>■ Waste management;</li> <li>■ Dust; and</li> <li>■ Noise.</li> </ul>	Review of compliance with waste management, dust and noise provisions listed in the CoA and EPL were conducted as part of the audit.



Agency/Stakeholder	Method	Consultation summary	Response	Location Addressed in Report
Narrabri Shire Council	Email on 7 November 2019	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	Response received on 13 November 2019 outlining the following areas of interest: <ul style="list-style-type: none"> <li>■ Sensitive receptors omitted from management development.</li> <li>■ Impacts to omitted land owner on David Road, Turrawan.</li> </ul>	The Council's request is addressed to the extent possible within the scope of the IEA.
Community Consultation Committee (CCC)	Email on 7 November 2019 and 28 November 2019	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received.	N/A

In each case, an email was sent to representatives of each agency requesting feedback on those issues considered most relevant by their Department at the time of the audit. The consultation outlining the terms of reference was provided prior to the site inspection to obtain feedback and draw attention to any key issues, within the agreed scope of the audit. The Departmental correspondence is provided in *Appendix B*.

Responses received required the audit to focus on compliance against CoA as well as environmental monitoring relating to noise, dust and waste management practices. These areas are captured in the audit findings.

## 2.3 Classification of Audit Findings

Findings resulting from an assessment of audit evidence were divided into six categories as follows:

- **Compliant (C):** the intent and all elements of the audit criteria requirements have been complied with within the scope of the audit.
- **Not Verified (NV):** insufficient verifiable evidence to demonstrate that the intent and all elements of the audit criteria have been complied with within the scope of the audit.
- **Non-compliant (NC):** Failure to meet the audit requirements, failure to achieve the field performance outcomes identified in documentation, or ineffective environmental management of the activity.
- **Administrative Non-compliance (ANC):** technical conformance with audit requirements that would not impact on performance and is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to performance-related aspects (e.g. exceedance of a noise limit) or where a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval). 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).
- **Observation (O):** Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance.
- **Not Triggered (NT)** – A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the audit inspection, and therefore a determination of compliance could not be made.
- **Note:** A statement or fact, where no assessment of compliance is required.

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the DPIE publication “Independent Audit Guidelines” issued October 2015.

The overall level of risk was estimated by combining the likelihood of harm occurring with the estimated level of harm associated with each finding. Risk levels have been assigned as follows:

- **High:** Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence;
- **Medium:** Non-compliance with:
  - potential for serious environmental consequences, but is unlikely to occur; or
  - potential for moderate environmental consequences, but is likely to occur;
- **Low:** Non-compliance with:
  - potential for moderate environmental consequences, but is unlikely to occur; or
  - potential for low environmental consequences, but is likely to occur.

### 3. AUDIT FINDINGS

#### 3.1 Previous Audit Follow Up

The last audit was conducted by ERM for the period 1 October 2013 to 30 November 2016. A summary of the 2016 audit findings and their status is summarised below in *Table 3.1*.

Table 3.1 Summary of 2016 Audit Findings

Item No	Assessment Requirement	Comment	2016 Audit Classification	NCO Response/Action	2019 Status														
<i>Minister's Conditions of Approval PA 08_0144 (Mod 5)</i>																			
Sch.2, C1	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.	NCO has exceeded noise criteria on two occasions during the audit period, and has received a Penalty Notice for disturbance of Aboriginal Cultural artefacts. The latter is considered to be of higher level of significance and hence subsequent risk classification than the noise exceedances.	NC	Refer below.	Deemed as <b>compliant</b> during this audit.														
Sch.2, C2	The Proponent shall carry out the project generally in accordance with the:  (a) EA; and (b) conditions of this approval.	As above	NC	Refer below.	Deemed as <b>compliant</b> during this audit.														
Sch.4, C1	The Proponent shall ensure that the noise generated by the project does not exceed the levels set out in Table 1.  <small>Table 1: Impact assessment criteria d(B)(A)</small>	Noise exceedances were recorded during the last three EPL reporting periods and were notified as required by the Noise Management Plan.  Refer comments and recommendation for EPL L3.1 in relation to exceedance on noise criteria.	NC	The mine will continue to implement the NMP. Improvement opportunities will be reported in the relevant AR.	Noise exceedances reported during the previous reporting period have been resolved. A new <b>non-compliance</b> has been raised during this audit as noise exceedances were recorded at different properties during the audit period.														
					<table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th>Day</th> <th>Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>L<sub>Aeq</sub>(15 minute)</th> <th>L<sub>Aeq</sub>(15 minute)</th> <th>L<sub>Aeq</sub>(15 minute)</th> <th>LA(11 minute)</th> </tr> </thead> <tbody> <tr> <td>All privately-owned residences</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table>	Location	Day	Evening	Night		L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	LA(11 minute)	All privately-owned residences	35	35	35	45
Location	Day	Evening	Night																
	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	LA(11 minute)															
All privately-owned residences	35	35	35	45															
Sch.4, C4	The Proponent shall revise the Noise Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with noise management (Stages 1 and 2) and subsequently implement this revised version of the Noise Management Plan to the satisfaction of the Secretary. This Plan shall:  (a) be prepared in consultation with EPA by a suitably qualified expert whose appointment has been approved by the Secretary; (b) be submitted to the Secretary for approval by 30 June 2011; (c) include a Noise Monitoring Program incorporating: <ul style="list-style-type: none"> <li>real-time noise and temperature inversion monitoring; and</li> <li>attended noise monitoring to monitor the performance of the project;</li> </ul> (d) include reactive noise control measures to manage noise impacts for sensitive receivers; and	Initial submission of the Noise Management Plan was verified by the previous IEA.  The current revision of the Noise Management Plan and its implementation generally meet the requirements of this condition.  However, a number of exceedances of noise criteria have occurred over the audit period as reported against EPL condition L3.1. In one instance meteorological conditions were not determined as required by the NMP (refer EPL L3.5)  Refer also Sch. 4 Condition 1 above.  The above noise exceedances and not determining meteorological conditions can be attributed to not adequately implementing the NMP.	NC	The mine will continue the negotiations for purchase the Merriman property and/or the implementation of the NMP.	Merriman property has been acquired. Deemed as <b>compliant</b> during this audit, noting that negotiations for purchase of additional properties and implementation of NMP are still underway.														

Item No	Assessment Requirement	Comment	2016 Audit Classification	NCO Response/Action	2019 Status
	(e) include a protocol to establish whether the project is complying with the noise impact assessment criteria in Table 1.				
Sch.4, C21	Within 2 years of commissioning the water conditioning plant, and every 5 years thereafter, unless otherwise directed by the Secretary, the Proponent shall engage suitably qualified experts approved by the Secretary to review brine management and beneficial use options for raffinate, brine and minewater produced by the project. The Proponent shall implement all reasonable and feasible recommendations of these reviews, to the satisfaction of the Secretary.	<p>The brine management review was not commissioned or completed within 2 years of commissioning the water conditioning plant.</p> <p>The auditor was advised that the brine management report is in Draft status.</p>	ANC	The mine submitted the report to DP&E 24 July 2017.	Deemed as <b>compliant</b> during this audit.
Sch.4, C22	The Proponent shall not destroy damage or deface any known Aboriginal objects (as defined in the <i>National Parks and Wildlife Act 1974</i> ) without the written approval of the Secretary.	<p>NCO received a Penalty Notice for an incident involving the disturbance of an Aboriginal heritage site, identified on 14 October 2014.</p> <p>NCO undertook further training of personnel in Cultural Awareness and the requirements of the Aboriginal Cultural Heritage Management Plan in response to incidents.</p>	NC	The mine has reviewed the ACHMP, which includes additional induction material, and it is currently with OEH for review. The mine will submit the revised ACHMP to DP&E for approval and continue to implement the existing ACHMP.	Deemed as <b>compliant</b> during this audit.
Sch.4, C23	<p>The Proponent shall revise the Aboriginal Cultural Heritage Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with Aboriginal cultural heritage management for the site (Stages 1 and 2) and subsequently implement this revised version of the Aboriginal Cultural Heritage Management Plan to the satisfaction of the Secretary. This plan must:</p> <p>(a) be submitted the Secretary by 30 June 2011;</p> <p>(b) be prepared in consultation with the OEH, the Narrabri Local Aboriginal Land Council and the Narrabri Gooneroi Aboriginal Corporation;</p> <p>(c) include a protocol for the ongoing consultation and involvement of Aboriginal communities in the conservation and management of Aboriginal heritage on site; and</p> <p>(d) describe the measures that would be implemented to protect Aboriginal sites on the mine site, (in particular all known Aboriginal sites on lands overlying Longwalls 1-3 and sites 10b, 38, 39 and 106-112), or any new Aboriginal objects or skeletal remains that are identified during the project</p>	<p>Preparation and submission of the Aboriginal Cultural Heritage Management Plan verified in previous IEA.</p> <p>NCO received a Penalty Notice for an incident involving the disturbance of an Aboriginal heritage site, identified on 14 October 2014.</p> <p>NCO also reported an unauthorised access to an identified Aboriginal Cultural Heritage Site (Sites 38-40) on 4 June 2015. The incident was investigated with behavioural factors identified as the event cause. Controls required by the Aboriginal Cultural Heritage Management Plan were reported to be in place at the time of the incident.</p> <p>The above incidents can be attributed in part to not adequately implementing the ACHMP.</p>	NC	The mine has reviewed the ACHMP, which includes additional induction material, and it is currently with OEH for review. The mine will submit the revised ACHMP to DP&E for approval and continue to implement the existing ACHMP.	Deemed as <b>compliant</b> during this audit.



Item No	Assessment Requirement	Comment	2016 Audit Classification	NCO Response/Action	2019 Status
Sch.4, C25	The Proponent shall maintain the Mine Access Road Intersection with PA 4-26-1 WHC_PLN_NAR_Greylands Road Management Plan v2 and the Kamilaroi Highway in consultation with NSC and to the satisfaction of RMS.	No evidence of requisite consultation. Intersection requires maintenance work, on basis of ongoing assessment.	ANC	Joint inspection with NSC/RMS held onsite on 8 May 2017. Annual joint inspections to be completed moving forward.	Deemed as <b>compliant</b> during this audit.
Sch.4, C29	The Proponent shall ensure that: (a) no outdoor lights shine above the horizontal; and (b) all external lighting associated with the project complies with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i> .	The auditors viewed site lighting from the surface operational areas on the evening of Tuesday 6 December 2016 at approximately 9pm from surrounding vantage points near the site boundary. No outdoor lighting was observed to obviously shine above the horizontal.  The 2014-2015 Annual Review states that all lighting is designed in accordance with AS4282 (INT) 1995. The scope of this IEA did not include a detailed audit of lighting installations against AS4282 (INT) 1995. However, based on the above observations the Lead Auditor is satisfied that NCO is generally complying with the intent of this condition.  NCO did receive two complaints during the audit period (12/01/2014 and 19/5/2015) in relation to light emanating from the mine. These were attributed to the placement of mobile lighting towers and upon receiving complaints they were acted upon immediately. The auditor does not consider this constitutes non-compliance with this condition as they represent isolated instances that appear were responded to appropriately.	O	The mine will continue to monitor lighting plant positioning.	Deemed as <b>compliant</b> during this audit.
Sch.4, C31	The Proponent shall implement all reasonable and feasible measures to minimise the greenhouse gas emissions from the underground mining operations to the satisfaction of the Secretary.	Gas continues to be extracted and vented to air. Mostly carbon dioxide and smaller amounts of methane.  The auditor was advised that it was not considered feasible to install Ventilation Air Methane VAM oxidising units due to the gas make-up from the mine.  No specific evidence was provided in relation assessment of the final feasibility of VAM oxidising units.	ANC	As noted in the revised GHGMP, currently with OEH for review, the concentrations required for VAM cannot be <0.2% methane. Current levels in the ventilation air stream are 0.028% methane. Additionally, the latest Emissions Reduction Fund reverse auction price for tCO <sub>2</sub> e would mean a payback period of >40 years.	Deemed as <b>compliant</b> during this audit, noting the revised GHGMP has not yet been approved.
Sch.4 C32	Prior to carrying out longwall coal mining operations, the Proponent shall submit a Greenhouse Gas Minimisation Plan for the approval of the Secretary. This plan must: (a) be prepared in consultation with OEH; (b) identify options for minimising greenhouse gas emissions from underground mining	Submission of plan verified in previous IEA.  A level 3 Energy Audit was proposed to be undertaken following Stage 2 Commencement. The DP&E approval of the GHG MP stipulated its expectation that the Level Energy Audit be completed by the end of June 2013.	O	ESAP approved 11 August 2014. No further actions required.	Deemed as <b>compliant</b> during this audit.

Item No	Assessment Requirement	Comment	2016 Audit Classification	NCO Response/Action	2019 Status
	<p>operations, with a particular focus on capturing and/or using these emissions;</p> <p>(c) investigate the feasibility of implementing each option;</p> <p>(d) propose the measures that would be implemented in the short to medium term on site; and</p> <p>(e) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.</p>	<p>The auditor has reviewed the Energy Saving Action Plan (Rev 4, Final), dated 11 August 2014, which adequately addresses the requirements of this condition. The Level 3 audit was commissioned prior to the stipulated date of completion however finalisation of this report does not appear to meet the stipulated timeframe.</p>			
<i>EPL 12789</i>					
L1.1	<p>Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.</p>	<p>Monitoring of surface water discharges off-site indicated that no material environmental harm has occurred (i.e. all discharges are within EPL limits). Similarly, groundwater monitoring has not identified any significant on-site or off-site trends which would indicate material environmental harm has been caused by the mine.</p> <p>An opportunity for improvement relating to wastewater management surrounding the workshop was identified while on-site, whereby oily water is discharging to ground and then to on-site drainage ditches. However, as noted above, there was no evidence that any associated contamination has migrated off-site.</p> <p>In addition, some isolated instances of inappropriate segregation of Dangerous Goods were observed in the Hot Works area on the mine.</p> <p>Finally, there is an opportunity to formalise the management of the Bioremediation Cell to minimise the potential for contaminated run-off reporting to the site's water management system. It is noted however that any overflow would report to storage SB3, and as such remain contained within the mine's water management system.</p>	O	<p>The mine monitors waste water from the workshop and acts accordingly with the drain to the oil-water separator serviced regulator. The dangerous goods instances have been forwarded on to the relevant personnel and if the bio-remediation cell were to overflow it would be contained in the mine water management system as noted by the auditor. Surface and ground water monitoring will continue at the mine to monitor for contaminants.</p>	<p>Addressed and deemed to be <b>Compliant</b> during this audit period.</p>
L3.1	<p>Noise generated at the premises must not exceed the noise limits in the table.</p>	<p>Three instances of exceedances of the criteria in the Table in condition L3.1 have occurred on:</p> <ul style="list-style-type: none"> <li>September 2014 quarterly monitoring event at Bow Hills (R1) (3 dB(A) exceedance);</li> <li>June 2015 quarterly monitoring event at Merriman (R16) (3 dB(A) exceedance)</li> </ul>	NC	<p>Merriman property has been purchased and the owners of the Oakleigh property have triggered an Independent Review of noise impact. The mine will continue the negotiations for purchase of Oakleigh pending the results of the noise review and/or implementation of the NMP.</p>	<p>The Oakleigh property was purchased during the audit period which has closed out the previous audit finding. A new <b>Non-compliance</b> has been raised during this audit due to recorded noise exceedances at a different property.</p>

Item No	Assessment Requirement	Comment	2016 Audit Classification	NCO Response/Action	2019 Status
		<p>and Oakleigh (R4) 5 dB(A) exceedance; and</p> <ul style="list-style-type: none"> <li>September 2016 quarterly monitoring event at Oakleigh (R4) 8 dB(A) exceedance.</li> </ul> <p>Since these exceedances, a private agreement has been entered into with Bow Hills; and Merriman and Oakleigh have entered into negotiations to be purchased. If the acquisition of these sites is successful, no further noise issues are anticipated. NCO is continuing to implement noise mitigation measures to reduce noise impact to the surrounding environment e.g. noise mitigation on dozer tracks.</p>			
L3.5	<p>The noise limits set out in the Noise Limits table apply under all meteorological conditions except for the following:</p> <ul style="list-style-type: none"> <li>(a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or</li> <li>(b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or</li> <li>(c) Stability category G temperature inversion conditions.</li> </ul> <p>For the purposes of this condition:</p> <ul style="list-style-type: none"> <li>(a) Data recorded by the meteorological station identified as EPA Identification Point(s) W1 must be used to determine meteorological conditions; and</li> <li>(b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.</li> </ul>	<p>Regarding the exceptions (parts a to c) and the monitoring criteria regarding the weather station W1 (parts a) to b)), this information is noted.</p> <p>Upon notifying EPA during the 2015-2016 reporting period of Noise exceedance it was noted the inversion conditions were not determined at the time. Meteorological conditions must be determined by the onsite weather station.</p> <p>NCO has implemented a Trigger Action Response Plans (TARP) including an automated alarm system, the criteria of which are set to the requisite meteorological conditions.</p> <p>NCO has installed meteorological equipment to track temperature inversion conditions. Monitoring reports reviewed reference the relevant conditions.</p>	NC	No further action required.	Addressed and deemed to be <b>Compliant</b> during this audit.
O4.1	<p>The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must document systems and procedures to deal with all types of incidents (e.g. spills, explosions, fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment.</p>	<p>Review of the PIRMP for the site indicates that it covers all legislative requirements and considers the major pollution risks across the facility.</p> <p>The PIRMP was tested within a 12 month AR period but not within 12 months of the previous test. Requirements for timing of test have been clarified and test will be conducted within 12 months of previous test.</p>	ANC	No further action required.	Deemed to be <b>Compliant</b> during this audit.

Item No	Assessment Requirement	Comment	2016 Audit Classification	NCO Response/Action	2019 Status								
M1.3	<p>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:</p> <ul style="list-style-type: none"> <li>(a) the date(s) on which the sample was taken;</li> <li>(b) the time(s) at which the sample was collected;</li> <li>(c) the point at which the sample was taken; and</li> <li>(d) the name of the person who collected the sample.</li> </ul>	<p>Monitoring records are retained in excel spreadsheets with supporting lab reports linked to each line item. NCO's records management system requires retention of records for four years, however, management reported that in practice, records are retained indefinitely.</p> <p>All of the records required by M1.3 are maintained either in the lab reports; or excel spreadsheet.</p> <p>The name of person who collected the sample and time of sample collection is not recorded in the spreadsheet for all data (e.g. wet weather monitoring). These are however recorded on field monitoring sheets.</p>	O	The excel spreadsheets used to track the results have been updated to include the samplers name and time the sample was taken.	<p>Addressed and deemed to be <b>Compliant</b> during this audit.</p> <p>Note an administrative non-compliance has been raised against this condition as the name of the sampler has not been provided on noise monitoring reports prepared by SLR.</p>								
M2.2	<p>Air Monitoring Requirements</p> <p>POINT 3</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Particulates - Deposited Matter</td> <td>grams per square metre per month</td> <td>Once a month (min. of 4 weeks)</td> <td>AM-19</td> </tr> </tbody> </table>	Pollutant	Units of measure	Frequency	Sampling Method	Particulates - Deposited Matter	grams per square metre per month	Once a month (min. of 4 weeks)	AM-19	<p>A review of monitoring data indicates that the sampling frequency and methodology aligns with the requirements in M2.2.</p> <p>The 2013-2014 EPL Annual Return reported that one of twelve required samples (in January 2014) for monitoring location ND3 was not analysed due to the dust gauge bottle being broken in transit to the laboratory. This was self-reported as a non-compliance with this condition.</p>	ANC	No further action is required.	Deemed to be <b>Compliant</b> during this audit.
Pollutant	Units of measure	Frequency	Sampling Method										
Particulates - Deposited Matter	grams per square metre per month	Once a month (min. of 4 weeks)	AM-19										
M2.5	<p>For the purposes of the table(s) above Special Frequency 2 means the collection of samples quarterly (in the event of flow during the quarter) at a time when there is flow and as soon as practicable after each wet weather discharge from points 11, 12, 13 or 18 commences and in any case not more than 12 hours after each discharge commences.</p>	<p>Typically data was available within 12 hours of a discharge point overflowing.</p> <p>In March 2014 overflows from SD4 and SD5 occurred on 28<sup>th</sup> March 2014. However, monitoring was only undertaken at points 14, 15, 16, 17, 19, 20, 21 and 22 during the previous three days. It is noted that all water quality sampling results were below the relevant discharge criteria.</p> <p>This represented an isolated contractor management incident and is not considered to be a systemic issue.</p>	NC	<p>The mine will continue to sample the nominated locations within the nominated timeframes.</p> <p>It should also be noted that the results from the samples from the dams did not exceed the relevant criteria.</p>	Deemed to be <b>Compliant</b> during this audit.								

Item No	Assessment Requirement	Comment	2016 Audit Classification	NCO Response/Action	2019 Status
R4.1	<p>A noise compliance assessment report must be submitted to the EPA within thirty (30) days of the completion of the quarterly noise monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:</p> <p>a) an assessment of compliance with noise limits detailed in the limit conditions of this licence; and</p> <p>b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits detailed in the limit conditions of this licence.</p>	<p>Records (correspondence between NCO and the EPA) of quarterly submission of noise monitoring reports was reviewed between 2013 and the present day.</p> <p>The noise report for September 15 was received by the NCO on 16 September 2015 but was not provided to the EPA until 11 November 2015.</p>	ANC	The mine will submit future reports within specified timeframes.	Deemed to be <b>Compliant</b> during this audit.
E1.2	<p>Noise impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be addressed by:</p> <p>a) documenting noise complaints received to identify any higher level of impacts or wind patterns; where levels of noise complaints indicated a higher level of impact then actions to quantify and ameliorate any enhanced impacts where wind speed exceeds 3 metres per second at 10 metres above the ground should be developed and implemented.</p>	NCO had not at the time of the audit incorporated a mechanism in their management systems to trigger this condition in the event that these meteorological conditions are triggered.	NC	A review of historical complaints will be undertaken and should winds > 3m/s be a factor the mine will update processes to include a trigger for wind speeds.	Deemed to be <b>non-compliant</b> during this audit as wind speeds were not consistently assessed at the time of the complaint, therefore not allowing for compliance with this condition to be determined.
<i>Mining Lease 1609</i>					
2	The proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the development.	NCO received a Penalty Notice for an incident involving the disturbance of an Aboriginal heritage site, identified on 14 October 2014.	NC	The mine has reviewed the ACHMP, which includes additional induction material, and it is currently with OEH for review. The mine will submit the revised ACHMP to DP&E for approval and continue to implement the existing ACHMP.	Addressed and deemed to be <b>compliant</b> during this audit.



## 3.2 Complaints Summary

Complaints registers for the auditing period were available online and/or for review. Complaints over the reporting period include:

- A total of two complaints were recorded during 2016 (for the period 1 December to 31 December). Both complaints raised were in relation to dust.
- A total of 12 complaints were recorded during 2017. Of these, six were related to dust, three were related to noise, two were related to lights and one related to dust, noise, lights and waste management.
- A total of six complaints were recorded during 2018. Of these, four related to noise, one related to dust and one related to noise, odour, property values and Offset Area consultation.
- A total of 57 complaints were recorded during 2019 (up until 27 November 2019). Of these, 49 were related to noise, three in relation to odour, two in relation to dust, one in relation to odour and noise, one in relation to air quality and one listed as not specified. The majority of complaints are from a single complainant.

The detailed summaries as prepared by NCO are provided on the Whitehaven Coal website.

## 3.3 Incident Summary

A review of the incidents was undertaken through a review the NCO incident management system, as well as the notified exceedances. Below outlines the incidents recorded during the audit period:

- A total of five noise exceedances recorded during quarterly monitoring during the audit period;
- Warning letter issued by DPIE in December 2018 for failure to implement the Noise management Plan;
- Alleged disturbance of an Aboriginal cultural heritage artefact in November 2017 and subsequently provided evidence to DPIE. No further action was taken;
- EPA issued a Penalty Notice on 5 January 2019 related to coal dust coming off the pit top working area; and
- EPA issued a Show Cause letter dated 17 October 2019 related to the disposal of Oxy 6000 rescuer units at Narrabri landfill between 2 April and 18 April 2019.

## 3.4 Environmental Monitoring Performance

### 3.4.1 Noise

Quarterly acoustic monitoring was undertaken in 2017 to 2019 by qualified third party contractors, Global Acoustics and SLR. The following noise exceedances were recorded during the audit period:

- 27 June 2017: Point N5, Night – LAeq (15 minute) of 37 dB and Night – LA1 (1 minute) of 46 dB.
- 29 June 2017: Point N6, Night – LAeq (15 minute) of 38 dB.
- 07 September 2017: Point N6, Night – LAeq (15 minute) of 36 dB.
- June 2019: Point N6, Day - LAeq (15 minute) of 42 dB and Point N9, Day - LAeq (15 minute) of 43 (Note: both recorded during non-compliant weather conditions of wind speed > 3 m/s and as such do not represent a non-compliance with the Project Approval or EPL).
- 04 September 2019: Point N9, Day - LAeq (15 minute) of 39 dB.

As part of the Noise Management Plan, following any noise exceedance or noise complaint, NCO will investigate options to address noise related impacts.

As a result of the exceedances in 2019, NCO engaged SLR to investigate the source/s of the noise exceedances. Following investigations by SLR dated 1 August 2019, exceedances in noise monitoring results were considered likely attributable to the Main Exhaust Ventilation Fan. Subsequently a Vent Fan Noise Reduction Study conducted by Spectrum Acoustics dated 19 November 2019 which assessed noise control options based on technical information for the fans and noise measurements taken in 2014 and 2019. Based on outcomes of the Study, ERM understands that NCO is investigating a number of noise attenuation measures including the installation of a 14 m high acoustic barrier at the Main Exhaust Ventilation Fan, which is expected to reduce noise levels at the receiver point 5 km north of the fans to less than the exceedance criteria limits under Condition 43.1. NCO is progressing the validation of noise modelling assumptions to inform the engineering designs, cost and project management aspects required for construction of the noise abatement installation.

### 3.4.2 Air quality

Monthly dust deposition was conducted by ALS during the audit period. The following exceedance of assessment criteria were reported for the audit period:

- 2018 – PM<sub>10</sub>, 24 hr average exceeded on 2 occasions November and December 2018; and
- 2019 – a total of five exceedances for PM<sub>10</sub> noted (February and October 2019 for ND9, September and February, October 2019 for ND10).

All exceedances were investigated and found to be associated with regional events including dust storms and bushfires.

Auditors sighted the weather station onsite which provides the site's meteorological data. Meteorological data from the onsite weather station was provided for the audit period.

### 3.4.3 Blasting

No blasting was undertaken during the audit period.

### 3.4.4 Water management

#### 3.4.4.1 Surface water

Surface water management comprising a series of water storage dams used to collect, store and dispose of pumped out mine water and dirty water run-off, sediment basins, and clean / dirty surface water drains were in place and established as per the Water Management Plan (dated 2013). The dams are subject to weekly, monthly and quarterly inspections by a trained NCO employee. Annual and 5 – yearly inspections are undertaken by a Dam Engineer in accordance with the Dams Safety Act.

Licensed surface water discharge points onsite included sediment dam 2 (SD2), sediment dam 4 (SD4), sediment dam 7 (SD7), Namoi River NR1 and Ventilation Shaft (SD1). At the time of the site tour, SD2, SD4 and SD7 did not contain any water and the Environmental Superintendent advised that no discharge offsite had occurred during the audit period.

No significant issues were observed or identified with regards to erosion or sediment run off during the site inspection,

#### 3.4.4.2 Groundwater

Groundwater monitoring locations are stipulated within Table 8 of the approved WMP (dated March 2013). Neither the CoA nor EPL stipulates the frequency of groundwater monitoring to be undertaken. Rather, the EPL notes that groundwater monitoring should be undertaken in accordance with the approved WMP. Under the WMP, depending on their location, piezometers and groundwater bores are required to be monitored on a monthly, quarterly, or annual basis. Groundwater monitoring data provided showed that monitoring is typically completed within the WMP timeframes.

### 3.5 Management Plan Adequacy

The Management Plans for the site were reviewed and the adequacy in meeting the relevant approval requirements was assessed in view of current operations at the site. It was noted that a number of management plans have been updated since the original approvals issued under the Project Approval and where Secretary approval has been received the revised management plan has been implemented at the site. The Air Quality Management Plan, Water Management Plan, Waste Management Plan, Energy Efficiency Action Plan and Greenhouse Gas Management Plan have been revised and submitted to the Secretary at various times between 2016 and 2019, however NCO are currently awaiting formal approval for these revisions.

In general, Management Plans were considered to be appropriate for the site's operations at the time of the site visit. The findings of the Management Plan review are outlined in *Table 3.2* and *Appendix A*.

### 3.6 Environmental Protection Licence

The site operates under Environment Protection Licence (EPL) 12789 issued to Narrabri Coal Operations Pty Ltd. The EPL has been varied three times during the audit period as follows:

- 19 January 2017;
- 18 June 2019; and
- 3 December 2019.

For the avoidance of doubt, given the audit period ended on 6 December 2019, the auditor has not considered compliance with the EPL variation dated 3 December 2019. Details of changes to EPL conditions are covered in the EPL Audit Tables presented in *Appendix A*.

The site submitted Annual Returns to the EPA, as required for the audit period. The following non-compliances were noted:

2017:

- EPL L3.1 - Exceedance of quarterly noise monitoring at the 'Newhaven' (Point N6) residence to the north of the mine site recorded during monitoring undertaken between 26 and 29 June 2017. NCO noted that access to the Newhaven residence was not permitted at the time of monitoring and the reported level was a calculation based on the noise level recorded at the mine's boundary with the Newhaven property, which may not represent actual noise levels at the receiver. The mine conducted further attended monitoring during August 2017 with no issues identified.

2018:

- EPL L3.1 – Exceedance of quarterly noise monitoring at the 'Ardmona' (Point N3 – noting this monitoring point is not listed on the EPL) residence to the east of the mine site between 12 and 15 March 2018. The Annual Return states that a conveyor continuum and dozer track noise were audible from the NAR CHPP area. The mine conducted further attended monitoring during June 2018 with no issues identified.

Findings identified against the site's EPL are outlined in *Table 3.2* and *Appendix A*.

### 3.7 Mining Lease

Narrabri Coal Mine lies within the mining lease (ML) 1609 issued to Narrabri Coal Pty Ltd, last amended on 1 July 2014.

One administrative non-conformance was noted in relation to the completion of additional investigations of the Reject Emplacement Area (REA) by 28 November 2018 as required under the MOP. The Mining Lease conditions and the summary of audit findings are provided in *Table 3.2* and *Appendix A*.

### 3.8 Compliance with Regulatory Instruments

A compliance check of the CoA, EPL and ML conditions as well as management plan review has been completed and is provided in Appendix A. Non-compliances and observations for each component are summarised in *Table 3.2*.

As discussed in *Section 2.3*, a qualitative risk assessment was also completed on the findings as follows:

- non-compliance assessed as 'high' have been colour coded red;
- non-compliance assessed as 'moderate' have been colour coded orange;
- non-compliance assessed as 'low' have been colour coded yellow; and
- administrative non-compliance have been colour coded blue.

Table 3.2 Summary of 2019 Audit Findings

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<b>Minister's Conditions of Approval PA 08_0144</b>				
3.4	<p>The Proponent shall prepare and implement Extraction Plans for any second workings to be mined to the satisfaction of the Secretary. Each Extraction Plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared by a team of suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;</li> <li>(b) be approved by the Secretary before the Proponent carries out any of the second workings covered by the plan;</li> <li>(c) include detailed plans of the proposed first and second workings and any associated surface development;</li> <li>(d) include detailed performance indicators for each of the performance measures in Tables 1 and 2;</li> <li>(e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval;</li> <li>(f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences;</li> <li>(g) include the following to the satisfaction of DRE: <ul style="list-style-type: none"> <li>• a Coal Resource Recovery Plan that demonstrates effective recovery of the available resource;</li> <li>• a Subsidence Monitoring Program to: <ul style="list-style-type: none"> <li>- provide data to assist with the management of the risks associated with subsidence;</li> <li>- validate the subsidence predictions; and</li> <li>- analyse the relationship between the subsidence effects and impacts under the plan and any ensuing environmental consequences;</li> </ul> </li> <li>• a Built Features Management Plan to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which: <ul style="list-style-type: none"> <li>- addresses in appropriate detail all items of public infrastructure and all classes of other built features; and</li> <li>- has been prepared following appropriate consultation with the owner/s of potentially affected feature/s;</li> </ul> </li> <li>• a Public Safety Management Plan to ensure public safety in the mining area; and</li> <li>• appropriate revisions to the Landscape Management Plan required under condition 3 of Schedule 5; and</li> </ul> </li> <li>h) include a: <ul style="list-style-type: none"> <li>• Water Management Plan, which has been prepared in consultation with EPA and DPI Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on surface water resources, groundwater resources and flooding, and which includes: <ul style="list-style-type: none"> <li>- surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;</li> <li>- a program to monitor and report groundwater inflows to underground workings; and</li> <li>- a program to manage and monitor impacts on groundwater bores on privately-owned land;</li> </ul> </li> <li>• Biodiversity Management Plan, which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on flora and fauna;</li> <li>• Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general;</li> <li>• Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for Aboriginal heritage, to manage the potential environmental consequences of the proposed second workings on heritage sites or values; and</li> </ul> </li> <li>(i) include a program to collect sufficient baseline data for future Extraction Plans.</li> </ul>	<p>During the auditor inspection significant surface cracking due to mine subsidence was observed that appears to lie outside of the subsidence predictions provided for LW107 to LW110.</p> <p>The Land Management Plan requires permanent cracks greater than 50 mm to be remediated by ripping or filling and cracks greater than 330 mm to be investigated and the subsidence predictions updated. There are many cracks that exceed 50mm (around 50% of all cracks records provided to the auditor) and most of these have no documented treatment. There are eight cracks out of the 73 provided to the auditor that exceed 330 mm in width. None of these cracks are shown to have been investigated or treated.</p>	NC	<p>NCO should review the subsidence monitoring program deliverables of the Land Management Plan LW107 – LW110 and the TARP.</p>
<p><i>Notes:</i>  Management plans prepared under condition 4(h) should address all potential impacts of proposed underground coal extraction on the relevant features. Other similar management plans required under this approval (e.g. under conditions 13 and 23 of schedule 4 or</p>				

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action														
	<p>condition 3 of schedule 5) are not required to duplicate these plans or to otherwise address the impacts associated with underground coal extraction.</p>																	
4.1	<p>The Proponent shall ensure that the noise generated by the project does not exceed the levels set out in Table 1.</p> <p>Table 1: Impact assessment criteria dB(A)</p> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th>Day</th> <th>Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>L<sub>Aeq</sub>(15 minute)</th> <th>L<sub>Aeq</sub>(15 minute)</th> <th>L<sub>Aeq</sub>(15 minute)</th> <th>L<sub>Aeq</sub>(1 minute)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> <li>To determine compliance with the LAeq(15 minute) limit, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.</li> <li>These noise limits apply to applicable receivers under all meteorological conditions except for any one of the following:                     <ul style="list-style-type: none"> <li>wind speeds greater than 3 metres/second at 10 metres above ground level; or</li> <li>stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or</li> <li>stability category G temperature inversion conditions.</li> </ul> </li> <li>Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological weather station located in the vicinity of the site, or as otherwise agreed by the Secretary.</li> <li>To determine compliance with the LA1(1 minute) noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).</li> </ul> <p>These limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	Location	Day	Evening	Night		L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (1 minute)	All privately owned residences	35	35	35	45	<p>The following exceedances of EPL noise limits were recorded during the audit period:</p> <ul style="list-style-type: none"> <li>27 June 2017: Point N5, Night – LAeq (15 minute) of 37 dB and Night – LA1 (1 minute) of 46 dB.</li> <li>29 June 2017: Point N6, Night – LAeq (15 minute) of 38 dB.</li> <li>07 September 2017: Point N6, Night – LAeq (15 minute) of 36 dB.</li> <li>June 2019: Point N6, Day - LAeq (15 minute) of 42 dB and Point N9, Day - LAeq (15 minute) of 43 (Note: both recorded during non-compliant weather conditions of wind speed &gt; 3 m/s and as such do not represent a non-compliance with the Project Approval ).</li> <li>04 September 2019: Point N9, Day - LAeq (15 minute) of 39 dB.</li> </ul> <p>For the exceedance recorded in September 2019, subsequent investigations by SLR Consulting Australia Pty Ltd (SLR) dated 1 August 2019, exceedances in noise monitoring results were likely attributable to the Main Exhaust Ventilation Fan. Subsequently a Vent Fan Noise Reduction Study conducted by Spectrum Acoustics dated 19 November 2019 assessed noise control options based on technical information for the fans and noise measurements taken in 2014 and 2019. Based on outcomes of the Study, ERM understands that NCO is investigating a number of noise attenuation measures including the installation of a 14 m high acoustic barrier at the Main Exhaust Ventilation Fan which is expected to reduce noise levels at the receiver point 5 km north of the fans to less than criteria under Condition 4.1. NCO is progressing the validation of noise modelling assumptions to inform the engineering designs, cost and project management aspects required for construction of the noise abatement installation.</p>	NC	Continue to investigate all appropriate noise attenuation measures.
Location	Day		Evening	Night														
	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (1 minute)														
All privately owned residences	35	35	35	45														
4.4	<p>The Proponent shall revise the Noise Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with noise management (Stages 1 and 2) and subsequently implement this revised version of the Noise Management Plan to the satisfaction of the Secretary. This Plan shall:</p> <ol style="list-style-type: none"> <li>be prepared in consultation with EPA by a suitably qualified expert whose appointment has been approved by the Secretary;</li> <li>be submitted to the Secretary for approval by 30 June 2011;</li> <li>include a Noise Monitoring Program incorporating:                     <ul style="list-style-type: none"> <li>real-time noise and temperature inversion monitoring; and</li> <li>attended noise monitoring to monitor the performance of the project;</li> </ul> </li> <li>include reactive noise control measures to manage noise impacts for sensitive receivers; and</li> <li>include a protocol to establish whether the project is complying with the noise impact assessment criteria in Table 1.</li> </ol>	<p>The updated NMP for Stage 2, prepared by Spectrum Acoustics, was approved by the Secretary on 11 December 2011. A revised plan was subsequently approved on 5 June 2018.</p> <p>The NMP meets the requirements of the condition.</p> <p>The mine reported Sound Power levels (SPLs) which exceeded those identified in the NMP in the 2018 Annual Review. DPIE requested additional information in October 2018 which the mine provided. DPIE issued a Warning Letter in December 2018.</p> <p>Real time noise, weather and inversion monitoring is undertaken at two locations to the north and south of the site. Data is recorded in the Sentinex repository.</p> <p>There is no TARP for fan noise, however an alarm is set on the monitors to record when the fan noise frequency is reached.</p>	NC	Continue to monitor SPL's and implement all reasonable and feasible best practice noise mitigation measures to reduce noise generated by the project.														



Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
		No complaints have been received related to dozer noise within the last 12 month period. The NMP contains a TARP for dozer noise. The Level 2 trigger response includes limiting operations to critical dozing only and limit the reversing speed.		
4.7A	<p>The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Secretary. This program must:</p> <p>(a) be prepared in consultation with the EPA, and be submitted to the Secretary for approval prior to 30 December 2015, unless otherwise agreed with the Secretary;</p> <p>(b) describe the measures that would be implemented to ensure compliance with relevant air quality criteria and operating conditions of this approval;</p> <p>(c) describe the proposed air quality management system; and</p> <p>(d) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> <li>• adequately supports the proactive and reactive air quality management system;</li> <li>• evaluates and reports on: <ul style="list-style-type: none"> <li>○ the effectiveness of the air quality management system; and</li> <li>○ compliance with the air quality operating conditions; and</li> </ul> </li> </ul> <p>defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.</p>	<p>The AQMP (Rev2) was approved by DPIE on 26 May 2015. Consultation undertaken with EPA in December 2014.</p> <p>The AQMP was further reviewed in 2016 and (Rev 3) submitted to DPIE. Comments were received and the plan resubmitted. Approval has not yet been received from DPIE and the 2015 version remains in effect.</p> <p>The approved AQMP meets the requirements of this condition.</p>	Obs C	NCO should confirm with DPIE if the revised AQMP is to be approved.
4.9A	<p>Within 2 years of the commencement of longwall coal extraction, and every 5 years thereafter, the Proponent shall undertake a transient calibration of the groundwater model presented in the EA, in consultation with DPI Water, and to the satisfaction of the Secretary. This re-calibration of the groundwater model must include forward impact predictions of brine re-injection to the mine's goaf at the conclusion of mining operations.</p>	<p>Comments on the groundwater model were received from DPI Water in September 2015 and incorporated into 2016 report. The updated report was submitted to DPIE on 28 September 2016, no approval has been received.</p> <p>The groundwater model is currently being recalibrated by AGE as part of the Stage 3 assessment.</p>	Obs C	NCO should confirm with DPIE if the groundwater model is to be approved.
4.30	<p>The Proponent shall revise the Energy Savings Action Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with energy management for the site (Stages 1 and 2) and subsequently implement this revised version of the Energy Savings Action Plan to the satisfaction of the Secretary. This plan must:</p> <p>a) be prepared in consultation with OEH;</p> <p>b) be prepared in accordance with the <i>Guidelines for Energy Savings Action Plans</i> (DEUS, 2005), or its latest version;</p> <p>c) be submitted to the Secretary for approval prior to 30 June 2011; and</p> <p>d) include a program to monitor the effectiveness of measures to reduce energy use on site.</p>	<p>The effective Energy Action Plan was approved by DPIE in May 2015. The Action Plan details the development of monthly reports on energy usage which are reviewed at the monthly meeting as the means to review effectiveness of the actions.</p> <p>The plan was revised and resubmitted in June 2017 however formal approval has not been received.</p>	Obs C	NCO should consider confirming with DPIE if the 2017 revision is to be approved.
4.32	<p>Prior to carrying out longwall coal mining operations, the Proponent shall submit a Greenhouse Gas Minimisation Plan for the approval of the Secretary. This plan must:</p> <p>a) be prepared in consultation with OEH;</p> <p>b) identify options for minimising greenhouse gas emissions from underground mining operations, with a particular focus on capturing and/or using these emissions;</p> <p>c) investigate the feasibility of implementing each option;</p>	<p>Approval of the GHG minimisation plan occurred prior to the audit period.</p> <p>The GHG minimisation plan meets the requirements of the condition including implementation of a research program for methods of reuse of coal mine gas.</p>	Obs C	NCO should consider confirming with DPIE if the 2017 revision is to be approved.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
	<p>d) propose the measures that would be implemented in the short to medium term on site; and</p> <p>e) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.</p>	The GHG plan was revised and resubmitted to DPIE on in June 2017 however formal approval has not been received and the 2012 version remains in effect.		
4.33	<p>The Proponent shall revise the Waste Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with waste management for the site (Stages 1 and 2) and subsequently implement this revised version of the Waste Management Plan to the satisfaction of the Secretary. This plan must:</p> <p>a) be submitted to the Secretary for approval prior to 30 June 2011;</p> <p>b) identify the various waste streams of the project;</p> <p>c) describe what measures would be implemented to reuse, recycle, or minimise the waste generated by the project;</p> <p>d) ensure irrigation of treated wastewater is undertaken in accordance with <i>Environmental Guidelines: Use of Effluent by Irrigation</i> (DEC, 2004), or its latest version; and</p> <p>e) include a program to monitor the effectiveness of these measures.</p>	<p>The Waste Management Plan was approved by DPIE on 26 May 2015.</p> <p>The Plan was revised and resubmitted to DPIE on 31 October 2019. Approval has not been received and the 2015 version remains in effect.</p> <p>The updated version of the Plan includes updated effluent irrigation limits in accordance with guidelines.</p>	Obs C	NCO should consider confirming with DPIE if the 2019 revision is to be approved.
6.1	<p>The Proponent shall revise the Environmental Management Strategy for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with environmental management for the site (Stages 1 and 2) and subsequently implement this revised version of the Environmental Management Strategy to the satisfaction of the Secretary. This strategy must:</p> <p>a) be submitted to the Secretary for approval prior to 30 June 2011;</p> <p>b) provide the strategic context for environmental management of the project;</p> <p>c) identify the statutory requirements that apply to the project;</p> <p>d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project</p> <p>e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the project;</li> <li>• respond to any non-compliance; and</li> <li>• respond to emergencies; and</li> </ul> <p>f) include a clear plan depicting all the monitoring currently being carried out in the project area.</p>	<p>The current EMS was approved by DPIE on 26 May 2015. The EMS meets the requirements of the condition.</p> <p>The EMS was revised and resubmitted to the Department on 31 May 2019.</p>	Obs C	NCO should consider confirming with DPIE if the 2019 is to be approved.

### Statement of Commitments

5.2	Rip the surface over cracks not filled in by natural processes.	There is currently surface cracking of the order of 2 m length within the drainage line along the Pine Creek Tributary 2 between LW107 and LW108 that has not been treated. The area has been drought affected and repair by natural processes has not been possible.	Obs	NCO should consider reviewing the trigger for active treatment where natural processes are not possible.
6.4	Record extraction volumes including weekly totals from all pumping bores, and weekly totals from the underground mine and box cut sump.	Extraction volumes are recorded on a monthly basis. NCO reported that it is impractical to do weekly readings.	ANC	NCO should consider options to enable weekly readings.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
17.2	<p>Prepare or update the following management and monitoring plans;</p> <ul style="list-style-type: none"> <li>• Mining Operations Plan</li> <li>• Aboriginal Cultural Heritage Management Plan</li> <li>• Energy Savings Action Plan</li> <li>• Waste Management Plan</li> <li>• Water Management Plan</li> <li>• Landscape Management Plan</li> <li>• Greenhouse Gas Minimisation Plan</li> <li>• Gas Drainage &amp; Outburst Management Plan</li> <li>• Major Hazard Management Plan</li> <li>• Salinity Contamination Contingency Plan</li> <li>• Extraction Management Plan</li> <li>• Erosion &amp; Sediment Control Plan</li> <li>• Noise Monitoring Program</li> </ul>	<p>The majority of the management plans have been developed and implemented and have been verified through the CoA.</p> <p>A standalone Major Hazard Management Plan has not been developed but in accordance with NSW Resources Regulator Code of Practice for Safety Management Systems (SMS) in Mines major and principal hazards are addressed in the site SMS.</p> <p>Water quality incidents are addressed in the Water Management Plan and the Pollution Incident Response Management plan (PIRMP), including response and notification, however these do not specifically make reference to saline contamination or specific response requirements as outlined in SoC 7.26.</p> <p>Outburst principal hazard management plan 25/11/19 – gas drainage design is covered in the plan</p>	ANC	NCO should review the WMP and TARP to confirm that actions for water quality incidents adequately address saline contamination and meet the intent of the original commitment, or request a modification to the approval in relation to saline contamination.

**Environmental Protection Licence 12789**

L3.1	<p>Noise generated at the premises must not exceed the noise limits in the table below.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Locality and location</th> <th style="width: 15%;">Day - LAeq (15 minute)</th> <th style="width: 15%;">Evening – LAeq (15 minute)</th> <th style="width: 15%;">Night – LAeq (15 minute)</th> <th style="width: 15%;">Night – LA1 (1 minute)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences</td> <td style="text-align: center;">35</td> <td style="text-align: center;">35</td> <td style="text-align: center;">35</td> <td style="text-align: center;">45</td> </tr> </tbody> </table>	Locality and location	Day - LAeq (15 minute)	Evening – LAeq (15 minute)	Night – LAeq (15 minute)	Night – LA1 (1 minute)	All privately owned residences	35	35	35	45	<p>The following exceedances of EPL noise limits were recorded during the audit period:</p> <ul style="list-style-type: none"> <li>• 27 June 2017: Point N5, Night – LAeq (15 minute) of 37 dB and Night – LA1 (1 minute) of 46 dB.</li> <li>• 29 June 2017: Point N6, Night – LAeq (15 minute) of 38 dB.</li> <li>• 07 September 2017: Point N6, Night – LAeq (15 minute) of 36 dB.</li> <li>• June 2019: Point N6, Day - LAeq (15 minute) of 42 dB and Point N9, Day - LAeq (15 minute) of 43 (Note: both recorded during non-compliant weather conditions of wind speed &gt; 3 m/s and as such do not represent a non-compliance with the EPL.04 September 2019: Point N9, Day - LAeq (15 minute) of 39 dB.</li> </ul> <p>For the exceedance recorded in September 2019, subsequent investigations by SLR Consulting Australia Pty Ltd (SLR) dated 1 August 2019, exceedances in noise monitoring results were likely attributable to the Main Exhaust Ventilation Fan. Subsequently a Vent Fan Noise Reduction Study conducted by Spectrum Acoustics dated 19 November 2019 assessed noise control options based on technical information for the fans and noise measurements taken in 2014 and 2019. Based on outcomes of the Study, ERM understands that NCO is investigating a number of noise attenuation measures including the installation of a 14 m high acoustic barrier at around the Main Exhaust Ventilation Fan which is expected to reduce noise levels at the receiver point 5 km north of the fans to less than the exceedance criteria limits under Condition 43.1. NCO is progressing the validation of noise modelling assumptions to inform the engineering designs, cost and project management aspects required for construction of the noise abatement installation.</p>	NC	Continue to investigate all appropriate noise attenuation measures. (Refer CoA 4.1– duplicate NC).
Locality and location	Day - LAeq (15 minute)	Evening – LAeq (15 minute)	Night – LAeq (15 minute)	Night – LA1 (1 minute)										
All privately owned residences	35	35	35	45										
O1.1	<p>Licensed activities must be carried out in a competent manner</p> <p>This includes:</p> <ol style="list-style-type: none"> <li>the processing, handling, movement and storage of materials and substances used to carry out the activity; and</li> <li>the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.</li> </ol>	<p>EPA issued a Penalty Notice to NCO following receipt of video footage on 5 January 2019 which showed 'large clouds of black coal dust coming off the pit top working area of the Narrabri Coal Miner. That video showed large volumes of coal dust being generated by the Tripper and by bulldozers operating on the coal stockpiles at the premises'. EPA subsequently were of the opinion that NCO contravened EPL Condition O1.1.</p>	NC	Continue to comply with directions from the EPA in relation to these matters.										

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
		EPA issued a Show Cause letter to NCO dated 17 October 2019 which refers to an incident at Narrabri Landfill (located offsite) where the disposal of Oxy 6000 rescuer units that are part of breathing apparatus were disposed of as general solid waste by NOCPL between 2 April and 18 April 2019. Based on review of material safety data sheets (MSDS), EPA suspected that the canisters disposed of were hazardous waste and as such should have been disposed as such. NCO responded to the Show Cause on 25 October 2019 providing information on the clean-up activities undertaken to-date. Further meetings between NCO, EPA and Narrabri Shire Council have been held to try to agree a course of action. No further direction from EPA had been received at the time of the audit.		
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	The reporting period under the EPL is 20 February to 19 February each year, given this, the Annual Return for the 2018-19 reporting period was required to be submitted to EPA on 21 April 2019. NOCPL submitted the Annual Return was submitted on the 7 May 2019. NOCPL received an Official Caution letter from the EPA dated 24 October 2019.	ANC	No action required, the Annual Return has been submitted to EPA.
E2	Noise impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be addressed by: a) documenting noise complaints received to identify any higher level of impacts or wind patterns; where levels of noise complaints indicated a higher level of impact then actions to quantify and ameliorate any enhanced impacts where wind speed exceeds 3 metres per second at 10 metres above the ground should be developed and implemented.	NCO advised that wind speed is checked when complaints are received to determine whether actions are required are required to quantify and ameliorate any enhanced actions where wind speed exceeds 3 metres per second at 10 metres above the ground. However, the complaints register reviewed did not make reference to wind speed data at the time of complaints. In addition, there is no process or procedure that requires the wind speed to be documented when a complaint is made nor for additional actions to be raised in accordance with this conditions.	NC	A process or procedure should be developed to ensure that wind speed is recorded on the complaints register at the time of the complaint and appropriate action taken.
<b>Mining Licence 1624</b>				
3a	Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries.	The Annual Review 2018 refers to a non-compliance with this condition due to NCO being required under the MOP to complete additional testing of the Reject Emplacement Area (REA) by 28 November 2018. The Annual Review notes that additional testing had commenced but had not been completed within the specified timeframe. A Direction Notice issued by the Resources Regulator required the additional sampling to be completed by 31 July 2019. The report was prepared by ATC Williams and submitted to the Resources Regulator on 31 July 2019.	ANC	No action required, additional testing has been completed.

## 4. CONCLUSION

An audit of CoA, Mining Lease and Environmental Protection Licence conditions has been completed as well as a check against commitments made in the management plans developed as part of CoA conditions for the site.

Overall, compliance was generally achieved with the audit documents that were reviewed. The number of non-compliances with the statutory conditions and implementation of the management plans is summarised in *Table 4.1* below.

**Table 4.1 Summary of Audit Findings**

Review	Non-compliances (NC)	Administrative non-compliance (ANC)	Observations (Obs NC)	Observations (Obs C)
<b>Statutory Instruments</b>	6	5	-	-
<b>Implementation of Plans</b>	-	-	-	6

An action response table has been developed by Whitehaven Coal addressing all audit findings and will be submitted separately to this report.

**APPENDIX A    CONDITIONS OF APPROVAL, ENVIRONMENTAL  
PROTECTION LICENCE AND MINING LEASE COMPLIANCE  
TABLES**

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**ANNEX A CONDITIONS OF APPROVAL**

Compliance with Ministers Conditions of Approval PA 08\_0144 MOD 6

<b>Document details</b>	
Document title	Annex A Conditions of Approval
Document subtitle	Compliance with Ministers Conditions of Approval PA 08_0144 MOD 6
Project No.	0523817
Date	31 January 2020
Version	1.1
Author	Heather McKay, Peter Gleadhill, Gareth Swarbrick
Client Name	Whitehaven Coal Limited



No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<b>SCHEDULE 2 – ADMINISTRATIVE CONDITIONS</b>					
<b>OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT</b>					
2.1	The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	This audit	Review of management plans, implementation of plans and site inspection to confirm – refer tables of this audit.	Note	
<b>Terms of Approval</b>					
2.2	The Proponent shall carry out the project generally in accordance with the: (a) EA; and (b) conditions of this approval.  Note: The general layout of the project is shown in Figures 1 and 2 of Appendix 2.	This audit	Refer to Table A2 of this Audit		
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.	Note	Noted	Note	
2.4	The Proponent shall comply with any reasonable and feasible requirements of the Secretary arising from the Department's assessment of: (a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with the conditions of this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.	Note	NCO has complied with requirements of the Secretary as necessary during the audit period. Further details are provided in the below report.	C	
<b>Limits On Approval</b>					
2.5	The Proponent may undertake mining operations on the site for 21 years from the date of this approval. <i>Note: Under this Approval, the Proponent is required to rehabilitate the site and to perform additional undertakings to the satisfaction of the Secretary. Consequently, this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.</i>	Note	Noted	Note	
2.6	The Proponent shall not extract more than 11 million tonnes of ROM coal from the site per calendar year.	Annual Reviews 2016, 2017, 2018  Material movements spreadsheet NCO Environment report November 2018	2016- 5.59MT 2017- 6.92MT 2018- 5.28MT 2019 (YTD) – 5.7Mt	C	
2.7	The Proponent shall transport all coal from the site by rail.	Interview with Environmental Superintendent  Interview with Surface Operations Manager and review of CoalTrak records  Material movement spreadsheet 2018-2019	All coal is transported by rail.	C	
2.7A	The Proponent may undertake a one off transport of coal by road of an approximate 600 tonne bulk sample of coal in accordance with the procedures, vehicle traffic route and transport operating hours as specified in the modification application 08_0144 MOD 2 and accompanying letter dated 12 December 2011 from Whitehaven Coal Mining Limited.	Outside audit period	Outside audit period	NT	
2.8	The Proponent shall not transport any coal reject from the site.	Review of CoalTrak records	All reject is placed on the REA.	C	

		Interview with Environmental Superintendent			
<b>Planning Agreements</b>					
2.9	<p>Within 6 months of this approval, the Proponent shall enter into planning agreements with Narrabri Shire Council (NSC), Gunnedah Shire Council (GSC) and the Minister in accordance with:</p> <p>(a) Division 6 of Part 4 of the EP&amp;A Act; and</p> <p>(b) the terms of the Proponent's offers accepted at NSC's meeting of 16 February 2010, and GSC's meeting of 16 February 2010, which includes the matters set out in Appendix 4.</p> <p>If there is any dispute between the Proponent and either NSC or GSC during the formal drafting of the planning agreements, then any of the parties involved may refer the matter to the Secretary for resolution.</p>	Outside audit period	Outside audit period	NT	
<b>Surrender of Stage 1 Approval</b>					
2.10	<p>Within 12 months of the date of this approval, the Proponent shall surrender its previous project approval for the Narrabri Coal Mine to the satisfaction of the Secretary, in accordance with section 75YA of the EP&amp;A Act. Prior to the surrender of the Stage 1 approval, if there is any inconsistency between the Stage 1 and Stage 2 approvals, the conditions of the Stage 2 approval shall prevail to the extent of any inconsistency.</p>	Outside audit period	Outside audit period	NT	
<b>Management Plans/Monitoring Programs</b>					
2.11	<p>With the approval of the Secretary, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.</p> <p><i>Note: The conditions of this approval require certain strategies, plans, and programs to be prepared for the project. They also require these documents to be reviewed and audited on a regular basis to ensure they remain effective. However, in some instances, it will not be necessary or practicable to prepare these documents for the whole project at any one time, particularly as these documents are intended to be dynamic and improved over time. Consequently, the documents may be prepared and implemented on a progressive basis, subject to the conditions of this approval. In doing this however, the Proponent will need to demonstrate that it has suitable documents in place to manage the existing operations of the project.</i></p>	Note	Noted	Note	
2.12	<p>Stage 1 strategies, plans or programs continue to have effect until replaced by an equivalent approved strategy, plan or program prepared and approved under this approval.</p>	<p>Interview with Environmental Superintendent</p> <p>Review of updated Management Plans and correspondence with DPIE</p>	<p>It was noted that a number of management plans have been updated since the original approvals issued under the Project Approval and where Secretary approval has been received the revised management plan has been implemented at the site. The Air Quality Management Plan, Water Management Plan, Waste Management Plan, Energy Efficiency Action Plan and Greenhouse Gas Management Plan have been revised and submitted to the Secretary at various times between 2016 and 2019 however no formal approval has been received.</p>	C	
<b>Structural Adequacy</b>					
2.13	<p>The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>Under Part 4A of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.</li> <li>Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</li> </ul>	Interview with Environmental Superintendent	No new buildings or structures have been constructed during the audit period.	NT	
<b>Demolition</b>					
2.14	<p>The Proponent shall ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: <i>The Demolition of Structures</i>, or its latest version.</p>	Interview with Environmental Superintendent	No demolition has taken place during the audit period.	NT	
<b>Operation Of Plant And Equipment</b>					

2.15	<p>The Proponent shall ensure that all plant and equipment used on site is:</p> <p>(a) maintained in a proper and efficient condition; and</p> <p>(b) operated in a proper and efficient manner.</p>	<p>Interview with Surface Operations Manager</p> <p>Maintenance System Standard, Pulse Maintenance System and examples of maintenance scheduled inspections</p> <p>Training and competency records on 'Onsite' platform</p> <p>Introduction to Site Surface Fixed Plant Form</p>	<p>Training and competencies of all employees and contractors are recorded in the 'Onsite' platform. This also included verification of competency (VOC) records for operation of plant and equipment. The level of competency, i.e. trained, assessed, authorised or appointed, is recorded for each individual.</p> <p>The Narrabri site inductions includes site specific operating standards and records are maintained in Onsite.</p> <p>When new plant is introduced on site it goes through an introduction to site process to ensure it is compliant with statutory requirements and a maintenance strategy is developed which includes a daily pre-start.</p> <p>The coal conveyor is subject to daily walk around which is included in the maintenance schedule and recorded in Pulse.</p>	C	
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**SCHEDULE 3 – ENVIRONMENTAL CONDITIONS – MINING AREA**

**SUBSIDENCE IMPACT PERFORMANCE MEASURES**

3.1	<p><i>Note: These conditions should be read in conjunction with section 5 of the revised Statement of Commitments.</i></p> <p>The Proponent shall ensure that mine subsidence does not cause any exceedances of the performance measures in Table 1.</p> <p><i>Table 1: Subsidence Impact Performance Measures</i></p> <table border="1"> <thead> <tr> <th colspan="2">Water Resources</th> </tr> </thead> <tbody> <tr> <td>Great Artesian Basin</td> <td>The Proponent shall ensure that, within 5 years of the date of this approval, any loss of water flow into the Great Artesian Basin aquifers (equal to the maximum predicted impact, or the measured impact of the project, whichever is the greater), is managed, licensed or offset (including the possibility of injection of raffinate) to the satisfaction of DPI Water.</td> </tr> <tr> <th colspan="2">Biodiversity</th> </tr> <tr> <td>Flora and Fauna</td> <td>The Proponent shall ensure that clearing and disturbance of vegetation above the mining area is minimised, to the satisfaction of the Secretary.</td> </tr> </tbody> </table> <p><i>Note: The Proponent may be required to define other performance measures and performance indicators in management plans required under this approval (see eg condition 3 below).</i></p>	Water Resources		Great Artesian Basin	The Proponent shall ensure that, within 5 years of the date of this approval, any loss of water flow into the Great Artesian Basin aquifers (equal to the maximum predicted impact, or the measured impact of the project, whichever is the greater), is managed, licensed or offset (including the possibility of injection of raffinate) to the satisfaction of DPI Water.	Biodiversity		Flora and Fauna	The Proponent shall ensure that clearing and disturbance of vegetation above the mining area is minimised, to the satisfaction of the Secretary.	<p>Sighted evidence includes</p> <ul style="list-style-type: none"> <li>• Annual Reviews</li> <li>• Water Access Licenses</li> <li>• Aquifer Interference License</li> <li>• Groundwater modelling</li> <li>• Environmental monitoring reports</li> <li>• Groundwater testing and monitoring</li> <li>• Disturbance permits</li> <li>• Pre-clearance surveys</li> <li>• MOP requirements</li> <li>• Ecological Report reports</li> <li>• pre-clearance reports</li> <li>• piezometers levels</li> <li>• extensometer movements</li> <li>• ecological reports that note changes to vegetation or geomorphology</li> <li>• comparisons of mine water balance against model predictions (Annual reviews)</li> <li>• ponding observations, survey measurements and multi-spectral imaging provided in Land Management plans and EcoLogical reports</li> </ul> <p>Interview with Environmental Superintendent, Subsidence Engineer and Surveyor</p>	<p>Complies with current water access licenses based on mine outflow (pumping) records as reported in Annual Reviews 2016 to 2018</p>	Complies	
Water Resources													
Great Artesian Basin	The Proponent shall ensure that, within 5 years of the date of this approval, any loss of water flow into the Great Artesian Basin aquifers (equal to the maximum predicted impact, or the measured impact of the project, whichever is the greater), is managed, licensed or offset (including the possibility of injection of raffinate) to the satisfaction of DPI Water.												
Biodiversity													
Flora and Fauna	The Proponent shall ensure that clearing and disturbance of vegetation above the mining area is minimised, to the satisfaction of the Secretary.												

**Performance Measures – Built Features**

3.2	<p>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 2, to the satisfaction of DRE.</p> <p><i>Table 2: Subsidence Impact Performance Measures</i></p> <table border="1"> <thead> <tr> <th colspan="2">Built Features</th> </tr> </thead> <tbody> <tr> <td>All built features</td> <td>Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.</td> </tr> <tr> <th colspan="2">Public Safety</th> </tr> <tr> <td>Public Safety</td> <td>No additional risk.</td> </tr> </tbody> </table> <p>Notes:                      1) The Proponent will be required to define more detailed performance indicators for each of these performance measures in Built Features Management Plans or Public Safety Management Plan (see condition 4 below).                      2) Requirements regarding safety or serviceability do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.                      3) Compensation required under this condition includes any compensation payable under the Mine Subsidence Compensation Act 1961 and/or the Mining Act 1992.</p>	Built Features		All built features	Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.	Public Safety		Public Safety	No additional risk.	<p>Approved management plans including:</p> <ul style="list-style-type: none"> <li>Extraction Plan</li> <li>Built Features Management Plan</li> <li>Public Management Plan</li> <li>Subsidence Monitoring Plan</li> </ul> <p>Subsidence monitoring data</p> <p>Interview with Environmental Superintendent, Subsidence Engineer and Surveyor</p>	<p>These documents are approved and undergo continual review. Subsidence monitoring data was provided to the auditor and uploaded to the Subsidence Portal. The Subsidence Portal is accessible by the miner and the regulator but does not appear to be accessible by the responsible subsidence engineer who is required to review the data, recalibrate models as necessary and update predictions.</p>		<p>Provide the responsible subsidence engineer with access to the subsidence portal.</p>
Built Features													
All built features	Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.												
Public Safety													
Public Safety	No additional risk.												
3.3	<p>Any dispute between the Proponent and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 2 is to be settled by DRE. DRE may seek the advice of the MSB on the matter. Any decision by DRE shall be final and not subject to further dispute resolution under this approval.</p>	<p>Interview with Environmental Superintendent, Subsidence Engineer and Surveyor</p>	<p>Whitehaven own the majority if not all of the land potentially impacted by subsidence and purchase additional land as mining progresses. Therefore, this clause is not expected to be invoked during mining.</p>	NT									

**Extraction Plan**

3.4	<p>The Proponent shall prepare and implement Extraction Plans for any second workings to be mined to the satisfaction of the Secretary. Each Extraction Plan must:</p> <ol style="list-style-type: none"> <li>be prepared by a team of suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;</li> <li>be approved by the Secretary before the Proponent carries out any of the second workings covered by the plan;</li> <li>include detailed plans of the proposed first and second workings and any associated surface development;</li> <li>include detailed performance indicators for each of the performance measures in Tables 1 and 2;</li> <li>provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval;</li> <li>describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences;</li> <li>include the following to the satisfaction of DRE:                             <ul style="list-style-type: none"> <li>a Coal Resource Recovery Plan that demonstrates effective recovery of the available resource;</li> <li>a Subsidence Monitoring Program to:                                     <ul style="list-style-type: none"> <li>provide data to assist with the management of the risks associated with subsidence;</li> <li>validate the subsidence predictions; and</li> <li>analyse the relationship between the subsidence effects and impacts under the plan and any ensuing environmental consequences;</li> </ul> </li> <li>a Built Features Management Plan to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which:                                     <ul style="list-style-type: none"> <li>addresses in appropriate detail all items of public infrastructure and all classes of other built features; and</li> <li>has been prepared following appropriate consultation with the owner/s of potentially affected feature/s;</li> </ul> </li> <li>a Public Safety Management Plan to ensure public safety in the mining area; and</li> <li>appropriate revisions to the Landscape Management Plan required under condition 3 of Schedule 5; and</li> </ul> </li> </ol>	<p>Subsidence Predictions                      Subsidence monitoring reports                      Ecological reports                      Water Management Plans</p> <ul style="list-style-type: none"> <li>monitoring &amp; triggers</li> <li>contingency measures                             <ul style="list-style-type: none"> <li>visible crack in the bed of the creek will be in-filled</li> </ul> </li> </ul> <p>Water Management Plans</p> <ul style="list-style-type: none"> <li>model calibration to match measured groundwater levels and mine in/out flows</li> </ul> <p>Evidence of subsidence monitoring sighted by the auditor includes:</p> <ul style="list-style-type: none"> <li>summary records are provided for each longwall</li> <li>subsidence predictions have been updated for each approval stage</li> <li>no evidence sighted of predictions being updated since</li> <li>all built features not owned by Whitehaven Coal lie outside of the 20 mm subsidence limit and are therefore not monitored</li> <li>Water Management Plan monitoring including                             <ul style="list-style-type: none"> <li>piezometers</li> <li>water quality</li> <li>vegetation</li> <li>changes in topography</li> <li>water course morphology</li> </ul> </li> </ul>	<p>During the auditor inspection significant surface cracking due to mine subsidence was observed that appears to lie outside of the subsidence predictions provided for LW107 to LW110.</p> <p>The Land Management Plan requires permanent cracks greater than 50 mm to be remediated by ripping or filling and cracks greater than 330 mm to be investigated and the subsidence predictions updated. There are many cracks that exceed 50mm (around 50% of all cracks records provided to the auditor) and most of these have no documented treatment. There are eight cracks out of the 73 provided to the auditor that exceed 330 mm in width. None of these cracks are shown to have been investigated or treated.</p>	NC	<p>NCO should review the subsidence monitoring program deliverables of the Land Management Plan LW107 – LW110 and the TARP.</p>
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	<p>h) include a:</p> <ul style="list-style-type: none"> <li>• Water Management Plan, which has been prepared in consultation with EPA and DPI Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on surface water resources, groundwater resources and flooding, and which includes: <ul style="list-style-type: none"> <li>- surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;</li> <li>- a program to monitor and report groundwater inflows to underground workings; and</li> <li>- a program to manage and monitor impacts on groundwater bores on privately-owned land;</li> </ul> </li> <li>• Biodiversity Management Plan, which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on flora and fauna;</li> <li>• Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general;</li> <li>• Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for Aboriginal heritage, to manage the potential environmental consequences of the proposed second workings on heritage sites or values; and</li> </ul> <p>(i) include a program to collect sufficient baseline data for future Extraction Plans.</p> <p><i>Notes:</i>  Management plans prepared under condition 4(h) should address all potential impacts of proposed underground coal extraction on the relevant features. Other similar management plans required under this approval (e.g. under conditions 13 and 23 of schedule 4 or condition 3 of schedule 5) are not required to duplicate these plans or to otherwise address the impacts associated with underground coal extraction.</p>	<ul style="list-style-type: none"> <li>• groundwater inflows (Annual Reviews)</li> <li>• groundwater table drawdown against predictions (Annual Groundwater Review)</li> <li>• Land Management Plan monitoring: <ul style="list-style-type: none"> <li>○ Vegetation changes (LiDAR)</li> <li>○ length of streambank erosion ecology (LiDAR)</li> <li>○ ponding observations and survey measurements</li> <li>○ multi-spectrum imaging</li> </ul> </li> <li>• observation records of surface cracking and sinkholes including location and depth</li> </ul> <p>Interview with Environmental Superintendent, Subsidence Engineer and Surveyor</p>			
3.5	<p>The Proponent shall ensure that the management plans required under condition 4(h) above include:</p> <p>(a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval;</p> <p>(b) a detailed description of the measures that would be implemented to remediate predicted impacts; and</p> <p>(c) a contingency plan that expressly provides for adaptive management.</p>	<p>Potential environmental consequences are being monitored by:</p> <ul style="list-style-type: none"> <li>• land surveys</li> <li>• annual LiDAR surveys</li> <li>• piezometer monitoring</li> <li>• water quality monitoring</li> </ul> <p>Contingencies include:</p> <ul style="list-style-type: none"> <li>• Extraction Management Plan section (general statement)</li> <li>• Water Management Plan section 5.4.7</li> </ul> <p>Land Management Plan section 11</p> <p>Interview with Environmental Superintendent, Subsidence Engineer and Surveyor</p>	<p>Whitehaven own the affected land and therefore have the ability to apply a range of contingency measures as required.</p>	C	
<b>First Workings</b>					
3.6	<p>The Proponent may carry out first workings within the underground mining area, other than in accordance with an approved extraction plan, provided that DRE is satisfied that the first workings are designed to remain stable and non-subsiding in the long-term, except insofar as they may be impacted by approved second workings.</p> <p><i>Note: The intent of this condition is not to require an additional approval for first workings, but to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long-term stability, with negligible resulting direct subsidence impacts.</i></p>	Subsidence predictions	Subsidence Predictions include separate consideration of the effect of first workings.	C	
<b>Payable of reasonable costs</b>					
3.7	<p>The Proponent shall pay all reasonable costs incurred by the Department to engage independent experts to review the adequacy of any aspect of an Extraction Plan.</p>	Interview with Environmental Superintendent, Subsidence Engineer and Surveyor	No evidence this has been required in the reporting period.	C	



**SCHEDULE 4 – SPECIFIC ENVIRONMENTAL CONDITIONS – SURFACE AREA AND GENERAL**

**NOISE**

Note: These conditions should be read in conjunction with section 10 of the revised Statement of Commitments

**Impact Assessment Criteria**

4.1	<p>The Proponent shall ensure that the noise generated by the project does not exceed the levels set out in Table 1.</p> <p>Table 1: Impact assessment criteria dB(A)</p> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th rowspan="2">Day L<sub>Aeq</sub>(15 minute)</th> <th rowspan="2">Evening L<sub>Aeq</sub>(15 minute)</th> <th colspan="2">Night</th> </tr> <tr> <th>L<sub>Aeq</sub>(15 minute)</th> <th>L<sub>Aeq</sub>(1 minute)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> <li>To determine compliance with the L<sub>Aeq</sub>(15 minute) limit, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.</li> <li>These noise limits apply to applicable receivers under all meteorological conditions except for any one of the following:             <ul style="list-style-type: none"> <li>wind speeds greater than 3 metres/second at 10 metres above ground level; or</li> <li>stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or</li> <li>stability category G temperature inversion conditions.</li> </ul> </li> <li>Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological weather station located in the vicinity of the site, or as otherwise agreed by the Secretary.</li> <li>To determine compliance with the L<sub>A1</sub>(1 minute) noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).</li> <li>These limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</li> </ul>	Location	Day L <sub>Aeq</sub> (15 minute)	Evening L <sub>Aeq</sub> (15 minute)	Night		L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (1 minute)	All privately owned residences	35	35	35	45	<p>Annual reviews 2016, 2017, 2018</p> <p>EPL monitoring reports – 2016, 2017, 2018, 2019</p> <p>Quarterly attended noise monitoring reports – 2017, 2018, 2019</p>	<p>The following exceedances of EPL noise limits were recorded during the audit period:</p> <ul style="list-style-type: none"> <li>27 June 2017: Point N5, Night – LAeq (15 minute) of 37 dB and Night – LA1 (1 minute) of 46 dB.</li> <li>29 June 2017: Point N6, Night – LAeq (15 minute) of 38 dB.</li> <li>07 September 2017: Point N6, Night – LAeq (15 minute) of 36 dB.</li> <li>June 2019: Point N6, Day - LAeq (15 minute) of 42 dB and Point N9, Day - LAeq (15 minute) of 43 (Note: both recorded during non-compliant weather conditions of wind speed &gt; 3 m/s and as such do not represent a non-compliance with the Project Approval).</li> <li>04 September 2019: Point N9, Day - LAeq (15 minute) of 39 dB.</li> </ul> <p>For the exceedance recorded in September 2019, subsequent investigations by SLR Consulting Australia Pty Ltd (SLR) dated 1 August 2019, exceedances in noise monitoring results were likely attributable to the Main Exhaust Ventilation Fan. Subsequently a Vent Fan Noise Reduction Study conducted by Spectrum Acoustics dated 19 November 2019 assessed noise control options based on technical information for the fans and noise measurements taken in 2014 and 2019. Based on outcomes of the Study, ERM understands that NCO is investigating a number of noise attenuation measures including the installation of a 14 m high acoustic barrier at the Main Exhaust Ventilation Fan which is expected to reduce noise levels at the receiver point 5 km north of the fans to less than criteria under Condition 4.1. NCO is progressing the validation of noise modelling assumptions to inform the engineering designs, cost and project management aspects required for construction of the noise abatement installation.</p>	NC	Continue to investigate all appropriate noise attenuation measures.
Location	Day L <sub>Aeq</sub> (15 minute)				Evening L <sub>Aeq</sub> (15 minute)	Night											
		L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (1 minute)														
All privately owned residences	35	35	35	45													

**Noise Acquisition Criteria**

4.2	<p>If the noise generated by the project exceeds the criteria in Table 2 at any residence on privately-owned land then the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 5-7 of schedule 7.</p> <p>Table 2: Noise acquisition criteria dB(A)</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day L<sub>Aeq</sub>(15 minute)</th> <th>Evening L<sub>Aeq</sub>(15 minute)</th> <th>Night L<sub>Aeq</sub>(15 minute)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Location	Day L <sub>Aeq</sub> (15 minute)	Evening L <sub>Aeq</sub> (15 minute)	Night L <sub>Aeq</sub> (15 minute)					<p>Title transfer documents</p> <p>Interview with Environmental Superintendent</p>	<p>Oakleigh property was acquired during the audit period.</p> <p>No other requests received.</p>	C	
Location	Day L <sub>Aeq</sub> (15 minute)	Evening L <sub>Aeq</sub> (15 minute)	Night L <sub>Aeq</sub> (15 minute)										



All privately owned residences	40	40	40				
<p><i>Note: Noise generated by the project is to be measured in accordance with the notes presented below Table 1. For this condition to apply, the exceedances of the criteria must be systemic.</i></p>							

**Additional Noise Mitigation Measures**

4.3	<p>If the noise generated by the project is equal to or exceeds the criteria in Table 3 at any residence on privately-owned land, then the Proponent shall, upon receiving a written request from the landowner, implement reasonable and feasible noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at the residence in consultation with the landowner. If within 3 months of receiving this request from the landowner, 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 Secretary for resolution.</p>	Interview with Environmental Superintendent	No requests have been received during the audit period.	NT									
<p><i>Table 3: Additional noise mitigation criteria</i></p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day L<sub>Aeq</sub>(15 minute)</th> <th>Evening L<sub>Aeq</sub>(15 minute)</th> <th>Night L<sub>Aeq</sub>(15 minute)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences</td> <td>38</td> <td>38</td> <td>38</td> </tr> </tbody> </table>						Location	Day L <sub>Aeq</sub> (15 minute)	Evening L <sub>Aeq</sub> (15 minute)	Night L <sub>Aeq</sub> (15 minute)	All privately owned residences	38	38	38
Location	Day L <sub>Aeq</sub> (15 minute)	Evening L <sub>Aeq</sub> (15 minute)	Night L <sub>Aeq</sub> (15 minute)										
All privately owned residences	38	38	38										
<p><i>Note: Noise generated by the project is to be measured in accordance with the notes presented below Table 1. For this condition to apply, the exceedances of the criteria must be systemic.</i></p>													

**Noise Management Plan**

4.4	<p>The Proponent shall revise the Noise Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with noise management (Stages 1 and 2) and subsequently implement this revised version of the Noise Management Plan to the satisfaction of the Secretary. This Plan shall:</p> <ol style="list-style-type: none"> <li>be prepared in consultation with EPA by a suitably qualified expert whose appointment has been approved by the Secretary;</li> <li>be submitted to the Secretary for approval by 30 June 2011;</li> <li>include a Noise Monitoring Program incorporating: <ul style="list-style-type: none"> <li>real-time noise and temperature inversion monitoring; and</li> <li>attended noise monitoring</li> </ul> </li> </ol> <p>to monitor the performance of the project;</p> <ol style="list-style-type: none"> <li>include reactive noise control measures to manage noise impacts for sensitive receivers; and</li> <li>include a protocol to establish whether the project is complying with the noise impact assessment criteria in Table 1.</li> </ol>	<p>Noise Management Plan WHC_PLN_NAR_NOISE MANAGEMENT PLAN 1 June 2018</p> <p>Annual Review 2018</p> <p>Sentinex repository</p> <p>TARP Noise alarms and temperature inversion conditions 2017</p>	<p>The updated NMP for Stage 2, prepared by Spectrum Acoustics, was approved by the Secretary on 11 December 2011. A revised plan was subsequently approved on 5 June 2018.</p> <p>The NMP meets the requirements of the condition.</p> <p>The mine reported Sound Power Levels (SPLs) which exceeded those identified in the NMP in the 2018 Annual Review. DPIE requested additional information in October 2018 which the mine provided. DPIE issued a Warning Letter in December 2018.</p> <p>Real time noise, weather and inversion monitoring is undertaken at two locations to the north and south of the site. Data is recorded in the Sentinex repository.</p> <p>There is no TARP for fan noise, however an alarm is set on the monitors to record when the fan noise frequency is reached.</p> <p>No complaints have been received related to dozer noise. The NMP contains a TARP for dozer noise. The Level 2 trigger response includes limiting operations to critical dozing only and limit the reversing speed.</p>	NC	Continue to monitor SPL's and implement all reasonable and feasible best practice noise mitigation measures to reduce noise generated by the project..
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**Continuous Improvement**

4.5	<p>The Proponent shall:</p> <ol style="list-style-type: none"> <li>implement all reasonable and feasible best practice noise mitigation measures;</li> <li>investigate ways to reduce the noise generated by the project, including off-site road and rail noise and maximum noise levels which may result in sleep disturbance; and</li> <li>report on these investigations and the implementation and effectiveness of these measures in the Annual Review, to the satisfaction of the Secretary.</li> </ol>	<p>Vent Fan Noise Reduction Study, Spectrum Acoustics, November 2019</p> <p>Interview with Environmental superintendent</p>	<p>Measures to reduce Noise impacts are ongoing and have included:</p> <ul style="list-style-type: none"> <li>Maintaining equipment exhausts and conducting noise testing of plant;</li> <li>Investigating the purchase of additional gas drainage equipment; and</li> </ul>	C	
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			<ul style="list-style-type: none"> <li>Investigating options for reducing SPL's on the stockpile dozer fleet and gas drainage equipment.</li> </ul> <p>A study was conducted by Spectrum Acoustics in October 2019 into the sound power levels of the main vent fans and noise control options. The study concluded that further noise reduction would require the use of noise barriers. The intention is to install a noise barrier at the main vent site. At the time of the audit the noise barrier design and noise modelling was completed and awaiting CAPEX approval.</p>	
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**AIR QUALITY**

**Impact Assessment Criteria**

4.6	<p><i>Note: These conditions should be read in conjunction with section 11 of the revised Statement of Commitments.</i> The Proponent shall ensure that dust emissions generated by the project do not cause additional exceedances of the criteria listed in Tables 4 to 6 at any residence on privately-owned land.</p> <p><i>Table 4: Long term impact assessment criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup> Criterion</th> </tr> </thead> <tbody> <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 (PM10)</td> <td>Annual</td> <td><sup>a</sup> 30 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 5: Short term impact assessment criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup> Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM10)</td> <td>24 hour</td> <td><sup>a</sup> 50 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 6: Long term impact assessment criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td><sup>b</sup> 2g/m<sup>2</sup>/month</td> <td><sup>a</sup> 4g/m<sup>2</sup>/month</td> </tr> </tbody> </table> <p><i>Notes to Tables 4-6</i></p> <ul style="list-style-type: none"> <li><i>a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);</i></li> <li><i>b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);</i></li> <li><i>c 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; and</i></li> <li><i>d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.</i></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 (PM10)	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>	Pollutant	Averaging period	<sup>d</sup> Criterion	Particulate matter < 10 µm (PM10)	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	Deposited dust	Annual	<sup>b</sup> 2g/m <sup>2</sup> /month	<sup>a</sup> 4g/m <sup>2</sup> /month	<p>Annual Reviews 2016, 2017, 2018</p> <p>Dust monitoring reports</p> <p>Interview with Environmental Superintendent</p> <p>OEH regional air quality reports</p> <p>Evidence photos of storms and bushfire</p>	<p>The following exceedance of assessment criteria were reported for the audit period:</p> <ul style="list-style-type: none"> <li>2018 – dust annual average exceeded at 2 locations</li> <li>2018 – PM10 24 hr average exceeded on 2 occasions November and December 2018</li> <li>2019 – a total of five exceedances for PM10 noted (February and October 2019 for ND9, September and February, October 2019 for ND10).</li> </ul> <p>All exceedances were investigated and found to be associated with regional events including dust storms and bushfires.</p>	C
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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**Operating Conditions**

4.7	<p>The Proponent shall:</p> <p>(a) implement all reasonable and feasible measures to minimise the:</p> <ul style="list-style-type: none"> <li>odour, fume and dust emissions of the project; and</li> </ul>	Site observations	CoalTrak is used in real time by the operator. If the wind or noise TARP is triggered the operator records what action was taken in CoalTrak.	C
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	<ul style="list-style-type: none"> <li>release of greenhouse gas emissions from the project;</li> </ul> <p>(b) operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and real-time air quality monitoring data to guide the day to day planning of operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this approval;</p> <p>(c) minimise any visible air pollution; and</p> <p>(d) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d to Tables 4-6 above).</p> <p>to the satisfaction of the Secretary.</p>	<p>Triggered TARP for dust from Coal Stockpiles, September 2019</p> <p>CoalTrak records</p> <p>Interview with Environmental Superintendent</p>	<p>Visual observations of dust are being made all the time and comments made in the shift notes in CoalTrak.</p> <p>A water cart on site at all times and in use if the water cannons are offline.</p> <p>Coal was not being brought to the surface at the time of audit. The audit team did not observe any dust from the stockpiles.</p>		
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**Air Quality Management Plan**

4.7A	<p>The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Secretary. This program must:</p> <p>(a) be prepared in consultation with the EPA, and be submitted to the Secretary for approval prior to 30 December 2015, unless otherwise agreed with the Secretary;</p> <p>(b) describe the measures that would be implemented to ensure compliance with relevant air quality criteria and operating conditions of this approval;</p> <p>(c) describe the proposed air quality management system; and</p> <p>(d) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> <li>adequately supports the proactive and reactive air quality management system;</li> <li>evaluates and reports on: <ul style="list-style-type: none"> <li>the effectiveness of the air quality management system; and</li> <li>compliance with the air quality operating conditions; and</li> </ul> </li> <li>defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.</li> </ul>	<p>WHC_PLN_NAR_AIR QUALITY MONITORING PROGRAM Rev2 2015</p> <p>Interview with Environmental Superintendent</p> <p>DPIE approval letter dated 26 May 2015</p>	<p>Rev2 of the AQMP was approved by DPIE on 26 May 2015. Consultation undertaken with EPA in December 2014.</p> <p>The AQMP was reviewed in 2016 and submitted to DPIE. Comments were received and the plan resubmitted. Approval has not yet been received from DPIE and the 2015 version remains in effect.</p> <p>The approved AQMP meets the requirements of this condition.</p>	Obs C	NCO should confirm with DPIE if the revised AQMP is to be approved.
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**METEOROLOGICAL MONITORING**

4.8	<p>For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that:</p> <p>(a) complies with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales (DECC, 2007), or its latest version; and</p> <p>(b) is capable of real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Secretary following consultation with the EPA.</p>	<p>Weather data</p> <p>Site observations</p>	<p>Weather data has been provided for the audit period.</p>	C	
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**WATER MANAGEMENT**

Note: These conditions must be read in conjunction with Section 6 and 7 of the Statement of Commitments.

**Groundwater Model**

4.9	<p>Within 2 years of the commencement of longwall coal extraction, and every 5 years thereafter, the Proponent shall undertake a transient calibration of the groundwater model presented in the EA, in consultation with DPI Water, and to the satisfaction of the Secretary. This re-calibration of the groundwater model must include forward impact predictions of brine re-injection to the mine's goaf at the conclusion of mining operations.</p>	<p>Narrabri Mine Groundwater Data Analysis and Model Recalibration, September 2016</p>	<p>Comments were received from DPI Water in September 2015 and incorporated into 2016 report. Updated report submitted to DPIE on 28 September 2016, no approval has been received.</p> <p>The groundwater model is currently being recalibrated by AGE as part of the Stage 3 assessment.</p>	Obs C	NCO should confirm with DPIE if the groundwater model is to be approved.
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**Water Supply**

4.9A	<p>The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of operations on site to match its available water supply.</p> <p>Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.</p>	<p>Narrabri Coal Mine Water Balance Model Report, May 2019</p>	<p>Sufficient water has been available during the audit period and the water balance confirms water availability for ongoing operations.</p>	C	
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**Compensatory Water Supply**

4.9B	<p>The Proponent shall provide a compensatory water supply to any landowner of privately-owned land whose water supply is adversely and directly impacted as a result of the project (other than an impact that is minor or negligible), in consultation with DPI Water, and to the satisfaction of the Secretary.</p> <p>The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributable to the project. Equivalent water supply should be provided (at least on an interim basis) as soon as practicable from the loss being identified, unless otherwise agreed with the landowner.</p> <p>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 Secretary for resolution.</p> <p>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 Secretary.</p>	Noted	No compensatory water supply has been required during the audit period.	NT	
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**Discharges**

4.10	Except as may be expressly provided for by an EPL, the Proponent shall not discharge any waters from the disturbed areas of the site. However, raffinate from the water conditioning plant may be transferred to water users in accordance with an approved Water Management Plan (see below).	Interview with Environmental Superintendent	There has been no discharge from disturbed areas during the audit period.	NT	
4.11	Any raffinate from the water conditioning plant discharged to the Namoi River must be discharged in accordance with the conditions of an EPL and meet the following criteria: (a) 50 percentile of all samples (volume based) are below 250 mg/l of Total Dissolved Solids; (b) 100 percentile of all samples (volume based) are below 350 mg/l of Total Dissolved Solids; and (c) pH values of all sampled water to be between 6.5 and 8.5.	Interview with Environmental Superintendent	There has been no discharge of raffinate during the audit period	NT	
4.12	Within 3 years of the date of this approval, or otherwise agreed by the Secretary, the Proponent must commission the water conditioning plant identified in the EA, to the satisfaction of the Secretary.		Outside audit period	NT	

**Water Management Plan**

4.13	<p>Prior to 30 June 2011, the Proponent shall revise the Water Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with water management (Stages 1 and 2) and subsequently implement this revised version of the Water Management Plan to the satisfaction of the Secretary. This revised plan must be produced in consultation with EPA and DPI Water by suitably qualified expert/s whose appointment/s have been approved by the Secretary and include a:</p> <ol style="list-style-type: none"> <li>Site Water Balance;</li> <li>Erosion and Sediment Control Plan;</li> <li>Surface Water Monitoring Plan;</li> <li>Raffinate Discharge and Transfer Control and Monitoring Plan;</li> <li>Groundwater Monitoring Program; and</li> <li>Surface and Groundwater Response Plan, setting out the procedures for: <ul style="list-style-type: none"> <li>investigating, and if necessary mitigating, any exceedances of the surface or groundwater assessment criteria (see conditions 16(b) and 18(c)); and</li> <li>responding to any unforeseen impacts of the project.</li> </ul> </li> </ol> <p><i>Note: The Raffinate Discharge and Transfer Control and Monitoring Plan does not need to be produced and approved until 3 months prior to the planned discharge or transfer of raffinate from the site.</i></p>	<p>Water Management Plan, Issue 4, March 2013</p> <p>DPIE approval letter dated 5 April 2013</p> <p>NRAR comments dated 3 September 2018</p> <p>Interview with Environmental superintendent</p>	<p>2013 version approved 5 April 2013. Consultation with EPA and DPI Water from the original issue of the WMP is appended to the plan.</p> <p>The WMP was revised and resubmitted in 2017. Comments received from NRAR in comments back from NRAR in September 2018 to address groundwater conditions and the plan is currently under review.</p> <p>The WMP includes a TARP which details the surface water and groundwater response plan. Other plans required by this condition are included in the WMP and discussed below.</p> <p>No raffinate has been discharged or transferred from the site during the audit period.</p>	C	
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**Site Water Balance**

4.14	<p>The Site Water Balance must:</p> <ol style="list-style-type: none"> <li>include details of: <ul style="list-style-type: none"> <li>sources and security of water supply;</li> <li>underground water make;</li> <li>water use on site;</li> <li>water management on site;</li> <li>off-site water transfers;</li> </ul> </li> </ol>	<p>Water Management Plan, Issue 4, March 2013</p> <p>Draft Water Balance Model Report, WRM, May 2019</p>	<p>The WMP includes the Site Water Balance which includes the required details.</p> <p>The water balance has been reviewed internally by NCO engineers during the audit period on at least an annual basis. The Water balance model was reviewed by WRM and a draft issued in May 2019.</p>	C	
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	<ul style="list-style-type: none"> <li>• reporting procedures;</li> <li>(b) describe measures to minimise water use by the project; and</li> <li>(c) be reviewed and recalculated each year in the light of the most recent water monitoring data.</li> </ul>	NCO Water balance reviews 2017-2019			
<b>Erosion and Sediment Control</b>					
4.15	<p>The Erosion and Sediment Control Plan must:</p> <ul style="list-style-type: none"> <li>(a) be consistent with the requirements of <i>Managing Urban Stormwater: Soils and Construction</i> manual (Landcom, 2004), or its latest version;</li> <li>(b) identify activities that could cause soil erosion and generate sediment;</li> <li>(c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters;</li> <li>(d) describe the location, function, and capacity of erosion and sediment control structures; and</li> <li>(e) describe what measures would be implemented to monitor and maintain the structures over time.</li> </ul>	Water Management Plan, Issue 4, March 2013	<p>An E&amp;SCP that meets the requirements is included in the WMP.</p> <p>The audit team observed deployment of erosion and sediment control equipment during the site inspection.</p>	C	
<b>Surface Water Monitoring Program</b>					
4.16	<p>The Surface Water Monitoring Plan must include:</p> <ul style="list-style-type: none"> <li>(a) detailed baseline data on surface water flows and quality in creeks and other water bodies that could be affected by the project;</li> <li>(b) surface water impact assessment criteria;</li> <li>(c) a program to monitor the impact of the project on surface water flows and quality;</li> <li>(d) procedures for reporting the results of this monitoring.</li> </ul>	Water Management Plan, Issue 4, March 2013	A SWMP that meets the requirements is included in the WMP.	C	
<b>Raffinate Discharge and Transfer Control and Monitoring Plan</b>					
4.17	<p>The Raffinate Discharge Control and Monitoring Plan must:</p> <ul style="list-style-type: none"> <li>(a) be approved by the Secretary prior to any raffinate discharge to the Namoi River;</li> <li>(b) include measures for the continuous monitoring and recording of volumes of water discharged to the Namoi River;</li> <li>(c) contain an ambient water quality monitoring program upstream and downstream of the discharge point; and</li> <li>(d) contain a water quality monitoring program for discharged waters.</li> </ul>	Interview with Environmental Superintendent	No raffinate has been discharged during the audit period.	NT	
<b>Groundwater Management Plan</b>					
4.18	<p>The Groundwater Monitoring Program must include:</p> <ul style="list-style-type: none"> <li>(a) further development of the regional and local groundwater model;</li> <li>(b) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality (including at any privately owned bores in the vicinity of the site);</li> <li>(c) groundwater impact assessment criteria;</li> <li>(d) a program to monitor the impact of the project on groundwater levels, yield and quality;</li> <li>(e) a program to monitor any impacts of the project on the Namoi River Alluvium;</li> <li>(f) a program to monitor (by the use of shallow piezometers/lysimeters), detect, and quantify any leakage/leachate from the site's evaporation/storage ponds, brine storage area or coal reject emplacement area; and</li> <li>(g) procedures for reporting the results of this monitoring.</li> </ul>	<p>Water Management Plan, Issue 4, March 2013</p> <p>Annual Groundwater Review prepared by Groundwater Explorations Services, 2018 and 2019</p>	A Groundwater Monitoring program that meets the requirements is included in the WMP. The results of the groundwater monitoring program are reported annually in the Groundwater Review.	C	
<b>Evaporation / Storage Ponds</b>					
4.19	<p>The Proponent shall ensure that the integrity of the low permeability layers lining the evaporation/storage ponds is maintained and achieves a permeability of less than <math>1 \times 10^{-14}</math> m/s whenever these ponds are in use for the storage of saline waters and less than <math>1 \times 10^{-9}</math> m/s when being used to store raffinate or captured surface waters.</p>	<p>Rail Loop Dams Operation and Maintenance Manual, Issue 4, July 2019</p> <p>Sample of dam inspection reports</p> <p>Annual Groundwater Review prepared by Groundwater Explorations Services, 2018 and 2019</p>	<p>The dams are subject to weekly, monthly and quarterly inspections by a trained NCO employee. Annual and 5 –yearly are undertaken by a Dam Engineer in accordance with the Dams Safety Act.</p> <p>Groundwater monitoring is also around the dams to assess any leakage from the dams.</p>	C	



Brine Storage Ponds					
4.20	The Proponent shall ensure that the integrity of the low permeability layers lining the brine storage ponds is maintained and achieves a permeability of less than $1 \times 10^{-14}$ m/s whenever these storage ponds are in use.	Rail Loop Dams Operation and Maintenance Manual, Issue 4, July 2019  Sample of dam inspection reports  Annual Groundwater Review prepared by Groundwater Explorations Services, 2018 and 2019	The dams are subject to weekly, monthly and quarterly inspections by a trained NCO employee. Annual and 5 –yearly are undertaken by a Dam Engineer in accordance with the Dams Safety Act.  Groundwater monitoring is also around the dams to assess any leakage from the dams.	C	

#### Review of Brine Management and Beneficial Use of Water and Brine

4.21	Within 2 years of commissioning the water conditioning plant, and every 5 years thereafter, unless otherwise directed by the Secretary, the Proponent shall engage suitably qualified experts approved by the Secretary to review brine management and beneficial use options for raffinate, brine and minewater produced by the project. The Proponent shall implement all reasonable and feasible recommendations of these reviews, to the satisfaction of the Secretary.	Preliminary Assessment of Beneficial Use Options for Narrabri Coal, WRM, June 2018  Interview with Environmental Superintendent	NCO is currently utilising brine on the ROM and the product stockpiles sprays as recommended by the options study, with the remainder managed by store and evaporate.  Future options will be to investigate methods for brine superconcentration such as brine squeeze.	C	
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#### HERITAGE

Note: These conditions should be read in conjunction with section 9 of the revised Statement of Commitments.

#### Aboriginal Cultural Heritage Management Plan

4.22	The Proponent shall not destroy damage or deface any known Aboriginal objects (as defined in the <i>National Parks and Wildlife Act 1974</i> ) without the written approval of the Secretary.	Annual Reviews 2016, 2017, 2018  WHC_PLN_NAR_Aboriginal Cultural Heritage Management Plan, Issue 4, June 2019  Interview with Environmental Superintendent  Examples of disturbance permits	During November 2017 the mine was made aware of a complaint made through DPIE relating to Aboriginal Cultural Heritage with an allegation that the mine had disturbed a designated cultural heritage area. The mine provided all the requested information and was determined to have followed the ACHMP in consulting with the Registered Aboriginal Parties (RAPs) for all activities relating to the complaint.  No further issues have been identified during the audit period.  ERM observed identification of aboriginal heritage items in the field in accordance with the ACHMP. Review of a sample of disturbance permits confirmed that aboriginal cultural heritage identification is included in the assessment and that RAPs inspect the site as part of the pre-disturbance survey.	C	
4.23	The Proponent shall revise the Aboriginal Cultural Heritage Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with Aboriginal cultural heritage management for the site (Stages 1 and 2) and subsequently implement this revised version of the Aboriginal Cultural Heritage Management Plan to the satisfaction of the Secretary. This plan must: (a) be submitted the Secretary by 30 June 2011; (b) be prepared in consultation with the OEH, the Narrabri Local Aboriginal Land Council and the Narrabri Goomerai Aboriginal Corporation; (c) include a protocol for the ongoing consultation and involvement of Aboriginal communities in the conservation and management of Aboriginal heritage on site; and (d) describe the measures that would be implemented to protect Aboriginal sites on the mine site, (in particular all known Aboriginal sites on lands overlying Longwalls 1-3 and sites 10b, 38, 39 and 106-112), or any new Aboriginal objects or skeletal remains that are identified during the project.	WHC_PLN_NAR_Aboriginal Cultural Heritage Management Plan, Issue 4, June 2019  DPIE Approval dated 3 October 2019	The ACHMP in effect was revised and approved by DPIE 3 October 2019. Consultation with appropriate stakeholders is included in the plan.  The ACHMP addresses the requirements of the condition – Section 3 of the plan relates to condition (d).	C	
4.24	Prior to undertaking any activities involving surface disturbance or vegetation removal for the lands overlying Longwalls 8-26, the Proponent shall undertake a detailed Aboriginal cultural heritage survey in consultation with the local Aboriginal community and OEH, and to the	Outside audit period	Outside audit period	N/A	



	satisfaction of the Secretary. The Secretary may approve this survey being undertaken in several stages, as mining progresses.				
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**TRANSPORT**

*Note: These conditions should be read in conjunction with section 13 of the revised Statement of Commitments.*

**Mine Access Road Intersection**

4.25	The Proponent shall maintain the Mine Access Road Intersection with Kurrajong Creek Road and the Kamilaroi Highway in consultation with NSC and to the satisfaction of RMS.	Interview with Environmental Superintendent	None required during the audit period	NT	
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**Greylands and Scratch Roads**

4.26	Prior to using Greylands and Scratch Roads to construct mine-related infrastructure, the Proponent shall enter into an agreement with NSC to: <ul style="list-style-type: none"> <li>a) construct watercourse crossings (either culverts or concrete causeways) on those sections of these roads that it uses in a manner that does not restrict fish passage, in consultation with NSW T&amp;I (Fisheries) and to the satisfaction of NSC; and</li> <li>b) fund the maintenance of those sections of these roads that it uses to an all-weather unsealed road standard.</li> </ul>	Interview with Environmental Superintendent	Greylands Road is under mine ownership. There is no mine related infrastructure on Scratch Road.	C	
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**Gunnedah Traffic Management Study**

4.27	The Proponent shall contribute, on an equitable basis with other coal project rail users, to the costs of an independent Traffic Management Study analysing the impacts of increased rail traffic on road safety and congestion due to increased closure of rail level crossings within Gunnedah, prepared to the satisfaction of GSC.  <i>Note: This study should examine funding mechanisms to implement any recommendations to improve road safety and reduce traffic congestion associated with rail level crossings and be completed by 30 June 2011.</i>	Outside audit period	Outside audit period	N/A	
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**VISUAL IMPACT**

*Note: These conditions should be read in conjunction with section 14 of the Statement of Commitments.*

**Visual Amenity**

4.28	The Proponent shall minimise the visual impacts of the project to the satisfaction of the Secretary.	Site observations	Additional planting has been undertaken in 2019 on the south side of the mine site to reduce visual impacts along the Kimilaroi Highway.	C	
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**Lighting Emissions**

4.29	The Proponent shall ensure that: <ul style="list-style-type: none"> <li>a) no outdoor lights shine above the horizontal; and</li> <li>b) all external lighting associated with the project complies with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i>.</li> </ul>	Complaints register  EMM Consulting, Lighting Review Narrabri Mine, July 2019	One complaint (received 17/11/17) references lighting. Additional trees planted as screening in response to the complaint.  EMM Consulting conducted a lighting review in July 2019.  Fixed lighting designed and procured in accordance with Australian Standard (AS) 4282 – 1997: Control of Obtrusive Effects of Outdoor Lighting (AS4282);	C	
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**ENERGY EFFICIENCY AND GREENHOUSE GAS**

*Note: These conditions should be read in conjunction with section 11 of the revised Statement of Commitments.*

**Energy Saving Action Plan**

4.30	The Proponent shall revise the Energy Savings Action Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with energy management for the site (Stages 1 and 2) and subsequently implement this revised version of the Energy Savings Action Plan to the satisfaction of the Secretary. This plan must: <ol style="list-style-type: none"> <li>be prepared in consultation with OEH;</li> <li>be prepared in accordance with the <i>Guidelines for Energy Savings Action Plans</i> (DEUS, 2005), or its latest version;</li> <li>be submitted to the Secretary for approval prior to 30 June 2011; and</li> <li>include a program to monitor the effectiveness of measures to reduce energy use on site.</li> </ol>	Energy Savings Action Plan, Rev 4, August 2014.  Correspondence with OEH dated June 2017  Interview with Environmental Superintendent	The effective Energy Action Plan was approved by DPIE in May 2015. The Action Plan details the development of monthly reports on energy usage which are reviewed at the monthly meeting as the means to review effectiveness of the actions.  The plan was revised and resubmitted in June 2017 however formal approval has not been received.	Obs C	NCO should consider confirming with DPIE if the 2017 revision will be approved.
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**Gas Drainage**

4.31	The Proponent shall implement all reasonable and feasible measures to minimise the greenhouse gas emissions from the underground mining operations to the satisfaction of the Secretary.	Narrabri Mine Greenhouse Gas Minimisation Plan Stage 2 Longwall Project, June 2012	Measures to minimise greenhouse gas emissions are detailed in the GHG Minimisation Plan as discussed below.	N/A	
4.32	Prior to carrying out longwall coal mining operations, the Proponent shall submit a Greenhouse Gas Minimisation Plan for the approval of the Secretary. This plan must: <ol style="list-style-type: none"> <li>be prepared in consultation with OEH;</li> <li>identify options for minimising greenhouse gas emissions from underground mining operations, with a particular focus on capturing and/or using these emissions;</li> <li>investigate the feasibility of implementing each option;</li> <li>propose the measures that would be implemented in the short to medium term on site; and</li> <li>include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.</li> </ol>	Narrabri Mine Greenhouse Gas Minimisation Plan Stage 2 Longwall Project, June 2012  GHG Minimisation revision 1, 2017	Approval of the GHG minimisation plan occurred prior to the audit period.  The GHG minimisation plan meets the requirements of the condition including implementation of a research program for methods of reuse of coal mine gas.  The GHG plan was revised and resubmitted to DPIE on in June 2017 however formal approval has not been received and the 2012 version remains in effect.	Obs C	NCO should consider confirming with DPIE if the 2017 revision will be approved.

**WASTE**

**Waste Minimisation**

4.33	<i>Note: These conditions should be read in conjunction with section 3 of the revised Statement of Commitments.</i> The Proponent shall revise the Waste Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with waste management for the site (Stages 1 and 2) and subsequently implement this revised version of the Waste Management Plan to the satisfaction of the Secretary. This plan must: <ol style="list-style-type: none"> <li>be submitted to the Secretary for approval prior to 30 June 2011;</li> <li>identify the various waste streams of the project;</li> <li>describe what measures would be implemented to reuse, recycle, or minimise the waste generated by the project;</li> <li>ensure irrigation of treated wastewater is undertaken in accordance with <i>Environmental Guidelines: Use of Effluent by Irrigation</i> (DEC, 2004), or its latest version; and</li> <li>include a program to monitor the effectiveness of these measures.</li> </ol>	WHC_PLN_NAR_Waste Management Plan Rev 2, May 2015  DPIE approval letter dates 26 May 2015  Interview with Environmental Superintendent	The Waste Management Plan was approved by DPIE on 26 May 2015.  The Plan was revised and resubmitted to DPIE on 31 October 2019. Approval has not been received and the 2015 version remains in effect.  The updated version of the Plan includes updated effluent irrigation limits in accordance with guidelines.	Obs C	NCO should consider confirming with DPIE if the 2019 revision will be approved.
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**SCHEDULE 5 - REHABILITATION AND OFFSETS**

*Note: These conditions should be read in conjunction with sections 4, 8 and 12 of the revised Statement of Commitments and condition 3(c) of schedule 3.*

**Rehabilitation Objectives**

5.1	The Proponent shall rehabilitate the site to the satisfaction of the Secretary and DRE in accordance with the rehabilitation objectives in Table 1.  <i>Table 1: Rehabilitation Objectives</i>	Extraction Plan Appendix F – Rehabilitation Plan  Annual biodiversity monitoring reports prepared by Ecological, 2016, 2017 and 2018	The Rehabilitation Plan is included as Appendix F of the Extraction Plan and details the short and long term rehabilitation objectives.	C	
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Domain	Rehabilitation Objective
Surface Facilities Area	Set through condition 4 below

Other land affected by the project	Restore ecosystem function, including maintaining or establishing self-sustaining native ecosystems: <ul style="list-style-type: none"> <li>comprised of local native plant species; with</li> <li>a landform consistent with the surrounding environment</li> </ul>		The rehabilitation plan progress, including and assessment of compliance with performance criteria is reported annually in the biodiversity monitoring reports.		
Built features	Repair/restore to pre-mining condition or equivalent				
Community	Minimise the adverse socio-economic effects associated with mine closure including the reduction in local and regional employment Ensure public safety				
<i>Note: The Proponent may be required to define other rehabilitation objectives in management plans or strategy required under this schedule.</i>					

**Progressive Rehabilitation**

5.2	To the extent that mining operations permit, the Proponent shall carry out rehabilitation progressively, that is, as soon as reasonably practicable following the disturbance.	Extraction Plan Appendix F – Rehabilitation Plan  Annual biodiversity monitoring reports prepared by Ecological, 2016, 2017 and 2018  Rehabilitation Map Ref. OOD_AC_Rehab  Mining Operations Plan prepared by SLR Consulting dated October 2019 MOP approval by Resources Regulator dated 28 November 2019	Progressive rehabilitation is undertaken as outlined in the Rehabilitation Plan and MOP. During the audit period areas 1-6 have been rehabilitated. For 2019 the total area rehabilitated was 77 hectares.	C	
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**Landscape Management Plan**

5.3	The Proponent shall revise the Landscape Management Plan for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with landscape management for the site (Stages 1 and 2) and subsequently implement this revised version of the Landscape Management Plan to the satisfaction of the Secretary and DRE. This plan must: (a) be submitted to the Secretary for approval by 30 June 2011; (b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Secretary; (c) be prepared in consultation with DPI Water, OEHL and NSC; and (d) include a: <ul style="list-style-type: none"> <li>Rehabilitation Management Plan; and</li> <li>Mine Closure Plan.</li> </ul>	Landscape Management Plan April 2016  DPIE approval letter dated 26 April 2017  DRE approval letter dated March 2017	LMP was approved by DPIE on 6 April 2017 and DRE in March 2017.  The Rehabilitation Management Plan and Mine Closure Plan are appended to the LMP as appendices A and B respectively.	C	
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**Rehabilitation Management Plan**

5.4	The Rehabilitation Management Plan must include: <ol style="list-style-type: none"> <li>the rehabilitation objectives for the site;</li> <li>a strategic description of how the rehabilitation of the site would be integrated with surrounding land use;</li> <li>a general description of the short and long term measures that would be implemented to rehabilitate the site;</li> <li>a detailed description of the measures that would be implemented to remediate predicted subsidence impacts under individual Extraction Plans;</li> <li>a detailed description of the measures that would be implemented to minimise environmental impacts of mining operations and to rehabilitate the site, including measures to be implemented for: <ul style="list-style-type: none"> <li>managing remnant vegetation and habitat on site;</li> <li>minimising impacts on fauna;</li> <li>minimising visual impacts;</li> <li>conserving and reusing topsoil;</li> </ul> </li> </ol>	Narrabri Mine Rehabilitation Management Plan, 6 April 2017  Hunter Land Management works records for 9/8/19	The Rehabilitation Management Plan meets the requirements of the condition.  The audit team confirmed implementation of aspects of the Plan including weed management. Works records for Hunter Land Management confirm the weed treatment product applied and maps indicating areas of treatment.  The audit team observed the use of feral pig traps during the site inspection.	C	
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	<ul style="list-style-type: none"> <li>controlling weeds, feral pests, and access;</li> <li>managing bushfires; and</li> <li>managing any potential conflicts between rehabilitation works and Aboriginal cultural heritage.</li> </ul> <p>(f) detailed performance and completion criteria for the rehabilitation of the site;</p> <p>(g) a detailed description of how the performance of the rehabilitation works would be monitored over time to achieve the stated objectives and against the relevant performance and completion criteria; and</p> <p>(h) details of who is responsible for monitoring, reviewing and implementing the plan.</p> <p><i>Note: In accordance with condition 11 of schedule 2, the preparation and implementation of Rehabilitation Management Plans is likely to be staged, with each plan covering a defined area (or domain) for rehabilitation. In addition, while mining operations are being carried out, some of the proposed remediation or rehabilitation measures may be included in the detailed management plans that form part of the Extraction Plan. If this is the case, however, then the Proponent will be required to ensure that there is good cross-referencing between the various management plans.</i></p>				
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**Mine Closure Plan**

5.5	<p>The Mine Closure Plan must:</p> <ol style="list-style-type: none"> <li>define the objectives and criteria for mine closure;</li> <li>investigate options for the future use of the site;</li> <li>provide a detailed methodology for decommissioning the site's evaporation/storage ponds and the treatment of any accumulated salt within or around those ponds;</li> <li>investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment levels;</li> <li>describe the measures that would be implemented to minimise or manage the on-going environmental effects of the project; and</li> <li>describe how the performance of these measures would be monitored over time.</li> </ol>	Extraction Plan Appendix F – Mine Closure Plan 2016	The approved Mine closure Plan meets the requirement of this condition.	C	
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**Offsets****Biodiversity Offset Strategy**

5.6	<p>The Proponent shall provide a suitable biodiversity offset strategy to compensate for the impacts of Stages 1 and 2 of the project. This offset strategy must:</p> <ol style="list-style-type: none"> <li>be prepared in consultation with OEH;</li> <li>be submitted to the Secretary for approval by 31 December 2010, or as otherwise agreed by the Secretary;</li> <li>provide a detailed assessment of offset proposal/s involving the property/ies (agreed to by OEH) adjoining Mt Kaputar National Park to confirm the ability of either of these property/ies to meet "like for like or better" and "maintain or improve" conservation outcomes;</li> <li>include and assess proposals to offset impacts to the Inland Grey Box EEC, <i>Bertya opposens</i>, and foraging habitat for the Superb Parrot;</li> <li>include proposals on offsetting both direct and indirect impacts (ie edge effects) of the project; and</li> <li>determine the best overall combination of lands to provide a suitable offset.</li> </ol>	<p>Biodiversity Offset Strategy, Rev 3, July 2019</p> <p>DPIE approval letter dated 25 September 2019</p>	The Biodiversity Offset Strategy has been prepared in accordance with this condition.	C	
5.7	<p>The Proponent shall make suitable arrangements to provide appropriate long-term security for the offset areas by 31 December 2011, or other date agreed by the Secretary, to the satisfaction of the Secretary.</p>	<p>Omeo, Greylands, Rosevale, Kurrajong Park and West Haven Biodiversity Offset Conservation Areas Agreement No VCA0495</p> <p>Interview with Environmental Superintendent</p>	The Biodiversity Offset Conservation Agreement which provides for the long-term security of the offset areas was submitted to the Biodiversity Conservation Trust in October 2019. Securement of the offset areas is required by 31 March 2020.	C	

**SCHEDULE 6 - ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING**

Note: This schedule should be read in conjunction with sections 15, 16 and 17 of the revised Statement of Commitments.

**ENVIRONMENTAL MANAGEMENT**

**Environmental Management Strategy**

6.1	<p>The Proponent shall revise the Environmental Management Strategy for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with environmental management for the site (Stages 1 and 2) and subsequently implement this revised version of the Environmental Management Strategy to the satisfaction of the Secretary. This strategy must:</p> <ol style="list-style-type: none"> <li>be submitted to the Secretary for approval prior to 30 June 2011;</li> <li>provide the strategic context for environmental management of the project;</li> <li>identify the statutory requirements that apply to the project;</li> <li>describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project</li> <li>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; and</li> <li>respond to emergencies; and</li> </ul> </li> <li>include a clear plan depicting all the monitoring currently being carried out in the project area.</li> </ol>	<p>WHC_PLN_NAR_Environmental Management Strategy, Rev 2, May 2015</p> <p>DPIE approval letter dated 26 May 2015</p> <p>Interview with Environmental Superintendent</p>	<p>The current EMS was approved by DPIE on 26 May 2015. The EMS meets the requirements of the condition.</p> <p>The EMS was revised and resubmitted to the Department on 31 May 2019.</p>	Obs C	NCO should consider confirming with DPIE if the 2019 revision will be approved.
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**Management Plan Requirements**

6.2	<p>The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <ol style="list-style-type: none"> <li>detailed baseline data;</li> <li>a description of: <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> </li> <li>a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</li> <li>a program to monitor and report on the: <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> </li> <li>a contingency plan to manage any unpredicted impacts and their consequences;</li> <li>a program to investigate and implement ways to improve the environmental performance of the project over time;</li> <li>a protocol for managing and reporting any: <ul style="list-style-type: none"> <li>incidents;</li> <li>complaints;</li> <li>non-compliances with statutory requirements; and</li> <li>exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> </li> <li>a protocol for periodic review of the plan.</li> </ol>	Review of management plans	Management plans generally meet this requirement, except as where otherwise identified in this report.	C	
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**Revision of Strategies, Plan and Programs**

6.3	<p>Within 3 months of the submission of an:</p> <ol style="list-style-type: none"> <li>audit under condition 7 of schedule 6;</li> <li>incident report under condition 4 of schedule 6; and</li> <li>annual review under condition 5 of schedule 6; and</li> <li>any modification to the conditions of this approval (unless the conditions require otherwise),</li> </ol>	<p>NCO Management Plan Revision Register</p> <p>Stage 2 Management Plans AR Submission review</p>	Reviews are undertaken as required and documented.	C	
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	the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary. <i>Note: This is to ensure that the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i>	Interview with Environmental Superintendent			
<b>REPORTING</b>					
<b>Incident</b>					
5.4	The Proponent shall notify the Secretary and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident.	Examples of incident reports	Documents provided indicate reports are provided as required.	C	
<b>Regular</b>					
5.5	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 Secretary.	Review of NCO website	Monitoring reports are provided on the website.	C	
<b>Annual Review</b>					
5.6	By the end of March each year, the Proponent must submit a review of the environmental performance of the project for the previous calendar year to the satisfaction of the Secretary. This review must: <ul style="list-style-type: none"> <li>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;</li> <li>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>• relevant statutory requirements, limits or performance measures/criteria;</li> <li>• monitoring results of previous years; and</li> <li>• relevant predictions in the EA and Extraction Plan;</li> </ul> </li> <li>c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</li> <li>d) identify any trends in the monitoring data over the life of the project;</li> <li>e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</li> <li>f) describe what measures will be implemented over the next year to improve the environmental performance of the project.</li> </ul> <p><i>Note: The "Post Approval Requirements for State Significant Developments - Annual Review Guideline 2015, NSW Government, October 2015" (or its latest version) provides a reporting framework to integrate the reporting requirements of the Annual Review required by the Department under the project approval and the Annual Environment Management Report (AEMR) required by DRE under the Mining Lease.</i></p>	Annual Reviews and records of submission 2016, 2017, 2018	Annual reviews are prepared and submitted as required.	C	
<b>INDEPENDENT ENVIRONMENTAL AUDIT</b>					
5.7	Prior to 13 September 2010, 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 (Stages 1 and 2). This audit must: <ul style="list-style-type: none"> <li>(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;</li> <li>(b) include consultation with the relevant agencies</li> <li>(c) assess the environmental performance of the project and assess whether it is complying with the relevant requirements of this approval and any relevant mining lease or EPL (including any strategy, plan or program required under these approvals);</li> <li>(d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate,</li> <li>(e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.</li> </ul> <p><i>Note: This audit team must be led by a suitably qualified auditor and include experts in the fields of subsidence, water and noise management (other than for the 2010 audit which is not required to include a subsidence expert in the audit team).</i></p>	Whitehaven Coal IEA, October 2017	Previous audit reported sighted. This audit also satisfies this condition.	C	



5.8	Within 6 weeks of the completing 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.	Whitehaven Coal IEA, October 2017	The previous IEA was provided within the required timescale	C	
<b>COMMUNITY CONSULTATIVE COMMITTEE</b>					
5.9	The Proponent shall maintain a Community Consultative Committee (CCC) for the project to the satisfaction of the Secretary, in general accordance with the <i>Guideline for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007)</i> , or its latest version.  <i>Note: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.</i>	Meeting agenda and minutes	CCC meetings are currently held on a quarterly basis. Meeting minutes are distributed and uploaded to the NCO website.	C	
<b>ACCESS TO INFORMATION</b>					
6.10	The Proponent shall: a) make copies of the following publicly available on its website: <ul style="list-style-type: none"> <li>• the documents referred to in Condition 2 of Schedule 2;</li> <li>• all current statutory approvals for the project;</li> <li>• all approved strategies, plans and programs required under the conditions of this approval;</li> <li>• a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;</li> <li>• a complaints register, updated on a monthly basis;</li> <li>• minutes of CCC meetings;</li> <li>• the annual reviews of the project;</li> <li>• any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit;</li> <li>• any other matter required by the Secretary; and</li> </ul> (b) keep this information up-to-date, to the satisfaction of the Secretary.	Review of website	All documents available on the website	C	
<b>SCHEDULE 7 - ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT</b>					
<b>NOTIFICATION OF LANDOWNERS</b>					
7.1	If the results of the monitoring required in schedule 4 identify that impacts generated by the project are greater than the relevant impact assessment criteria, except where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results, notify the Secretary, the affected landowners and tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 4.	Notification letters	September 2019 noise exceedance - notification provided to High Range resident by letter on 08/10/19 and followed up by provision of assessment report. The High Range resident receives a copy of the quarterly monitoring report.  September 2017 noise exceedance - notification provided to Newhaven property by letter on 15/12/17.  March 2018 noise exceedance – notification provided to Ardmona property by letter on 20/4/18.	C	
7.2	If the results of monitoring required in schedule 4 identify that impacts generated by the project are greater than the relevant air quality impact assessment criteria in schedule 4, then the Proponent shall send the relevant landowners and tenants (including tenants of mine-owned properties) a copy of the NSW Health fact sheet entitled "Mine Dust and You" (and associated updates) in conjunction with the notification required in condition 1.	Interview with Environmental Superintendent  OEH regional air quality reports  Evidence photos of storms and bushfire	Exceedances of PM10 attributed to regional air quality and dust storms. No notification to landowners.	C	
<b>INDEPENDENT REVIEW</b>					
7.3	If a landowner considers the project to be exceeding the impact assessment criteria in schedule 4, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land. If the Secretary is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Secretary's decision:	Interview with Environmental Superintendent	None requested	NT	

	<p>(a) consult with the landowner to determine his/her concerns;</p> <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to conduct monitoring on the land, to:</p> <ul style="list-style-type: none"> <li>• determine whether the project is complying with the relevant impact assessment criteria in schedule 4; and</li> <li>• identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and</li> </ul> <p>(c) give the Secretary and landowner a copy of the independent review.</p>				
7.4	<p>If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 4, then the Proponent may discontinue the independent review with the approval of the Secretary.</p> <p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 4, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <ol style="list-style-type: none"> <li>a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria and conduct further monitoring to determine whether these measures ensure compliance; or</li> <li>b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Secretary.</li> </ol> <p>If further monitoring under paragraph (a) determines that the project is complying with the relevant criteria, then the Proponent may discontinue the independent review with the approval of the Secretary.</p> <p>If the independent review determines that the project is not complying with the relevant land acquisition criteria in schedule 4, then the Proponent shall offer to acquire all or part of the landowner's land in accordance with the procedures in conditions 5-7 below, to the satisfaction of the Secretary.</p>	Interview with Environmental Superintendent	Not triggered	NT	

#### LAND ACQUISITION

7.5	<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> <ol style="list-style-type: none"> <li>(a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project the subject of the project application, having regard to the: <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 property and/or any approved building or structure which has been physically commenced 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 'reasonable and feasible measures' under schedule 4 or condition 4(a) of this schedule;</li> </ul> </li> <li>(b) the reasonable costs associated with: <ul style="list-style-type: none"> <li>• relocating within the Narrabri or Gunnedah local government areas, or to any other local government area determined by the Secretary;</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> </li> <li>(c) reasonable compensation for any disturbance caused by the land acquisition process.</li> </ol> <p>However, if following 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 Secretary for resolution.</p> <p>Upon receiving such a request, the Secretary shall request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to:</p> <ol style="list-style-type: none"> <li>(a) consider submissions from both parties;</li> <li>(b) 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>(c) prepare a detailed report setting out the reasons for any determination; and</li> <li>(d) provide a copy of the report to both parties and the Secretary.</li> </ol>	Interview with Environmental Superintendent	NCO has acquired properties during the audit period as detailed in 4.2 above.	C	
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	<p>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.</p> <p>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 Secretary 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 Secretary shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above and the independent valuer's report. 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 Secretary's determination.</p> <p>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 Secretary determines otherwise.</p>				
7.6	The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 5 above.	Remittance advice for valuation on the Collins property	NCO pays for the valuation and other reasonable costs of acquisition.	C	
7.7	If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall also pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.	Interview with Environmental Superintendent	None required	NT	

Table A.2: Statement of Commitments

Action No	Action	Timing	Reference/ Evidence	Comments	Compliance Status	Recommendations
<b>1. General Project Development</b>						
Desired Outcome: All approved activities are undertaken in the area(s) nominated on the approved plans and figures (unless moved slightly to avoid industrial trees).						
1.1	Survey and mark the boundaries of the areas of disturbance on the ground.	Prior to surface disturbance in nominated areas.	Review of disturbance permits and survey reports.	Areas of planned disturbance are surveyed as part of pre-clearance assessment.	C	
1.2	(If not already surveyed), commission an ecologist and/or archaeologist (along with representatives of the Aboriginal community) to advise of any constraints posed by threatened flora or fauna, or archaeological sites.	Prior to surface disturbance in nominated areas.	Review of disturbance permits and survey reports	Areas of planned disturbance are subject to heritage and ecological survey prior to clearance.	C	
1.3	Relocated or redesign the area of disturbance (if mine safety is not compromised) to avoid sites of ecological or heritage significance.	Prior to surface disturbance in nominated areas.	Review of disturbance permits and survey reports	Areas of planned disturbance are subject to heritage and ecological survey prior to clearance.	C	
1.4	Align access to sites of surface disturbance following advice from ecologist and/or archaeologist.	Prior to surface disturbance in nominated areas.	Review of disturbance permits and survey reports	Areas of planned disturbance are subject to heritage and ecological survey prior to clearance.	C	
1.5	Advise relevant personnel on restrictions placed on activities by identification of sites of ecological or heritage significance and management requirements.	Prior to surface disturbance in nominated areas.	Review of disturbance permits and survey reports	Areas of planned disturbance are subject to heritage and ecological survey prior to clearance.	C	
<b>2. Operating Hours</b>						
Desired Outcome: Management of site activities in accordance with the approved operating hours.						
2.1	Undertake vegetation clearing/soil removal within the hours of: 7:00am to 10:00pm / 7 days.	Continuous as required.	Interview with Environmental superintendent	Team operates on day shift.	C	
2.2	Undertake construction within the Pit Top Area within the hours of: 7:00am to 10:00pm / 7 days.	Continuous.	Interview with Environmental superintendent	No construction for the audit period	NT	
2.3	Undertake construction of the Reject Emplacement Area and Brine Storage Ponds within the hours of: 7:00am to 10:00pm / 7 days.	Continuous.	Outside audit period	Outside audit period	N/A	
2.4	Undertake ventilation shaft construction and gas drainage installation within the hours of: 24 hours / 7 days.	As required.	Interview with Environmental superintendent	Site is operational 24 hours / 7 days	C	
2.5	Undertake ventilation and gas drainage operations within the hours of: 24 hours / 7 days.	Continuous.	Interview with Environmental superintendent	Site is operational 24 hours / 7 days	C	
2.6	Undertake mining operations within the hours of: 24 hours / 7 days.	Continuous.	Interview with Environmental superintendent	Site is operational 24 hours / 7 days	C	
2.7	Undertake coal crushing screening and processing operations within the hours of: 24 hours / 7 days.	Continuous.	Interview with Environmental superintendent	Site is operational 24 hours / 7 days	C	
2.8	Undertake CPP reject disposal within the hours of: 7:00am to 10:00pm / 7 days. Contingent hours of operation will be 24 hour / 7 days to account for those periods of elevated reject production.	Continuous.	Interview with Environmental superintendent	Specialised Civils Team operates the reject area on day shift, Monday – Friday	C	

2.9	Undertake rail loading and transportation within the hours of: 24 hours / 7 days	Continuous.	Interview with Environmental superintendent	Site is operational 24 hours / 7 days	C	
2.10	Undertake raw materials / supply delivery within the hours: 7:00am to 10:00pm / 7 days	Continuous.	Email to Stores Supervisor confirming approved delivery hours.	Stores delivery hours are set as 7am to 10pm and confirmed by email to the Stores Supervisor. Parking place is provided for trucks to wait for gates to open.	C	

### 3. Waste Management

Desired Outcome: Minimisation of the potential risk of environmental impact due to general waste creation, storage and/or disposal.

3.1	Dispose all paper and general waste in suitable waste receptacles.	Ongoing.	Site observations	The audit team observed appropriate receptacles around the site.	C	
3.2	Collect general waste bins as required to eliminate potential for environmental harm and place contents in large, lidded waste storage receptacles or dumpsters to await removal by licenced contractor.	Ongoing.	Site observations Namoï Waste EPL	General waste collected in 3m <sup>3</sup> waste bins Open skips for large general waste, steel etc. Waste removed by Namoï Waste which is a licensed contractor.	C	
3.3	Collect industrial waste fortnightly, or more frequently if required.	At least fortnightly.	Namoï Waste reports	Industrial bins collected every 4 days. General waste is collected a number of times per week.	C	
3.4	Install separate containers for the collection of recyclable items and despatch off site at appropriate intervals.	Ongoing.	Site observation Interview with Environmental Superintendent	There is separate collection of cardboard and steel. Pallets are separated on site for recycling Drum crusher is available on site.	C	
3.5	Employ a licensed waste collection contractor for all general waste / garbage at least on a weekly basis.	Ongoing.	Waste contractor licenses	Licensed waste contractors are used.	C	
3.6	Collect waste oils and grease and pump to bulk storage tanks.	As required.	Site observations	Waste oils and grease are collected in bulk tanks in the yard outside the maintenance workshop	C	
3.7	Collect all parts/packaging and transfer to the site workshop for disposal or recycling.	As required.	Site observations	The audit tea observed hydraulic hose bins, industrial waste bins and a cardboard crate.	C	
3.8	Install adequate toilet and ablution facilities within the mine facilities area for the site workforce and visitors.	Initial activities of site establishment phase.	Site observations	Bathroom facilities are provided.	C	
3.9	Install a self irrigating septic sewage system approved by Narrabri Shire Council.	Initial activities of site establishment phase.	Interview with Environmental Superintendent	Septic system is in place.	C	
3.10	Service facilities by a licenced sewage collection / disposal contractor.	As required.	Namoï Waste reports	Narrabri septic services contracted by Namoï Waste who services the septic system once per week.	C	

Desired Outcome: Minimisation of the potential risk of environmental impact due to coal reject storage and/or disposal.

3.11	Characterise coal rejects to establish whether any deleterious products would be produced by leachate during emplacement.	Within initial month of production of CPP reject and annual thereafter, if relevant.	Outside audit period	Outside audit period	N/A	
3.12	Dispose of coal rejects within the nominated Reject Emplacement Area, constructed immediately to the west of the Pit Top Area.	Continuous.	Site observations	Verified by observations	C	

3.13	Construct the Reject Emplacement Area as a series of 20m wide, elongated (north-south oriented) cells commencing on the eastern side (with a compacted base with a permeability $<1 \times 10^{-9}$ m/sec if elevated salinity or other deleterious contaminant is identified as likely to be present within the leachate - see Commitment 3.11).	Continuous.	REA Basal Liner Construction Guidelines, July 2019  Narrabri Mine Rejects Emplacement Area Capping Assessment & Closure Design, November 2019	The basal liner construction guidelines defines base permeability of $1 \times 10^{-9}$ m/s.	C	
3.14	Construct drainage features for each cell to divert clean water around and capture and store sediment-laden water generated by run-off from the disturbed areas.	Prior to the commencement of each cell.	Narrabri Mine Rejects Emplacement Area Capping Assessment & Closure Design, November 2019	Section 3.1.4 describes the stormwater management and diversion of dirty water to the sediment basins.	C	
3.15	Strip and store topsoil from each cell for future re-spreading over the final landform or re-spread immediately following stripping.	Prior to the commencement of each cell.	Site observations	The audit team observed topsoil stored at the REA.	C	
3.16	Paddock-dump, spread by bulldozer and then compact the coal reject to form typical lifts of about 1.5m thick. The maximum height of the reject emplacement will be restricted to 15m, ie. 10 lifts with final side slopes not exceeding 14°.	Continuous.	Narrabri Mine Rejects Emplacement Area Capping Assessment & Closure Design, November 2019	Section 3.2.3 of the REA Capping and Closure Design describes the landform development in accordance with this commitment.	C	
3.17	Install up to four lysimeters on the downslope side of the Reject Emplacement Area. (If saline leachate is generated by CPP reject).	As the structure is constructed, if required.	Interview with Environmental Superintendent	Leachate has not been generated	NT	

Minimisation of the potential risk of environmental impact due to saline waste creation, storage and/or disposal.

3.18	Line each dam or pond designed to hold either raw groundwater or processed brine with a HDPE liner with a permeability of $<1 \times 10^{-14}$ m/sec.	Prior to the commencement of water discharge into pond or dam.		Outside audit period	N/A	
3.19	Confirm by QA inspection of the liner that the nominated permeability is achieved.	Prior to the commencement of water discharge.		Outside audit period	N/A	
3.20	Prohibit vehicular access to the walls of the lined dam or pond.	Continuous.	Site observations	The audit team observed that vehicle access is not permitted on the dam walls.	C	
3.21	Remove impermeable liner at completion of mining and dispose of to a facility licenced to accept saline waste.	Following removal of all saline groundwater or brine from the dam/pond.	Not triggered	Not triggered	NT	
3.22	Inspect, sample and analyse ground beneath each dam or pond to confirm no leakage has occurred over the life of the pond.	Prior to final rehabilitation.	Not triggered	Not triggered	NT	
3.23	(should saline contamination be identified), Remove and dispose of saline contaminated material (within the backfilled box cut).	As required and prior to final rehabilitation.	Not triggered	Not triggered	NT	

#### 4. Rehabilitation

Desired Outcome: Decommission and remove the infrastructure and services no longer required for ongoing activities on the land of the Mine Site.

4.1	Confirm the proposed final land use of the Mine Site lands and identify the infrastructure and services to be retained to support this land use.	As part of the Mine Closure Plan for the mine.	Mine Closure Plan	As per mine closure plan	C	
4.2	Demolish or deconstruct and remove infrastructure and services not required by the confirmed future land use.	Prior to relinquishment of Mining Lease.	Not triggered	Not triggered	NT	

Desired outcome: The creation of a stable final landform on the Pit Top Area (and surrounding long-term disturbance areas, ie, ventilation shaft areas, Reject Emplacement Area and brine storage ponds), available for the proposed future uses(s) of agriculture, and/or nature conservation.

4.3	Stabilise all earthworks, drainage lines and disturbed areas no longer required for mine-related activities in order to minimise erosion and sedimentation, and to	As required.	Rehabilitation Plan	As per rehab plan	C	
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	reduce the visibility of the activities from adjacent properties and the local road network.					
4.4	Provide a low maintenance, stable and safe landform that blends with the surrounding topography and which is commensurate with re-established agricultural land uses.	Prior to mine closure.	Not triggered	Not triggered	NT	
4.5	Ensure any areas of disturbance that require profiling meet the requirements of the final landform.	As area becomes available.	Rehabilitation Management Plan	As per rehab plan	C	
4.6	Replace subsoil and topsoil over areas of disturbance in the same order and approximately the same depth as it was removed.	As area becomes available.	Rehabilitation Management Plan	As per rehab plan	C	
4.7	Ensure the most appropriate crop/pasture species are planted in the areas with returned for agricultural use.	As area becomes available.	Rehabilitation Management Plan	As per rehab plan	C	
4.8	Conduct ongoing rehabilitation monitoring and maintenance throughout and beyond the operation.	Ongoing.	Eco-Logical Biodiversity Monitoring Annual Reports	Annual monitoring is conducted of the rehabilitated areas.	C	

Desired outcome: The progressive rehabilitation of disturbance associated with the Mining Area, ie gas drainage and temporary ventilation activities, to create a stable final landform available for the proposed future use(s) of agricultural, forestry and/or nature conservation.

4.9	Restrict areas of disturbance to the areas identified and marked in accordance with Commitments 1.1 to 1.5.	Ongoing.	Review of disturbance permits and survey reports  Interview with Environmental Superintendent	Area of disturbance is restricted as far as possible.	C	
4.10	Remove gas drainage equipment and backfill and cap each remaining bore hole in accordance with the former NSW Department of Primary Industries – Mineral Resources EDG01 guideline “Borehole Sealing Requirements on Land: Coal Exploration”.	At completion of gas drainage activities.	Rehabilitation Management Plan Annual Reviews	Gas drainage equipment is removed as describes in the RMP and reported in the Annual Review	C	
4.11	Allow water retained within the sump(s) to evaporate, excavate any consolidated drill cuttings and fines, remove the plastic liner and backfill each sump.	At completion of gas drainage activities.	Rehabilitation Management Plan	Gas drainage equipment is removed as describes in the RMP and reported in the Annual Review	C	
4.12	Respread previously stripped and stockpiled topsoil and vegetation over the backfilled sumps and other cleared areas.	At completion of gas drainage activities.	Annual Reviews	Gas drainage equipment is removed as describes in the RMP and reported in the Annual Review	C	
4.13	Complete periodic inspections of rehabilitated sites to confirm a return to the vegetation of the surrounding landform.	Annually.	Eco-Logical Biodiversity Monitoring Annual Reports	Annual monitoring is conducted of the rehabilitated areas.	C	
4.14	(Unless required for future access to monitor or manage subsidence related impacts), close, cross-rip and respread previously cleared vegetation over access tracks.	Once no longer required for site inspection purposes.	Rehabilitation Management Plan  Eco-Logical Biodiversity Monitoring Annual Reports	Access tracks are rehabilitated in accordance with the RMP.	C	

Desired outcome: Cracking or surface deformation is identified promptly and remediated such that general rehabilitation objectives are not compromised. See Commitments 5.1 to 5.7.  
Prevent any noxious weed infestation.

4.15	Obtain certification from plant supplier / contractor that equipment imported to the Mine Site has been cleaned and is free of soil and vegetation.	Prior to movement of equipment from hardstand of the working areas.	Introduction to Site Surface Fixed Plant Form	Verified via CoA	C	
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4.16	Undertake campaign weed spraying over the Pit Top Area and areas of surface disturbance of the Mining Area in consultation with the I&I NSW-Agriculture and/or the local Noxious Weeds Inspector.	Prior to the stripping of the topsoil.		Verified via CoA	C	
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### 5. Subsidence Management

Desired Outcome: Identify and remediate surface cracks to minimise impacts on local hydrology, ecology and soils are minimised.

5.1	Inspect the identified 'cracking zones' above each longwall panel to identify occurrence of cracks.	During and for a period of up to 2 years following mining of each longwall panel.	Ecological reports Piezometer monitoring Extensometer monitoring Cracking observation records including location, length, width, depth and persistence.	A crack of over 2 m wide within the drainage line along the Pine Creek Tributary 2 between LW707 and LW708 observed by the auditor does appear to be significantly wider than those documented in cracking records provided to the auditor.	Obs C	Crack records should be checked to ensure they are properly capturing cracking extent. Crack observation records need to document remedial treatment method.
5.2	Rip the surface over cracks not filled in by natural processes.	Continuous and as required.	Land rehabilitation records Land disturbance permits	There is currently surface cracking of the order of 2 m length within the drainage line along the Pine Creek Tributary 2 between LW107 and LW108 that has not been treated. The area has been drought affected and repair by natural processes has not been possible.	Obs	NCO should consider reviewing the trigger for active treatment where natural processes are not possible.
5.3	(For larger cracks for which surface ripping will not completely fill) fill with subsoil material sourced from stockpiles maintained at nearby gas drainage or ventilation sites, or within the footprint of the Reject Emplacement Area.	Continuous and as required.	Land rehabilitation records		C	
5.4	Undertake a detailed condition assessment of the 3 <sup>rd</sup> order waterways within the predicted subsidence zone to enable assessment of changes post mining.	Prior to commencing longwall mining.	Ecological reports		C	
5.5	Inspect local drainage lines above the active and completed longwall panels. Monitoring should assess any restriction of flows and hence restriction of fish passage to facilitate appropriate restorative measures.	As required.	Ecological reports		C	
5.6	Undertake water quality sampling from watercourses within the subsidence impact zone to determine any impacts on sediment loading and other parameters including salt loads.	During creek flow events.	Water management Plan Water quality testing		C	
5.7	Note the effects of any ponding and commission a hydrologist or ecologist to recommend remedial actions should the area of ponding encroach upon sites of conservation or heritage significance.	During and for a period of up to 2 years following mining of each longwall panel.	Ecological reports		C	

Desired outcome: Identify and minimise the impacts of the subsidence-induced erosion on the local environment.

5.8	Inspect areas of the Mine Site susceptible to landslip or accelerated erosion, e.g. drainage lines and steeply sloped areas of exposed Purlawaugh Formation derived subsoils.	Quarterly following mining activities which may provide subsidence.		Planned for longwalls LW109 onwards when surface topology steepens	C	Noting this will only start from LW109 onwards
5.9	(In the event of large-scale slope instability), undertake appropriate stabilisation works e.g. installation of deep sub-surface drainage trenches or construction of strategic catch drains along slope crests.	Continuous and as required.	No evidence	No evidence of any large-scale instability	NT	
5.10	(In the event of erosion within Mine Site watercourses), stabilise the damaged or eroded banks (in accordance with an Erosion and Sediment Control Plan for the Longwall Project).	Continuous and as required.	Land Management Plan reports		NT	

Desired outcome: Identify and minimise the impacts of valley closure and uplift ('upsidence') induced erosion on the local environment.

5.11	Establish survey lines along ephemeral drainage gullies and along gully crests and monitor during and after mining of each longwall panel to identify any signs of cracking or 'upsidence'.	Prior to the commencement of mining each longwall panel.	Subsidence lines sighted by the auditor during the site inspection and		C	
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			provided in a drawing and in tabulated form			
5.12	Review predictions of 'upsidence' and valley crest movements after each longwall is completed.	Following completion of each longwall.	Upsidence calculations and assessment provided		C	
5.13	In the event that 'upsidence' results in surface cracking or erosion), undertake remedial works identified by <i>Commitments 5.1 to 5.7</i> .	Continuous and as required.	Upsidence calculations and assessment provided		C	

Desired outcome: Identify and minimise the impacts of ponding on the local environment.

5.14	Sample ponded water to determine if there is any increase in salinity.	Quarterly for a period of up to 2 years upon identification of subsidence induced ponding.	Ecological reports	Very limited ability to sample due to low rainfall and short ponding duration	C	
5.15	Inspect the water courses over the subsidence zone to identify the location and extent of ponding.	Quarterly for a period of up to 2 years following identified subsidence.	EcoLogic subsidence ponding assessments		C	
5.16	For ponding where there is little or no vegetation of conservation significance monitor the location and extent of ponding. (If ponded area continues to increase in area, encroaches on vegetation of conservation significance or there is an increase in water salinity), excavate a channel to reduce the gradient change over the retained chain pillars. The excavation will be undertaken in accordance with an Aboriginal Cultural Heritage Management Plan and vegetation clearing procedures.	Continuous and as required.	Assessments of vegetation changes as detected by LiDAR and multi-spectrum imaging. Ponding observations and survey measurements in EcoLogic reports		C	

Desired outcome: Identify and minimise the impacts of far field displacement on local infrastructure.

5.17	Monitor surface features (such as culverts) within 800m of the eastern edge and 1.5km of the western edge of the Mining Area.	Prior to mining that may result in subsidence at the relevant structure.		Such surface features that are not owned by Whitehaven Coal lie outside the approved monitoring area	NT	
5.18	(In the event of damage to surface structures such as pipes, culverts, water tanks, dams or other soil or water conservation structures), repair the damaged infrastructure or provide appropriate compensation.	Continuous and as required.		Such surface features that are not owned by Whitehaven Coal lie outside the approved monitoring area	NT	

Desired outcome: Identify and manage the impacts of subsidence on the local property infrastructure (including residences).

5.19	Commission a dilapidation survey and inspection of all structures on non-project related land within the Mine Site by a qualified building consultant.	Prior to mining that may result in subsidence at the relevant structure.		Such surface features that are not owned by Whitehaven Coal lie outside the approved monitoring area	NT	
5.20	Use the dilapidation survey and subsequent report in an individual property subsidence management plans (IPSMP) (or similar as required under any Extraction Plan requirements) prepared for each non-project related property to be impacted (to provide fair and reasonable outcomes between the affected property owner and the Proponent).	Prior to mining that may result in subsidence at the relevant structure.		Such surface features that are not owned by Whitehaven Coal lie outside the approved monitoring area	NT	
5.21	Each IPSMP will address the following issues. <ul style="list-style-type: none"> <li>Timing and scale of predicted impacts.</li> <li>Monitoring on the affected property during mining.</li> <li>Timing for any remaining disconnection of services.</li> </ul> Post-mining inspection and reporting.	Prior to mining that may result in subsidence at the relevant structure.		Such surface features that are not owned by Whitehaven Coal lie outside the approved monitoring area	NT	

Desired outcome: Prepare and implement a Subsidence Monitoring Program (or similar as required under any Extraction Plan requirements) which includes the following element.

5.22	Prepare a Subsidence Monitoring Program (or similar as required under any Extraction Plan requirements) which includes the following elements. <ul style="list-style-type: none"> <li>A transverse subsidence line across the northern and southern panels. The lines will be installed to at least the middle of the next adjacent longwall before undermining occurs.</li> <li>A longitudinal line extending in-by and out-by from the starting and finishing point of each panel, for a minimum distance equal to the cover depth.</li> <li>A survey line along the riparian management zone of Kurrajong and Pine Creeks and their tributaries over the Mine Site.</li> <li>A minimum of three monitoring pegs space 10 m apart in a line or triangle at any feature of interest, e.g. dam, walls, archaeological sites, to measure subsidence, tilt and strain.</li> <li>Visual inspections and mapping of damage before, during and after mining.</li> </ul>	Prior to the commencement of mining in each longwall panel.	Subsidence Monitoring Plan Subsidence Predictions Subsidence lines sighted by the auditor during the site inspection and provided in a drawing Subsidence data provided to the auditor		C	
5.23	Place monitoring survey pegs between 10 m and 20 m apart with a minimum of two baseline surveys of subsidence and strain completed before mine subsidence effects occur.	Prior to the commencement of mining in each longwall panel.	Subsidence Monitoring Plan Subsidence lines sighted by the auditor during the site inspection and provided in a drawing Subsidence data provided to the auditor	Two baseline surveys are evident in all of the subsidence data	C	
5.24	Prepare and implement and Extraction Management Plan to manage subsidence impact(s) to the satisfaction of I&I NSW and DoP.	Prior to Longwall mining commencing.	Approved: <ul style="list-style-type: none"> <li>Extraction Plan</li> <li>Subsidence Monitoring Plan</li> </ul> Land Management Plan		C	

## 6. Groundwater

Desired Outcome: Minimise the volume of mine in-flow to the underground workings.

6.1	Seal the mine drifts and ventilation shaft using in strata grouting or hydrophobic sealant.	At time of Mine Closure.	Not triggered	Not triggered	NT	
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Desired Outcome: Manage mine-in flows to minimise the potential for contamination of surface catchments.

6.2	Divert groundwater accumulating in the underground workings to designated sumps for pumping to surface.	Ongoing.	Mine Operations Plan	Groundwater is collected in sumps as per the MOP	C	
6.3	Discharge groundwater pumped from the underground sumps into Dam A1 only.	Ongoing.	Water Management Plan	Groundwater is diverted to Dam A1	C	

Desired Outcome: Implement a comprehensive and ongoing groundwater monitoring program.

6.4	Record extraction volumes including weekly totals from all pumping bores, and weekly totals from the underground mine and box cut sump.	Weekly.	Spreadsheet flow meter readings PA4 13-6	Extraction volumes are recorded on a monthly basis. NCO reported that it is impractical to do weekly readings.	ANC	NCO should consider options to enable weekly readings.
6.5	Record Volumes of water introduced to the mine for longwall operation and other requirements.	Weekly.	Spreadsheet flow meter readings PA4 13-6	Weekly records of underground feed, water treatment plant, Namoi bore and river levels. Spreadsheet data up to October 2019.	C	
6.6	Record the groundwater quality (EC and pH) discharged from the underground workings and water supply bores.	Monthly.	Spreadsheet flow meter readings PA4 13-6	Weekly records of underground feed, water treatment plant, Namoi bore and river levels. Spreadsheet data up to October 2019.	C	

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6.7	Sample and analyse water from all pumping bores and underground pumping stations.	Monthly.	Spreadsheet flow meter readings PA4 13-6	Weekly records of underground feed, water treatment plant, Namoi bore and river levels. Spreadsheet data up to October 2019.	C	
6.8	Record (by manual monitoring, or continuous automated monitoring) the standing water levels of piezometers P1 to P27 and WB1 to WB8 (and others as constructed).	Monthly initially and hence quarterly when stable flow established.	Annual Groundwater Reviews  Groundwater monitoring spreadsheet	Standing water levels are recorded for all piezometers and bores.	C	
6.9	Monitor the flow rate and water quality of the spring discharge from "Mayfield Spring".	Monthly initially and hence quarterly when stable flow established.	Interview with Environmental Superintendent	Water not utilised – no flow	NT	
6.10	Install additional multi-level vibrating wire piezometers over LW1 to LW3 to obtain detailed data as to the impact of mine subsidence on the groundwater of the various strata above the underground workings.	Prior to commencement of longwall mining.	Water Management Plan  Annual Groundwater Reviews	Multi-level vibrating wire piezometers have been installed prior to longwall mining.	C	
6.11	Collect data from the vibrating wire piezometers and compare against initial groundwater and subsidence modelling.	Data collected continuously and downloaded and analysed quarterly.	Water Management Plan  Annual Groundwater Reviews	Data is analysed on an ongoing basis.	C	
6.12	Commission an experienced hydrogeologist to collate and review the monitoring data collected annually in order to assess the impacts of the project on the groundwater environment, and to compare any observed impacts with those predicted from groundwater modelling (see also Commitment 16.11).	Annually.	Annual Groundwater Reviews	Annual reports are prepared by Groundwater Exploration Services Pty Ltd	C	
6.13	Develop the groundwater monitoring program in consultation with the Proponent's consultant hydrogeologist, the Department of Environment, Climate Change and Water - Office of Water and those groundwater users potentially affected by the Longwall Project. (see also Commitment 16.12).	Prior to commencement of longwall mining.	Water Management Plan	The groundwater monitoring program is detailed in the Water Management Plan.	C	
6.14	Complete an initial audit of the groundwater model predictions against monitoring data.	6 months after the commencement of longwall mining.	Outside audit period	Outside audit period	N/A	
6.15	Recalibrate the groundwater model based on groundwater model audit and generate confirmatory forward impact predictions made. Include in all forward impact predictions the impact of brine re-injection at the conclusion of mine operations and check against initial predictions. (also required for Mine Closure Plan).	6 months after the commencement of longwall mining, every 5 years thereafter, and at least 12 to 18 months prior to cessation of mining.		Verified via CoA	C	
6.16	Carry out regular reviews of the groundwater model predictions against monitoring data.	Every 5 years (or more frequently if in-flows deviate significantly from predictions).		Verified via CoA	C	
6.17	Should the recalibrated model show groundwater inflows beyond those cases described in the EA, a separate detailed impact assessment will be conducted and mitigating measures determined.	Every 5 years (or more frequently if in-flows deviate significantly from predictions).		Verified via CoA	C	
Desired Outcome: Preparation of a contingency plan in the event that the availability or quality of groundwater is reduced for local groundwater users.						
6.18	Undertake remedial action if groundwater drawdown attributable to the mine reduces the saturated thickness of any non-project related bore by 15% or more. In the event that an existing water supply is deemed (by the hydrogeologist) to be adversely affected by the Longwall Project, the Proponent will mitigate, or compensate for this impact through the provision of a replacement water supply.	As required.		Not triggered	NT	



6.19	Undertake remedial action if the water quality of the dewatering discharge indicates an inflow salinity of more than 20% above that predicted by Aquaterra (2009).	As required.	Not triggered	Not triggered	NT	
6.20	Ensure all monitoring bores are licenced with the NSW Office of Water. All <i>Form A</i> 's associated with the bores will be submitted to NOW at the time drilling is undertaken.	At time of drilling.	Outside audit period	Outside audit period	N/A	
6.21	Ensure the project is appropriately licensed for all groundwater make and use in accordance with required licensing arrangements through the NOW.	As required.	Water management Plan	Water access licenses and works approvals are in place.	C	

## 7. Surface Water

Desired Outcome: Minimisation of changes to existing drainage patterns of the Mine Site.

7.1	Retain selected surface water structures such as the farm dams and diversion swales to allow for continued water management across the Pit Top Area.	During construction period.	Outside audit period	Outside audit period	N/A	
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Desired Outcome: Prevention of discharge of sediment-laden water from the Pit Top Area.

7.2	Direct runoff collected within potentially contaminated catchments of the coal processing area and Reject Emplacement Area to storage basins (SB1, SB2 and SB3).	Ongoing.	Water Management Plan Site observations	Runoff collection is described in the WMP.	C	
7.3	Dewater storage basins SB1, B82 and SB3 and discharge the water to Dam A 1 (or Dams C or D) to ensure no discharge or overflow.	Ongoing.	Interview with Environmental Superintendent	Not required	NT	
7.4	Design and construct the storage basins to provide the capacity nominated by WRM (2009).	Prior to commencement of longwall mining.	Water Management Plan	As described in the WMP	C	
7.5	Design and construct the sediment dams to provide sufficient water settlement and sediment storage zones to contain the 5 day 90%ile storm event.	Prior to commencement of longwall mining.	Water Management Plan	Water Management Plan	C	
7.6	Dewater sediment dams within 5 days of significant rainfall event.	With 5 days.	Interview with Environmental Superintendent	Dewatering has not been required.	NT	
7.7	Direct all water from wash-down areas and workshops to oil/water separators and containment systems. The oily fraction will be placed in a containment system for removal, as necessary.	Ongoing.	Site observations	Oil/water separators were observed in the yard servicing the wash-down facilities, refuelling and waste oil storage areas.	C	
7.8	Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and have a capacity to contain a minimum 110% of the largest storage tank capacity.	Ongoing.	Site observations	Storage tanks were observed to be adequately bunded.	C	
7.9	Restrict refuelling, oiling and greasing of designated areas, away from drainage and where spill kits are readily available.	Ongoing.	Site observations	Oil/water separators were observed in the yard servicing the wash-down facilities, refuelling and waste oil storage areas. Spill kits were available	C	
7.10	Discharge all groundwater into Dam A1, and either use without processing in selected areas on site or process through the Water Conditioning Plant to produce fresh water raffinate and concentrated brine.	Ongoing.	Water Management Plan	All groundwater pumped from underground is collected in Dam A1 which the main feed for the conditioning plant.	C	
7.11	Construct storages for saline groundwater (Dam A 1) and brine (Dams A2, A3, B2 and BR1 to BR5 [as required]) using in-situ material which have an average depth of 5m and batter slopes of ~1:3 (V:H).	Dams A2, A3 and B2 Prior to commencement of mine dewatering and BR1 to BR5 as required.	Dam Safety Committee D1 Forms Dam Operation and Maintenance Manual	Dams are constructed as required.	C	
7.12	Line all dams to be used to store groundwater or brine with HDPE liner (permeability $<1 \times 10^{-14}$ m/sec).	Prior to commencement of mine dewatering.	Dam Operation and Maintenance Manual	Dams are constructed as required.	C	



7.13	Maintain at least 0.5m freeboard in each brine storage (sufficient to cater for design 1 in 100 year ARI event).	Ongoing.	Dam Operation and Maintenance Manual	Dams are constructed as required.	C	
7.14	Commence construction of brine storage ponds from 12 months prior to the anticipated requirement to accept brine discharge.	As required.	Outside audit period	Outside audit period	N/A	
7.15	Ensure all storages used for the storage of treated raffinate are constructed using a compacted clay lining, to an average depth of 5m and with batter slopes of ~1:3 (V:H).	Prior to commencement of use for raffinate storage.	Dam Operation and Maintenance Manual	Dams are constructed as required.	C	
7.16	Maintain discharge water quality from the Water Conditioning Plant at the 100%ile limit of 350mg/LTDS.	During discharge events to the Namoi River.	Interview with Environmental Superintendent	No water has been discharged	NT	
7.17	Develop, in consultation with the DECCW, a routine discharge quality and continuous discharge volume monitoring program and incorporate these requirements into a revised Site Water Management Plan.	At least 6 months prior to initial discharge.	Interview with Environmental Superintendent	No water has been discharged	NT	
7.18	Maintain the pH level of water discharged beyond ML1609 within the range 6.5-8.0.	During discharge events.	Interview with Environmental Superintendent	No water has been discharged	NT	

Desired Outcome: Prevention of discharge of dirty, contaminated or saline water from the progressive disturbance areas of the Mining Area.

7.19	<p>Prepare and implement a general Erosion and Sediment Control Plan (ESCP) (in accordance with the requirements of Landcom, 2004) to manage surface water flows within each gas drainage or ventilation shaft area. The ESCP will provide for the following management.</p> <ul style="list-style-type: none"> <li>– Prior to disturbance, the area will be marked out and 'no-go' zones identified.</li> <li>– If located on or adjacent to a natural drainage line, a diversion bank will be constructed up-slope of the area to be disturbed.</li> <li>– the requirement for a sediment basin will be determined, using the Revised Universal Soil Loss Equation (RUSLE).</li> <li>– If a sediment basin is required, i.e. soil loss &gt;200Uha/year, the sediment basin design capacity will be calculated.</li> <li>– Soil will stockpiled away from natural drainage lines.</li> <li>– Sediment fencing will be installed along the down-slope boundaries of the disturbed areas.</li> <li>– All sediment control structures will be regularly inspected and repaired.</li> </ul>	Prior to the commencement of gas drainage or ventilation shaft construction.	Water Management Plan	Verified via CoA	C	
7.20	Store potential contaminants, e.g. drilling fluid, hydrocarbons, within bunded areas away from natural drainage lines.	Ongoing.	Site observations	Potential contaminants were observed to be stored in bunded areas away from surface drains.	C	
7.21	Ensure all contaminated liquids are contained in lined sumps at each drill site.	Ongoing.	Memo to tech services manager Brad Elvy 14/11/19	Drill sumps are not lined – drill sumps will have to be lined or unlined sumps will be decommissioned and rehabilitated and replaced by aboveground tanks. No drilling over the last month.	C	
7.22	Discharge any groundwater to a lined sump, with this water immediately directed to Dam A1 within the Pit Top Area.	Ongoing.	Water Management Plan	Groundwater is discharged to a lined sump and then to Dam A1.	C	

Desired outcome: Minimisation of impact from dirty water contamination event.

7.23	Sample water discharging from licensed discharge points and analyse the water for suspended solids, turbidity, electrical conductivity, oil and grease, and pH.	With 24 hours of discharge.	Interview with Environmental Superintendent	No water has been discharged	NT	
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			Monitoring reports			
7.24	In the event monitoring confirms pollution has occurred, one or more of the following measures will be adopted. <ul style="list-style-type: none"> <li>- The DECCW will be advised. Salient preceding weather information will also be provided.</li> <li>- Additional flocculants will be used to expedite settlement of sediments.</li> <li>- Plans will be set for the subject sediment dam will be enlarged or an additional sediment dam will be constructed downstream which will become the new site discharge point and monitoring location.</li> </ul>	Within 7 days.	Not triggered	Not triggered	NT	
Desired Outcome: Minimisation of impact from hydrocarbon contaminated water event.						
7.25	Undertake the following actions (in the event of a major hydrocarbon spill). <ul style="list-style-type: none"> <li>- Collect the contaminated soil at the site of the spill and transport to an approved waste depot or designated 'land farming' area of the Mine Site.</li> <li>- Construct pits around the spill with sufficient hydraulic gradient to capture seepage water and contaminated material.</li> <li>- Pump out water captured in pits.</li> </ul> Monitor the local groundwater for signs of contamination.	As required.	Interview with environmental Superintendent	No spills have been reported during the audit period	NT	
Desired Outcome: Minimisation of impact from saline contamination event.						
7.26	Prepare a formal contingency plan for a saline contamination event. The plan may include one or a combination of the following measures. <ul style="list-style-type: none"> <li>- Dewatering from the underground workings will be transferred to an intact and lined storage structure (or ceased) along with any water remaining in the breached pond.</li> <li>- The breached pond or pipe will be repaired immediately and inspected by a suitably qualified person prior to re-integration into the saline water management system.</li> <li>- The water cart will be used to transfer non-saline water to the area of the spill to flush and dilute the water discharged. As far as practical, at least 4 times the</li> <li>- Volume of the spilled water will be used to flush the downstream environment.</li> <li>- Downstream vegetation will be monitored for any impacts of increased salinity and treated appropriately.</li> </ul>	Prior to commencement of longwall mining.		Refer SoC 17.2		
Desired Outcome: Minimisation of erosion and sedimentation.						
7.27	Maintain a ground cover of vegetation at 70% or better over areas disturbed but no longer required by the project.	Ongoing.	Annual Monitoring Report 2018	Ground cover is measured and reported in the annual monitoring reports.	C	
7.28	Armour the banks of the rail loop with ballast in flood zone (larger diameter competent rock).	Ongoing.	Not triggered	Not triggered	NT	
7.29	Inspect the banks of the rail loop and remediate erosion damage within Kurrajong Creek Tributary 1.	Following flood events.	Not triggered	Not triggered	NT	
Desired Outcome: Ensure no additional salt load is added to the Namoi River catchment as a consequence of the Longwall Project.						
7.30	Participate in, as required, the development of a salt accounting protocol with the DoP, DECCW and NOW.	Prior to any discharge to the Namoi River.	Interview with Environmental Superintendent	No discharge has taken place during the audit period.	NT	

7.31	Enter into an agreement for, and contribute sufficient funds to the 'Cap and Pipe the Bores' Program to ensure that there is a sufficient salt 'credit' for the Proponent to offset all planned salt discharges over the life of the mine. (Any agreement that NCOPL enters in relation to this matter will include the opportunity to 'trade' or otherwise dispose of salt credit in excess of that required to offset salt load attributable to mine water discharges.)	Prior to any discharge to the Namoi River.	Interview with Environmental Superintendent	No discharge has taken place during the audit period.	NT	
7.32	Should the Cap and Pipe Bores Program prove not to be viable, develop an alternate Green Offset program in consultation with NOW and DECCW.	Prior to any discharge to the Namoi River.	Interview with Environmental Superintendent	No discharge has taken place during the audit period.	NT	

Desired Outcome: Identification of alternative methods of disposal/use of brine.

7.33	Initiate a study by a recognized firm of engineering consultants to investigate the technical and economic viability of alternative methods of disposal (or use) of brine and raffinate produced by the on-site Water conditioning plant.	Initial report to be developed within 3 years of project approval, with a revised report prepared every 5 years thereafter.		Verified via CoA	C	
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Desired Outcome: Implement a comprehensive and ongoing surface water monitoring program.

7.34	Monitor surface water quality for pH, EC, TDS, TSS, Total Organic Carbon at locations upstream and downstream of the Pit Top Area on Kurrajong and Pine Creeks and their tributaries.	Quarterly during surface flow events.		No discharge during the audit period	NT	
7.35	Record the volume and quality (pH, EC, TDS, TSS, Total Organic Carbon) of water extracted and discharged to the Namoi River.	Weekly.		No discharge during the audit period	NT	
7.36	Monitor the quality of water within the Brine Storage Ponds.	Quarterly.	Surface water and wet weather monitoring report ALS reports	Monitoring is conducted monthly	C	
7.37	Prepare and implement contingency plans in the event elevated levels of heavy metals are recorded.	Quarterly.	Water Management Plan	TARP contained in WMP	C	

Desired Outcome: Avoidance of structures in drainage lines to prevent fish passage.

7.38	Construction of drainage line crossings will be undertaken in accordance with the policy and guideline document of the I&I NSW "Why do fish need to cross the road?"	As required.	Surface Disturbance Form	Permit to disturb procedure has aquatic checks if there is potential aquatic fauna or semi-permanent pools. Where there are aquatic environment works must include fish passage	C	
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## 8. Ecology

Desired Outcome: Manage disturbance within the Pit Top Area to minimise disturbance to flora and fauna of conservation significance.

8.1	Clearly identify the boundaries of disturbance within the Pit Top Area and progressive disturbance associated with ventilation and gas drainage infrastructure. Ensure no clearing occurs outside these boundaries.	Prior to clearing (see also <i>Commitments 1.1 and 1.2</i> ).	Mine Operations Plan	As per MOP	C	
8.2	Avoid disturbance to the vegetation of Community 3 along Kurrajong Creek Tributary 1.	During clearing.	Interview with Environmental Superintendent	Not triggered	NT	
8.3	Disperse and spread cleared native vegetation around disturbed areas to provide habitat, increase the seed bank and to provide a mulch material for nutrient cycling and water retention purposes.	Ongoing.	Site observations	The audit team observed the use of cleared vegetation as habitat and mulch	C	
8.4	Strip all groundcover vegetation with the topsoil to ensure maximum retention of nutrients and native seeds to facilitate rapid vegetation of the soil stockpiles.	Ongoing.	Site observations	Stripped topsoil was observed during the site inspection.	C	

Desired Outcome: Manage progressive disturbance over the Mine Site to minimise disturbance to flora and fauna of conversation significance.

8.5	Clearly identify the boundaries of proposed disturbance. As far as practicable avoid disturbance to the vegetation of Community 3 along watercourses of the Mine Site.	Prior to clearing the nominated area(s).	Surface Disturbance Form	The Audit team sighted examples of pre-clearance forms confirming boundaries of propose clearance.	C	
8.6	Commission a qualified ecologist to complete a pre-clearance survey of nominated areas of disturbance (to identify whether any threatened species, population or community or their habitat is present).	Prior to clearing the nominated area(s).	Surface Disturbance Form Eco-logical pre-clearance surveys	Requirement for an ecology survey is included in the permit to disturb form and undertaken as required. The audit team sighted examples of pre-clearing surveys conducted by Eco-logical.	C	
8.7	Include an assessment of whether aquatic or fish habitat is present within the drainage features to be traversed by the access road and/or power line corridors. The location of access tracks will be determined in conjunction with an ecologist after inspecting each proposed route and determining the path with least impact on environmental values.	Prior to clearing the nominated area(s).	Surface Disturbance Form	Permit to disturb and pre-clearing surveys	C	
8.8	(In the event that an EEC or threatened species or population is identified), relocate or reorientate proposed disturbance, if practicable.	Prior to clearing the nominated area(s).	Interview with Environmental Superintendent	The audit team was advised that disturbance tries to avoid habitat trees	C	
8.9	If the relocation or re-orientation of the area to be disturbed is not practicable (for reasons of mine I operational safety), the consultant ecologist will relocate any fauna species residing within the area to be cleared.		Interview with Environmental Superintendent	The audit team was advised that relocation is undertaken only if required during pre-clearing survey	C	
8.10	Retain all substantial habitat trees, wherever possible.	During construction.	Outside audit period	Outside audit period	N/A	
8.11	Undertake any tree-felling in accordance with a Tree Felling Protocol. The Tree Felling Protocol will be developed by a qualified ecologist and will include, but not necessarily be limited to a description of: <ul style="list-style-type: none"> <li>- the best time of the year for felling;</li> <li>- pre-felling mapping of habitat trees;</li> <li>- inspections of trees on the day of felling;</li> <li>- procedures for the safe removal of fauna species;</li> <li>- a relocation/release protocol; and</li> <li>- a protocol for the assessment and salvaging of tree hollows.</li> </ul>	During construction.	Outside audit period	Outside audit period	N/A	
8.12	Disperse and spread cleared native vegetation around disturbed areas to provide habitat, increase the seed bank and to provide a mulch material for nutrient cycling and water retention purposes.	Following clearing if areas available, otherwise when revegetation area available.	Site observations	The audit team observed the use of cleared vegetation as habitat and mulch	C	
8.13	Strip all groundcover vegetation with the topsoil to ensure maximum retention of nutrients and native seeds to facilitate rapid vegetation of the soil stockpiles.	Ongoing.	Site observations	Stripped topsoil was observed during the site inspection.	C	
8.14	Re-site all hollows from hollow-bearing trees removed where practicable.	Ongoing.	Eco-logical pre-clearance surveys	The audit team sighted examples of pre-clearance surveys where tree hollows had been re-sited.	C	

Desired Outcome: Minimise long term impact on flora and fauna on and around the Mine Site.

8.15	Implement a weed management strategy, in consultation with the Livestock Heath and Pest Authority and the Narrabri Shire Council weeds officer, for the retained or rehabilitate natural vegetation within the Mine Site.	To be developed in the Landscape Management Plan for the Project in accordance with the Stage 1 conditional requirement.		<i>Verified via CoA</i>	C	
8.16	Implement a feral animal management program to lower the predator impact upon small terrestrial native species.	In accordance with Landscape Management Plan.		<i>Verified via CoA</i>	C	
8.17	Inspect the sediment dams, evaporation ponds and brine storage ponds for fauna during the course of regular maintenance and operational inspections.	Ongoing.		<i>Verified via CoA</i>	C	

8.18	Undertake regular reviews of the revegetation program to ensure it remains relevant.	Annually.	Annual Monitoring Reports Annual Reviews	Rehabilitation monitoring reports are prepared annually Reviewed in the MOP and annual review.	C	
8.19	Time clearing within woodland communities, where practicable, to avoid fauna breeding seasons.	Ongoing.	Eco-logical pre-clearance surveys	Clearing is undertaken to avoid breeding seasons	C	
8.20	Undertake progressive and final rehabilitation across the Project Site to recreate a final land use of agriculture and native vegetation.	Ongoing.	Rehabilitation Management Plan	Rehabilitation objectives are set out in the RMP.	C	

Desired Outcome: Ensure the biodiversity value of the Mine Site and surrounding areas is maintained or improved.

8.21	Establish and implement a Biodiversity Offset Management Plan to the satisfaction of the DoP (and in consultation with the DECCW), to account for the area disturbed by the Longwall Project and in particular regard for Bertya Opponents, the Superb Parrot and Inland Grey Box EEC.	Within 9 months of Project Approval.		Outside audit period	N/A	
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## 9. Indigenous Heritage

Desired Outcome: Employees and contractors who are sensitive to, and respectful of, the Aboriginal heritage on the Mine Site.

9.1	Involve all site employees and contractors in an awareness program re: Aboriginal Heritage Issues.	At Site Induction (and re-induction).	WHC generic induction sighted	Aboriginal heritage issues are included in the Whitehaven Coal and Narrabri surface inductions. All employees and contractors are required to complete both inductions. New training matrix has been developed which includes project approvals including heritage basics – all employees to be rolled out in the next few months. Heritage Advanced training is identified for surface civil team and environment officers.	C	
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Desired Outcome: Ensure protection of Aboriginal sites and artefacts of scientific significance (Aboriginal Sites 10, 19, 38 and 39).

9.2	Identify the boundaries of Aboriginal Sites 10, 19 38 and 39, design surface disturbing activities such as gas drainage operation, ventilation and access road construction to provide a buffer of at least 10m from the site fencing.	Prior to any surface disturbance within 100 m of the nominated sites.		Verified via CoA	C	
9.3	Erect a sign on the fencing identifying an "Environmental Protection Zone".	Prior to any surface disturbance within 100 m of the nominated sites.	Site observations	The audit team observed appropriate fencing	C	
9.4	Prohibit access to these sites by locating all surface disturbance (including roads) at least 10 m from these fence off areas.	Prior to any surface disturbance within 100 m of the nominated sites.	Aboriginal Cultural Heritage Management Plan	10m buffer is described in the ACHMP	C	
9.5	Remove the fencing (erected as nominated in Commitment 9.3) to allow the return of grazing to reduce the potential grass-fire hazard.	Following the completion of surface disturbance in the vicinity of the protected site.	Aboriginal Cultural Heritage Management Plan	Fencing is removed as required.	C	

Desired Outcome: Manage identified Aboriginal sites and artefacts (of Panels 1 to 7) in accordance with agreed management principles.

9.6	For Aboriginal Sites 10, 19, 38, 39, design surface disturbing activities such as gas drainage operation, ventilation and access road construction to provide a buffer of at least 10 m from the site fencing.	Prior to any surface disturbance.	Aboriginal Cultural Heritage Management Plan	10m buffer is described in the ACHMP	C	
9.7	For all other Aboriginal sites, design surface disturbing activities such as gas drainage operations, ventilation and access road construction to avoid wherever possible the identified Aboriginal sites.	Prior to any surface disturbance within 100 m of any other Aboriginal site.	Aboriginal Cultural Heritage Management Plan	As above	C	



9.8	In the event that one of the Aboriginal sites (other than Aboriginal Sites 10, 19, 38 and 39) cannot be avoided, commission an archaeologist and invite representatives of registered Aboriginal stakeholder (Gomerioi and Narrabri LALC) to salvage the artefacts identified at the affected site ("the Salvage Area").	Prior to salvage.	Aboriginal Cultural Heritage Management Plan  Interview with Environmental Superintendent	No salvaging has been required	NT	
9.9	Undertake a full analysis of the material salvaged from within the Salvage Area by allowing the archaeologist to take the artefacts for further analysis.	Following salvage and prior to any surface disturbance.		No salvaging has been required	NT	
9.10	Return the salvaged artefacts to the authorised Aboriginal organisation.	Within 21 days of salvage.		No salvaging has been required	NT	
9.11	Place the salvaged artefacts in the care and control of the Aboriginal organisation agreed to by Narrabri LALC and Gomerioi. (The Proponent (if required) has agreed to provide an interim 'keeping place' in a designated storage facility with the Pit Top Area until such time as a suitable location is identified and agreed to by Narrabri LALC and Gomerioi).	Following salvage.		No salvaging has been required	NT	
9.12	Commission the preparation of a report ("Salvage Report") including full descriptions of the salvaged material, and an interpretation of the archaeological record within the Salvage Area.	Following salvage.		No salvaging has been required	NT	
9.13	Provide copies of the Salvage Report to Narrabri LALC, Gomerioi and the DECCW.	Within 3 months of salvage.		No salvaging has been required	NT	
Desired Outcome: Manage Aboriginal sites and artefacts (within the remaining Mining Area) in accordance with agreed management principles.						
9.14	As mining approaches the completion of Panels 1 to 7, undertake a further detailed field survey, involving representatives of the registered Aboriginal stakeholders, above the Mining Area to be disturbed over the ensuing 7 years.	At least 12 months prior to completion of mining in Panel 7.	Interview with Environmental Superintendent	Field surveys are undertaken prior to disturbance in collaboration with RAPs. Aboriginal cultural heritage assessment have been completed as required.	C	
9.15	Identify and protect through fencing and signage, those sites determined to be of high scientific significance as agreed and determined in consultation between the Proponent, the registered Aboriginal stakeholders and the archaeologist.	Prior to surface disturbance associated with Panel 8.	Site observations  Surface Disturbance form	The audit team observed appropriate fencing. All surface disturbance is assessed through the Surface Disturbance form and RAPs consulted as appropriate.	C	
9.16	In the event that an identified site cannot be avoided, commission an archaeologist and invite representatives of registered Aboriginal stakeholders (Gomerioi and Narrabri LALC) to salvage the identified artefacts. All salvage is to be undertaken as per <i>Commitments 9.9 to 9.13</i> above.	Prior to surface disturbance.	Aboriginal Cultural Heritage Management Plan	The procedure is described in the ACHMP and has been implemented as required.	C	
Desired Outcome: Manage Aboriginal heritage values in accordance with agreed management principles.						
9.17	Prepare, in consultation with the registered Aboriginal stakeholders and the DECCW, an updated Aboriginal Heritage Cultural Management Plan (AHCMP). The AHCMP will include: - protocols and procedures to ensure that all commitments (see Commitments 9. 1 to 9.20) are implemented in full; - consultation and communication framework between the Proponent, registered Aboriginal stakeholders and the DECCW; - the accountabilities and responsibilities of the Proponent and registered Aboriginal stakeholders; and - All legal reporting requirements nominated by the DECCW.	Within 6 months of receiving Project Approval.	Outside audit period	Outside audit period	NT	
Desired Outcome: Appropriate protection and/or salvage of Aboriginal sites and artefacts identified beyond the identified beyond the Aboriginal sites defined during previous field surveys.						
9.18	Ensure that if any further Aboriginal artefacts are uncovered at any time during the life of the mine, work in the vicinity of the subject area ceases and the Proponent follows the procedures recorded in the ACHMP.	In the event of an Aboriginal site or artefact being identified.	Interview with Environmental Superintendent	None identified during audit period	NT	



9.19	Wherever possible, if a tree is identified as having culturally made scars, it is retained in situ and protected.	In the event of a scarred tree being identified.	Interview with Environmental Superintendent	None identified during audit period	NT	
9.20	Ensure that, where it is not possible to retain a scarred tree <i>in-situ</i> , the tree is cut down to preserve the scar, and relocated into a designated protected area. All activity associated with cutting of the tree and preservation of the scar is to be conducted in consultation with the Aboriginal stakeholders and the archaeologist.	In the event of a scarred tree being identified.	Interview with Environmental Superintendent	None identified during audit period	NT	

## 10. Noise

Desired Outcome: All activities are undertaken in such a manner as to reduce the noise level generated and minimise impacts on surrounding landholders and/or residents.

10.1	Ensure that the approved hours of operation are adhered to.	Ongoing.		Verified via CoA	C	
10.2	Use equipment with lower sound power levels in preference to more noisy equipment.	Ongoing.		Verified via CoA	C	
10.3	Regularly service all equipment used on-site to ensure the sound power levels remain at or below the levels used in the modelling to assess generated noise levels and compliance with the criteria.	Ongoing.		Verified via CoA	C	
10.4	Maintain a dialogue between the Proponent and surrounding neighbours and the local community to ensure any concerns over construction, operational or transport noise are addressed.	Ongoing.		Verified via CoA	C	

Desired outcome: Noise generated by construction activities does not DECCW nominated criteria nor significantly impact on neighbouring landowners and/or residents.

10.5	Ensure that all equipment emits sound power levels consistent with the schedules in Appendix A of Spectrum Acoustics (2009).	Ongoing.		Verified via CoA	C	
10.6	Restrict the operation of a maximum of two (2) scrapers during construction operations under temperature inversion conditions, to one of the following areas only. <ul style="list-style-type: none"> <li>the longwall unit assembly area;</li> <li>the ROM coal pad area;</li> <li>the Reject Emplacement Area; or</li> <li>the Brine Storage Area.</li> </ul>	During construction phase.		Outside audit period	N/A	
10.7	Undertake noise monitoring at the private residences most likely to be affected by construction noise.	As required during construction works with real time noise monitoring and attended quarterly monitoring.		Verified via CoA	C	
10.8	In the event that noise monitoring confirms exceedance of noise criteria at privately owned residences, where noise mitigation measures prove ineffective, negotiated agreements will be sought with the affected parties in accordance with the Industrial Noise Policy	As required if exceedances cannot be mitigated.		Verified via CoA	C	
10.9	In accordance with the Noise Management Plan and to account for inversion impacts, develop an operational protocol in consultation with the DECCW to clearly define operational procedures to be adopted during inversion conditions to minimise impact at adjoining privately owned residences.	Within 3 months of approval.		Verified via CoA	C	

Desired outcome: Noise generated by operational activities does not exceed DECCW nominated criteria more significantly impact on neighbouring landowners and/or residents.

10.10	Fully enclose the rotary breaker within a shed (or similar) clad with tilt-up aerated concrete panels, or similar.	Prior to commencement of coal processing.		Verified via CoA	C	
10.11	Enclose the coal processing plant with clad steel sheeting and line 50% of the internal surface with acoustic insulation.	Prior to commencement of coal processing.		Verified via CoA	C	

10.12	Refrain from using the bulldozer on the Reject Emplacement Area in both the morning and evening periods.	During temperature inversion conditions.		Verified via CoA	C	
10.13	Limit the number of truck movements to the Reject Emplacement Area to 1 load per 15 minute period.	During temperature inversion conditions.		Verified via CoA	C	
10.14	Ensure specific noise attenuation is provided to surface drills when operating over LW1 to LW3 and LW24 to LW26 to achieve a sound power level of 109dB (A).	Prior to surface drilling (under inversion conditions) above the nominated longwall panels.		Verified via CoA	C	
10.15	Update the existing Noise Management Plan.	Within 6 months of approval.		Verified via CoA	C	

Desired outcome: Noise generated by transport activities does not exceed DECCW nominated criteria nor significantly impact on neighbouring landowners and/or residents.

10.16	Ensure strict adherence to hours of operation, including transport activities.	Ongoing.		Verified via CoA	C	
10.17	Instruct all project employees and contractors to enter and exit the Mine Site in a courteous manner and without causing undue traffic noise.	On inductions (and re-induction).		Verified via CoA	C	
10.18	Maintain the on-site road network to limit body noise from empty trucks travelling on internal roads.	Ongoing.		Verified via CoA	C	

Desired outcome: Blasting undertaken that complies with the nominated DECCW criteria.

10.19	Ensure that all blasts are designed by a suitably qualified and experienced blasting engineer or shot-firer and that each blast is designed to ensure compliance with the relevant assessment criteria or conditional requirements.	As required.		No blasting has been conducted	NT	
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Desired outcome: Implementation of an appropriate noise monitoring program to ensure continuing compliance with the DECCW guideline levels during longwall mining operations.

10.20	Undertake attended noise monitoring at the residences most likely to be affected by Longwall Project generated noise. "Bow Hills" "Belah Park" "Naroo" "Matilda" <sup>1</sup> "Oakleigh" "Haylin View" "Newhaven" "Merrilong" <sup>1</sup>	Quarterly.		Verified via CoA	C	
10.21	Increase the frequency of monitoring during the first winter (May to September) of mining operations proposed under this approval. This will also incorporate real time noise monitoring as required under the Stage 1 modification approval.	Monthly.		Outside audit period	N/A	
10.22	Review and submit noise monitoring results to the DECCW.	Annually.		Verified via CoA/EPL	C	

## 11. Air Quality

Desired outcome: Site activities are undertaken without exceeding DECCW air quality criteria or goals.

11.1	Minimise the extent of clearing across the Mine Site including the campaigns to construct the area for reject emplacement and construct brine storage ponds.	Ongoing.		Verified via CoA	C	
11.2	Retain cleared trees and branches on the margins of cleared areas for use in stabilising disturbed areas once they are no longer required.	Ongoing.		Verified via CoA	C	
11.3	Undertake soil stripping at times when most appropriate (such as when there is sufficient soil moisture to prevent significant lift-off of dust and at times other than periods of high winds).	Ongoing.		Verified via CoA	C	
11.4	Operate water sprays on all continuous miners, the longwall unit and the breaker feeder to minimise dust creation underground.	Ongoing.		Verified via CoA	C	
11.5	Apply water to the coal at the feed hopper, crusher and at all conveyor transfer and discharge points.	Ongoing.		Verified via CoA	C	
11.6	Fit all surface conveyors with appropriate cleaning and collection devices to minimise the amount of material falling from the return conveyor belts.	Prior to commencement of coal processing.		Verified via CoA	C	

11.7	Enclose the rotary breaker (see <i>Commitment 10.10</i> ).	Prior to commencement of coal processing.		Verified via CoA	C	
11.8	Partially enclose all surface conveyors to minimise dust lift off.	Prior to commencement of coal processing.		Verified via CoA	C	
11.9	Cease construction of the brine storage ponds when the prevailing winds are from the northwest quadrant.	Ongoing.		Verified via CoA	C	
11.10	Apply water onto stockpiles and hardstand areas.	Ongoing.		Verified via CoA	C	
11.11	Progressively rehabilitate areas of disturbance including gas drainage areas.	Ongoing.		Verified via CoA	C	
11.12	Progressively rehabilitate areas no longer required for operational purposes.	Ongoing.		Verified via CoA	C	

Desired outcome: Minimise the potential for spontaneous combustion of the coal stored and handled on site.

11.13	Minimise the length of time coal is held in stockpiles.	Ongoing.	Spontaneous Combustion in Surface Coal Stockpiles Procedure, DATED 3 June 2013	Coal rotational plan is to be implemented.	C	
11.14	Monitor coal stockpiles for signs of spontaneous combustion.	Ongoing.	Spontaneous Combustion in Surface Coal Stockpiles Procedure, DATED 3 June 2013	Stockpiles are inspected on a minimum of 24 hour basis. In the event combustion is identified the TARP will be initiated.	C	
11.15	Immediately report incidents to the appropriate authorities.	Ongoing.	Stockpile Heating and Spontaneous Combustion TARP, dated 23 March 2017	If an uncontrolled event is identified, the PIRMP would be activated, requiring Notification to appropriate authorities (i.e. fire authority, EPA etc.)	C	
11.16	Extinguish fire by removal from stockpile, spreading and saturation with water.	In the event of ignition.	Stockpile Heating and Spontaneous Combustion TARP, dated 23 March 2017	Included in procedure – hot coal rolled out and sprayed with water	C	

Desired outcome: Ensure no employee's health is adversely affected as a result of employment at the Longwall Project.

11.17	Install underground ventilation system to provide fresh air to employees.	Ongoing and as required.		Verified by CoA	C	
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Desired outcome: Minimise greenhouse gas, other gas and odour emissions through reduction in diesel consumption.

11.18	Optimise and schedule vehicle operations to minimise vehicle movements.	Ongoing.		Verified by CoA	C	
11.19	Maintain engines according to manufacturer's guidelines and keep tyres at optimum pressure.	Ongoing.		Verified by CoA	C	
11.20	Minimises vehicle idling time.	Ongoing.		Verified by CoA	C	
11.21	Prepare an updated Energy Savings Action Plan (ESAP).	Within 12 months of Project Approval.		Verified by CoA	C	

Desired outcome: Implementation of an appropriate air quality monitoring program to ensure continuing compliance with DECCW guideline levels.

11.22	Monitor deposited dust levels at 8 sites (ND1 to ND8).	Monthly.		Verified by CoA	C	
11.23	Monitor PM <sub>10</sub> levels at 2 sites (ND9 to ND10).	1 in 6 days as per DECCW schedule.		Verified by CoA	C	
11.24	Review and submit dust monitoring results to relevant government agency.	Annually.		Verified by CoA/EPL	C	

## 12. Soils and Land Capability

Desired outcome: Maintenance of soil value for rehabilitation and minimisation of soil loss through erosion.						
12.1	Strip topsoil to a depth of 15 cm and strip subsoil to a depth of 25 cm (where sufficient soil depths are available).	During soil stripping operations.	Interview with Environmental Superintendent	There are no stockpiles above longwalls – only at the REA for capping the final landform	C	
12.2	Avoid stripping or replacing under wet conditions.	During soil stripping operations.	Interview with Environmental Superintendent	The audit team was advised that soil stripping is not undertaken during wet conditions	C	
12.3	Stockpile topsoil and subsoil separately with topsoil stockpiles not exceeding 2m in height and subsoil stockpiles not exceeding 3m in height.	During stockpiling operations.	Site observations	The audit team observed separate stockpiles at the REA that appeared to be not exceeding 2m for topsoil and 3m for subsoil.	C	
12.4	Carefully select soil stockpile locations to avoid subsequent movement, to ensure that the soil structure is not degraded.	During soil stripping operations.	Site observations	All stockpile are within the REA footprint	C	
12.5	Position soil stockpiles to prevent surface water runoff coming into contact with the soil stockpiles.	During soil stockpiling operations.	Site observations	Stockpile appeared to be positioned to avoid surface runoff.	C	
12.6	Construct soil stockpiles with a 'rough' surface to assist in runoff control and seed retention and germination.	During soil stockpiling operations.	Site observations	Stockpiles were observed to have a rough surface.	C	
12.7	Construct up slope water diversion banks to direct overland surface water flow away from soil stockpiles.	During soil stockpiling operations.	Site observations  Narrabri Mine Rejects Emplacement Area Capping Assessment & Closure Design, November 2019	Upslope water diversion banks were observed to be in place.	C	
12.8	Install protective earthworks such as straw bale or contour bank protection to protect the soil stockpile from overland flow as required.	Following stockpile construction.	Interview with Environmental Superintendent	The audit team was advised that straw bales or contour banks are used where required.	C	
12.9	Install silt-stop fencing or similar protection immediately down slope of stockpiles and retain until such time as they develop a stable cover of vegetation.	Following stockpile construction.	Site observations	Silt fences were observed on site.	C	
12.10	Sow soil stockpiles with stabilising groundcover species.	Following stockpile construction.	Site observations	Topsoil stockpile at REA is seeded.	C	
12.11	Retain soil conservation structures, or if disturbed, reinstate these structures to maintain pre-mining soil and water management on the Mine Site.	Ongoing.	Interview with Environmental Superintendent Site observations	Re-instatement carried out as required.	C	
Desired outcome: Minimise erosion on the Mine Site as a consequence of subsidence.						
12.12	Inspect drainage lines, predicted surface cracking zones and other areas of the Mine Site susceptible to erosion, ie. soils of the Purlawaugh Formation on slopes >10°.	At least quarterly.		Refer to SoC 5		
12.13	Undertake remedial actions on areas of accelerated erosion, eg. reinstatement or realignment of contour banks, regrading of channels, sowing of cover crops, etc.	Ongoing as required.	Interview with Environmental Superintendent	The audit team was advised that remedial action are undertaken as required.	C	
Desired outcome: Ensure no tunnelling erosion occurs as a consequence of pipeline channel excavation.						
12.14	Replace soil material in the reverse order to that removed, ie. lower subsoil layers, upper subsoil layers then topsoil	When under construction.		Outside audit period	N/A	
Desired outcome: Remediate contaminated soils.						

12.15	Excavate and remove soils contaminated with hydrocarbons or saline water.	Within one month of contamination occurring.	Hydrocarbon management plan 2013 and reviewed Sep 2019	Contaminated soils are removed to the bioremediation pad and then to the rejects area or removed offsite. And initiating the PIRMP No spills in the audit period.	C	
12.16	(If the contamination is widespread) Remove contaminated material to facility licensed to accept the nominated contamination.	Within one month of contamination occurring.		Not triggered	NT	
12.17	(If the hydrocarbon contamination is limited in area) Remove to a designated 'land farming' location (away from natural drainage) for bio- remediation of hydrocarbon contaminated material.	Within one month of contamination occurring.		Not triggered	NT	

### 13. Transportation

Desired Outcome: All motorists travel safely to and from the Mine Site with minimal disruption to Kamilaroi Highway or Kurrajong Creek Road Traffic.

13.1	Transport coal entirely by rail.	Ongoing.		Verified by CoA	C	
13.2	Erect appropriate road signage.	As required.	Site observations	Appropriate road signage was observed	C	
13.3	Ensure all employees and contractors are regularly informed about the safe driving requirements to and from the mine site.	On induction and ongoing.	Monthly Safety Focus, October 2018	Information on safe driving and speeding was included in the monthly safety focus for October 2018	C	
13.4	Instruct all employees regarding the possible scenario where the rail crossing is closed at shift change-over and requirement for patience whilst the crossing is closed.	On induction.		In NCO induction	C	
13.5	Transport all oversize loads with all necessary permits.	As required.		As required	C	
13.6	Manage the maintenance of the Mine Access Road, Kurrajong Creek Road, North Western Branch Railway Crossing.	Ongoing for the life of the mine.	Site observations	The mine access road was observed to be in good condition	C	

Desired outcome: An improved understanding of the cumulative impacts of increased rail traffic on all stakeholders impacted by increased rail traffic to Port Newcastle.

13.7	Work co-operatively with the relevant authorities, and as required ARTC, in terms of financial and in kind commitment of resources (to be agreed with the relevant authority and on an equitable basis with other rail users) in a study into the cumulative impacts of increased rail traffic from all sources.	When commissions by the relevant authority.	Interview with Environmental Superintendent	Not triggered	NT	
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Desired outcome: An understanding of the implications of the cumulative impacts of increased rail traffic, on traffic flow in and about the township of Gunnedah.

13.8	Work co-operatively with Gunnedah Shire Council in terms of financial and in-kind commitment of resources (to be agreed with Gunnedah Shire Council and on an equitable basis with other rail uses) in an Integrated Traffic Management Study to be commissioned by Gunnedah Shire Council.	When commissioned by Gunnedah Shire Council.	Interview with Environmental Superintendent	Not triggered	NT	
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### 14. Visual

Desired Outcome: The operation of the Siding Springs Observatory is not affected by project operations.

14.1	Use soft lighting on the Pit Top Area to minimise impact on surrounding residents while allowing for evening maintenance and deliveries / night train loading activities.	Night-time operations.	Complaints register	Only one complaint has been received related to lighting	C	
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Desired Outcome: Restriction of vantage points of project activities from neighbouring residences and public roads.

14.2	Maintain the perimeter amenity bund and vegetate with native grasses, shrubs and trees.	During the site establishment phase.		Outside audit period	N/A	
14.3	Construct and vegetate a bund wall around the ventilation shaft areas to restrict the visibility of the activities from neighbouring residences.	During the site establishment phase.		Outside audit period	N/A	
14.4	Rehabilitate and revegetate all areas no longer required for site operations to ensure the maximum area of grassed paddock is present.	Ongoing.		Verified via CoA	C	

14.5	Construct / paint the load-out bin above the rail load-out area and site buildings in a grey / green hue to limit their overall visibility.	During the site establishment phase.	Site observations	The load out bin was observed to be of a grey/green hue.	C	
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### 15. Community Contributions

Desired Outcome: Keep surrounding land owners and land users informed about site activities.

15.1	Maintain the Community Consultative Committee or similar and include local community representatives.	Ongoing.	CCC meeting minutes	The CCC is maintained and meetings are held on a quarterly basis	C	
15.2	Provide regular newsletters regarding project progress and operations.	Ongoing.	CCC meeting minutes NCO Website	CCC minutes are published on the website News section on the website contains community newsletters	C	

Desired Outcome: Contribute to the Local Community through appropriate contributions to Community Enhancement Activities.

15.3	Provide funding of \$100,000 to the Gunnedah Shire Council Community Enhancement fund. Funding to be spread out equally over 5 annual instalments.	For 5 years.		Outside audit period	N/A	
15.4	Provide funding of \$1,500,000 to the Narrabri Shire Council Community Enhancement Fund. Funding to be provided in two instalments over two years.	2 years.		Outside audit period	N/A	

### 16. Environmental Monitoring

Desired Outcome: Implement a comprehensive and ongoing surface water monitoring program.

16.1	Monitor surface water quality for: pH, EC, TDS, TSS, Total Organic Carbon at locations upstream and downstream of the Pit Top Area on Kurrajong and Pine Creeks and their tributaries (See also <i>Commitment 7.27</i> ).	Quarterly during surface flows.		<i>Verified via CoA</i>	C	
16.2	Record the volume and quality (pH, EC, TDS, TSS, Total Organic Carbon) of water extracted and discharged to the Namoi River (see also <i>Commitment 7.28</i> ).	Weekly.		<i>Verified via CoA</i>	C	
16.3	Record extraction volumes including weekly totals from all pumping bores and weekly totals from underground and open cut sump (see also <i>Commitment 6.4</i> ).	Weekly.		<i>Verified via CoA</i>	C	
16.4	Record Volumes of water introduced to the mine for longwall operation and other requirements (see also <i>Commitment 6.5</i> ).	Weekly.		<i>Verified via CoA</i>	C	
16.5	Record the groundwater quality (EC and pH) discharged from the underground workings and water supply bores (See also <i>Commitment 6.6</i> ).	Monthly.		<i>Verified via CoA</i>	C	
16.6	Sample and analyse water from all pumping bores and underground for the following parameters. <ul style="list-style-type: none"> <li>EC, TDS, TSS and pH.</li> <li>Calcium, magnesium, sodium and potassium.</li> <li>Carbonate, bicarbonate, sulphate and chloride.</li> <li>Aluminium, arsenic, boron, cobalt, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, silver, selenium, zinc.</li> <li>Ammonia, nitrate, phosphorus, reactive phosphorus (see also <i>Commitment 6.7</i>).</li> </ul>	Quarterly.		<i>Verified via CoA</i>	C	
16.7	Record (by manual monitoring, or continuous automated monitoring) the standing water levels of piezometers P1 to P27 and WB1 and WB8 (and others as constructed) (see also <i>Commitment 6.8</i> ).	Monthly initially and Quarterly after first 12 months.		<i>Verified via CoA</i>	C	
16.8	Monitor the flow rate and water quality of the spring discharge from "Mayfield Spring" (see also <i>Commitment 6.9</i> ).	Monthly initially and Quarterly after first 12 months.		<i>Verified via CoA</i>	C	



16.9	Install additional multi-level vibrating wire piezometers over LW1 to LW3 to obtain detailed data as to the impact of mine subsidence on the groundwater of the various strata above the underground workings (see also <i>Commitment 6.10</i> ).	Prior to commencement of longwall mining.		Verified via CoA	C	
16.10	Collect data from the vibrating wire piezometers and compare against initial groundwater and subsidence modelling predictions (see also <i>Commitment 6.11</i> ).	Data collected continuously and downloaded and analysed quarterly.		Verified via CoA	C	
16.11	Commission an experienced hydrogeologist to collate and review the monitoring data collected annually in order to assess the impacts of the project on the groundwater environment, and to compare any observed impacts with those predicted from groundwater modelling (see also <i>Commitment 6.12</i> ).	Annually.		Verified via CoA	C	
16.12	Develop the groundwater monitoring program in consultation with the Proponent's consultant hydrogeologist, the Department of Environment, Climate Change and Water – Office of Water and those groundwater users potentially affected by the project (see also <i>Commitment 6.13</i> ).	Prior to commencement of longwall mining.		Verified via CoA	C	

Desired Outcome: Implementation of an appropriate noise monitoring program to ensure continuing compliance with DEC guideline levels.

16.13	Undertake attended noise monitoring at the residences most likely to be affected by Longwall Project generated noise.  "Bow Hills" "Belah Park" "Naroo" "Matilda" "Oakleigh" "Haylin View" "Newhaven" "Merrilong" (see also <i>Commitment 10.20</i> )	Quarterly.		Verified via CoA	C	
16.14	Increase the frequency of monitoring during the first winter (May to September) of construction or mining operations. (see also <i>Commitment 10.21</i> ) This will also incorporate real time noise monitoring in accordance with requirements under the Stage 1 modification approval.	Monthly.		Verified via CoA	C	
16.15	Review and submit noise monitoring results to the DECCW. (see also <i>Commitment 10.22</i> ).	Annually.		Verified via CoA/EPL	C	

Desired Outcome: Implementation of an appropriate air quality monitoring program to ensure continuing compliance with DEC guideline levels.

16.16	Monitor deposited dust levels at 8 sites (ND1 to ND8). (see also <i>Commitment 11.22</i> ).	Monthly.		Verified via CoA	C	
16.17	Monitor PM10 levels at 2 sites (ND9 to ND10). (see also <i>Commitment 11.23</i> ).	1 in 6 days as per DECCW schedule.		Verified via CoA	C	
16.18	Review and submit dust monitoring result to relevant government agency. (see also <i>Commitment 11.24</i> ).	Annually.		Verified via CoA/EPL	C	

## 17. Documentation

Desired Outcome: A systematic set of documents are in place to guide the planning and implementation of all environmental management strategies.

17.1	Incorporate the environmental procedures in an on-site management system.	Prior to relevant activity.		A management system is implemented		
17.2	Prepare or update the following management and monitoring plans; <ul style="list-style-type: none"> <li>Mining Operations Plan</li> <li>Aboriginal Cultural Heritage Management Plan</li> <li>Energy Savings Action Plan</li> <li>Waste Management Plan</li> <li>Water Management Plan</li> <li>Landscape Management Plan</li> <li>Greenhouse Gas Minimisation Plan</li> <li>Gas Drainage &amp; Outburst Management Plan</li> </ul>	Various and as nominated by project approval.	Management Plans SMS Overview	The majority of the management plans have been developed and implemented and have been verified through the CoA.  A standalone Major Hazard Management Plan has not been developed but in accordance with NSW Resources Regulator Code of Practice for Safety Management Systems (SMS) in Mines	ANC	NCO should review the WMP and TARP to confirm that actions for water quality incidents adequately address saline contamination and meets the intent of the original commitment, or request a modification to the approval in relation to saline contamination.

	<ul style="list-style-type: none"> <li>Major Hazard Management Plan</li> <li>Salinity Contamination Contingency Plan</li> <li>Extraction Management Plan</li> <li>Erosion &amp; Sediment Control Plan</li> <li>Noise Monitoring Program</li> </ul>			<p>major and principal hazards are addressed in the site SMS.</p> <p>Water quality incidents are addressed in the Water Management Plan and the Pollution Incident Response Management plan (PIRMP), including response and notification, however these do not specifically make reference to saline contamination or specific response requirements as outlined in SoC 7.26.</p> <p>Outburst principal hazard management plan 25/11/19 – gas drainage design is covered in the plan</p>		
17.3	Incorporate relevant environmental data and information in Annual Environmental Management Reports.	Annually.	Annual reviews	Environmental data is incorporated into the annual reviews.	C	
<b>18. General</b>						
Desired Outcome: All buildings meet necessary building codes and specifications.						
18.1	Construct all buildings with certification by Narrabri Shire Council.	During site establishment phase.		Outside audit period	N/A	
Desired Outcome: All employees and contractors are trained and assessed as competent to undertake those activities influencing the environment.						
18.2	Implement a policy encouraging employment of local district personnel, with arrangements for training and certification.	Prior to commencement of project.		Outside audit period	N/A	
18.3	Include environmental issues in the site induction process for new employees and/or contractors.	Prior to commencement of project.		Outside audit period	N/A	
18.4	Develop and incorporate an environmental training program to ensure all employees and contractors are environmentally responsible and follow all relevant site-specific procedures.	Prior to commencement of project.		Outside audit period	N/A	
18.5	Include environmental issues in the agenda for toolbox meetings with employees and/or contractors.	Ongoing.	Toolbox talk on PIRMP Sep 2018 TBT Feb 19 – drilling operations including hours of operation, waste, vehicle movements, clearing Various email comms. on various issues – bushfires, dust etc.	There is no regular agenda item in toolbox talks, items are included as required or if there is an issue.	C	



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**TABLE B1 EPL**

Compliance with Environment Protection Licence (EPL) 12789

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<b>Document details</b>	
Document title	Table B1 EPL
Document subtitle	Compliance with Environment Protection Licence (EPL) 12789
Project No.	0523817
Date	31 January 2020
Version	1.1
Author	Heather Mckay, Peter Gleadhill
Client Name	Whitehaven Coal Limited

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Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations									
<b>1 ADMINISTRATIVE CONDITIONS</b>														
<b>A1 What the licence authorises and regulates</b>														
A1.1	<p>This license authorises the carrying out of the scheduled development work listed below at the premises listed in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.</p> <p>Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.</p> <table border="1"> <thead> <tr> <th>Scheduled Activity</th> <th>Fee Based Activity</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Coal works</td> <td>Coal works</td> <td>&gt;5000000 T annual handing capacity</td> </tr> <tr> <td>Mining for coal</td> <td>Mining for coal</td> <td>&gt;5000000 T annual handing capacity</td> </tr> </tbody> </table>	Scheduled Activity	Fee Based Activity	Scale	Coal works	Coal works	>5000000 T annual handing capacity	Mining for coal	Mining for coal	>5000000 T annual handing capacity	Annual Review 2016, 2017, 2018	<p>Annual ROM coal from site for reporting period:</p> <ul style="list-style-type: none"> <li>■ 2016- 5.59MT</li> <li>■ 2017- 6.92MT</li> <li>■ 2018- 5.28MT</li> <li>■ 2019 (YTD) – 5.70MT</li> </ul>	C	
Scheduled Activity	Fee Based Activity	Scale												
Coal works	Coal works	>5000000 T annual handing capacity												
Mining for coal	Mining for coal	>5000000 T annual handing capacity												
<b>A2 Premises or plant to which this licence applies</b>														
A2.1	<p>The licence applies to the following premises:</p> <p><b>Premises Details</b>  <b>NARRABRI COAL OPERATIONS</b>  <b>10 KURRAJONG CREEK ROAD</b>  <b>BAAN BAA</b>  <b>NSW 2380</b>  <b>THE LAND APPROVED UNDER PROJECT APPROVAL 08_0144- INDICATED IN APPENDIX 1- SCHEDULE OF PROJECT LAND OF PROJECT APPROVAL 08_0144, DATED 26 JULY 2010 (DOC13/91155).</b></p>	Note	Noted	Note										
<b>A3 Information supplied to the EPA</b>														
A3.1	<p>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.</p> <p>In this condition the reference to "the licence application" includes a reference to:</p> <p>(a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and</p> <p>(b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</p>	Note	Noted	Note										

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																				
<b>2 DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND</b>																									
<b>P1 Location of monitoring/discharge points and areas</b>																									
P1.1	<p>The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</p> <p><b>Air</b></p> <table border="1"> <thead> <tr> <th>EPA ID no.</th> <th>Type of monitoring point</th> <th>Type of discharge point</th> <th>Location description</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>Ambient Air Quality Monitoring</td> <td></td> <td>Monitoring point located at 'Bow Hills' and labelled ND3 as shown on map titled "EPL 12789 Monitoring Locations" dated 21/02/2017 – EPA DOC17/131971</td> </tr> <tr> <td>23</td> <td></td> <td>Gas Drainage Network</td> <td>Pre-drainage and Goaf Gas drainage network associated with the underground mining operations.</td> </tr> </tbody> </table>	EPA ID no.	Type of monitoring point	Type of discharge point	Location description	3	Ambient Air Quality Monitoring		Monitoring point located at 'Bow Hills' and labelled ND3 as shown on map titled "EPL 12789 Monitoring Locations" dated 21/02/2017 – EPA DOC17/131971	23		Gas Drainage Network	Pre-drainage and Goaf Gas drainage network associated with the underground mining operations.	Current Environmental Monitoring Locations, dated 28 February 2017 EPL Monitoring Reports 2016 to 2019	Current monitoring points are included in both the EPL Monitoring Reports and the Current Environmental Monitoring Locations map.	C									
EPA ID no.	Type of monitoring point	Type of discharge point	Location description																						
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23		Gas Drainage Network	Pre-drainage and Goaf Gas drainage network associated with the underground mining operations.																						
P1.2	<p>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</p>	Note	Noted	Note																					
P1.3	<p>The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.</p> <p><b>Water and Land</b></p> <table border="1"> <thead> <tr> <th>EPA ID no.</th> <th>Type of monitoring point</th> <th>Type of discharge point</th> <th>Location description</th> </tr> </thead> <tbody> <tr> <td>11</td> <td>Wet weather discharge Discharge water quality monitoring</td> <td>Wet weather discharge Discharge water quality monitoring</td> <td>Discharge point on northern side of mine boundary labelled as "SD4" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.</td> </tr> <tr> <td>12 (removed 19 January 2017)</td> <td>Wet weather discharge Discharge water quality monitoring</td> <td>Wet weather discharge Discharge water quality monitoring</td> <td>Discharge point on eastern side of mine boundary labelled as "SD5" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.</td> </tr> <tr> <td>13</td> <td>Wet weather discharge Discharge water quality monitoring</td> <td>Wet weather discharge Discharge water quality monitoring</td> <td>Discharge point on south eastern side of mine boundary labelled as "SD2" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.</td> </tr> <tr> <td>14</td> <td>Ambient Water Quality Monitoring</td> <td></td> <td>Upstream of mine discharge point on Kurrajong Creek Tributary 1 labelled as</td> </tr> </tbody> </table>	EPA ID no.	Type of monitoring point	Type of discharge point	Location description	11	Wet weather discharge Discharge water quality monitoring	Wet weather discharge Discharge water quality monitoring	Discharge point on northern side of mine boundary labelled as "SD4" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.	12 (removed 19 January 2017)	Wet weather discharge Discharge water quality monitoring	Wet weather discharge Discharge water quality monitoring	Discharge point on eastern side of mine boundary labelled as "SD5" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.	13	Wet weather discharge Discharge water quality monitoring	Wet weather discharge Discharge water quality monitoring	Discharge point on south eastern side of mine boundary labelled as "SD2" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.	14	Ambient Water Quality Monitoring		Upstream of mine discharge point on Kurrajong Creek Tributary 1 labelled as	Current Environmental Monitoring Locations, dated 28 February 2017 EPL Monitoring Reports 2016 to 2019	With the exception of Point 24, 25 and 26 current monitoring points are included in the Current Environmental Monitoring Locations map dated 28 February 2018. It is noted that Points 24 and 25 are outside of the EPL site boundary and the image of the map. Based on review of the Monitoring Report for 2019, all current monitoring points with the exception of Point 26 are included on the map. ERM observed Point 26 during the site audit, however, documentation should be updated to reflect this.	Obs C	The Current Environmental Monitoring Locations map and future EPL Monitoring Reports should be updated to include the location of Points 24, 25 and 26.
EPA ID no.	Type of monitoring point	Type of discharge point	Location description																						
11	Wet weather discharge Discharge water quality monitoring	Wet weather discharge Discharge water quality monitoring	Discharge point on northern side of mine boundary labelled as "SD4" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.																						
12 (removed 19 January 2017)	Wet weather discharge Discharge water quality monitoring	Wet weather discharge Discharge water quality monitoring	Discharge point on eastern side of mine boundary labelled as "SD5" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.																						
13	Wet weather discharge Discharge water quality monitoring	Wet weather discharge Discharge water quality monitoring	Discharge point on south eastern side of mine boundary labelled as "SD2" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.																						
14	Ambient Water Quality Monitoring		Upstream of mine discharge point on Kurrajong Creek Tributary 1 labelled as																						



Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
				"KC1US" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
15	Ambient Water Quality Monitoring			Downstream of mine discharge point on Kurrajong Creek Tributary 1 labelled as "KC1DS" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
16	Ambient Water Quality Monitoring			Upstream of mine discharge point on Kurrajong Creek Tributary 2 labelled as "KC2US" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
17	Ambient Water Quality Monitoring			Downstream of mine discharge point on Kurrajong Creek Tributary 2 labelled as "KC2DS" on Figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
18	Wet weather discharge Discharge water quality monitoring			Discharge point on western side of mine boundary labelled as "SD7" on figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
19	Ambient Water Quality Monitoring			Upstream location of Kurrajong Creek labelled as "KCUS" on figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
20	Ambient Water Quality Monitoring			Upstream location of Kurrajong Creek labelled as "KCDS" on figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
21	Ambient Water Quality Monitoring			Northern portion of mining area in Pine Creek labelled as "PCa" on figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
22	Ambient Water Quality Monitoring			Monitoring point in Pine Creek Tributary 1 labelled as "PC1" on figure titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971."			
24 (added as of 18 June 2019)	Water Quality Monitoring	Water Quality Monitoring		Discharge point at Namoi River Labelled as NR1 on Map titled			

Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
				"EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.			
	25 (added as of 18 June 2019)	Ambient Water Quality Monitoring	Ambient Water Quality Monitoring	Discharge point at Namoi River Labelled as NRUS on Map titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.			
	26 (added as of 18 June 2019)	Ambient Water Quality Monitoring	Ambient Water Quality Monitoring	Ambient Water Quality Ambient Water Quality Discharge point at Namoi River Monitoring Labelled as NRDS on Map titled "EPL 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.			
	27 (added as of 18 June 2019)	Wet Weather Discharge Discharge water quality monitoring	Wet Weather Discharge Discharge water quality monitoring	Wet Weather Discharge Wet Weather Discharge point at Ventilation Shaft Discharge water quality Discharge water quality Labelled as SD8 on Map titled "EPL monitoring 12789 Monitoring Locations" dated 21/02/2017, EPA DOC17/131971.			
P1.4	Point W1 in the table, is identified in this license for the purpose of monitoring of weather parameters at that point. Point W2 in the table, is identified in this license for the purpose of monitoring Inversion conditions.			Current Environmental Monitoring Locations, dated 28 February 2017 EPL Monitoring Reports 2016 to 2019 Site walkover	Observed to be present on monitoring maps provided and in place during site audit.	C	
	<b>EPA ID no.</b>	<b>Type of monitoring point</b>	<b>Location of description</b>				
	W1	Weather analysis					
	W2 (added as of 18 June 2019)	Measurement of Inversion conditions	Inversion tower identified as "W2" on map titled "EPL 12789 Monitoring Locations" dated 21/02/2017 - EPA DOC 17/131971.				

### 3 LIMIT CONDITIONS

#### L1 Pollution of Waters

L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	Current Environmental Monitoring Locations, dated 28 February 2017	No exceedances, leaks or significant spills were reported during the audit period.	C	
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#### L2 Concentration Limits

L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	EPL Monitoring Reports 2016 to 2019 Interviews with Environmental Superintendent	No surface water discharge is understood to have occurred during the audit period for the points listed. Therefore no monitoring or exceedances were reported.	NT	
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Note	Noted	Note	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																																																
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table/s.	Note	Noted	Note																																																	
L2.4	<p>Water and/or Land Concentration Limits <b>Points 11, 12, 13, 18, 27</b> <b>Auditor Note:</b> 12 was removed 19 January 2017</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Unit of measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>Oil and grease</td> <td>Milligrams per litre</td> <td>-</td> <td>-</td> <td>-</td> <td>10</td> </tr> </tbody> </table> <p><b>Points 11, 12, 13, 18, 24, 27</b> <b>Auditor Note:</b> 24 and 27 were added as of 18 June 2019 <b>Auditor Note:</b> 12 was removed 19 January 2017</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Unit of measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>pH</td> <td>-</td> <td>-</td> <td>-</td> <td>6.5-8.5</td> </tr> </tbody> </table> <p><b>Points 11, 12, 13, 18, 27</b> <b>Auditor Note:</b> 27 was added as of 18 June 2019 <b>Auditor Note:</b> 12 was removed 19 January 2017</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Unit of measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>Total suspended solids</td> <td>Milligrams per litre</td> <td>-</td> <td>-</td> <td>-</td> <td>50</td> </tr> </tbody> </table> <p><b>Point 24</b> <b>Auditor Note:</b> 24 was added as of 18 June 2019</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Unit of measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>Total dissolved solids</td> <td>Milligrams per litre</td> <td>250</td> <td></td> <td></td> <td>350</td> </tr> </tbody> </table>	Pollutant	Unit of measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Oil and grease	Milligrams per litre	-	-	-	10	Pollutant	Unit of measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	pH	pH	-	-	-	6.5-8.5	Pollutant	Unit of measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Total suspended solids	Milligrams per litre	-	-	-	50	Pollutant	Unit of measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Total dissolved solids	Milligrams per litre	250			350	<p>EPL Monitoring Reports 2016 to 2019 Interviews with Environmental Superintendent</p>	<p>No surface water discharge is understood to have occurred during audit period from Points 11, 12, 13, 18, 24 or 27 and as such no monitoring of has been undertaken.</p>	NT	
Pollutant	Unit of measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit																																																
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Total dissolved solids	Milligrams per litre	250			350																																																
L2.5	<p>The Total Suspended Solids concentration limits specified for Points 11, 13, 18 and 27 may be exceeded for water discharged provided that:</p> <p>a) the discharge occurs solely as a result of rainfall measured at the premises that exceeds 38.4 millimetres over any consecutive 5 day period immediately prior to the discharge occurring; and all practical measures have been implemented to dewater all sediment dams within 5 days of rainfall such that they have sufficient capacity to store run off from a 38.4 millimetre, 5 day rainfall event.</p> <p>Note: 38.4 mm equates to the 5 day 90%ile rainfall depth for Gunnedah sourced from Table 6.3a Managing Urban Stormwater: Soils and Construction Volume 1: 4th edition, March 2004.</p>	Note	Not triggered	NT																																																	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations										
<b>L3 Noise limits</b>															
L3.1	<p>Noise generated at the premises must not exceed the noise limits in the table below.</p> <table border="1"> <thead> <tr> <th>Locality and location</th> <th>Day - LAeq (15 minute)</th> <th>Evening – LAeq (15 minute)</th> <th>Night – LAeq (15 minute)</th> <th>Night – LA1 (1 minute)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table>	Locality and location	Day - LAeq (15 minute)	Evening – LAeq (15 minute)	Night – LAeq (15 minute)	Night – LA1 (1 minute)	All privately owned residences	35	35	35	45	<p>EPL Monitoring Reports 2016 to 2019. SLR Consulting Australia Pty Ltd, Noise Investigation, 1 August 2019 Spectrum Acoustics, Vent Fan Noise Reduction Study, 19 November 2019</p>	<p>The following exceedances of EPL noise limits were recorded during the audit period:</p> <ul style="list-style-type: none"> <li>27 June 2017: Point N5, Night – LAeq (15 minute) of 37 dB and Night – LA1 (1 minute) of 46 dB.</li> <li>29 June 2017: Point N6, Night – LAeq (15 minute) of 38 dB.</li> <li>07 September 2017: Point N6, Night – LAeq (15 minute) of 36 dB.</li> <li>June 2019: Point N6, Day - LAeq (15 minute) of 42 dB and Point N9, Day - LAeq (15 minute) of 43 (Note: both recorded during non-compliant weather conditions of wind speed &gt; 3 m/s and as such do not represent a non-compliance with the EPL).</li> <li>04 September 2019: Point N9, Day - LAeq (15 minute) of 39 dB.</li> </ul> <p>For the exceedance recorded in September 2019, subsequent investigations by SLR Consulting Australia Pty Ltd (SLR) dated 1 August 2019, exceedances in noise monitoring results were likely attributable to the Main Exhaust Ventilation Fan. Subsequently a Vent Fan Noise Reduction Study conducted by Spectrum Acoustics dated 19 November 2019 assessed noise control options based on technical information for the fans and noise measurements taken in 2014 and 2019. Based on outcomes of the Study, ERM understands that NCO is investigating a number of noise attenuation measures including the installation of a 14 m high acoustic barrier at around the Main Exhaust Ventilation Fan which is expected to reduce noise levels at the receiver point 5 km north of the fans to less than the exceedance criteria limits under Condition 43.1. NCO is progressing the validation of noise modelling assumptions to inform the engineering designs, cost and project management aspects required for construction of the noise abatement installation.</p>	NC	Continue to investigate all appropriate noise attenuation measures. (Refer CoA 4.1–duplicate NC).
Locality and location	Day - LAeq (15 minute)	Evening – LAeq (15 minute)	Night – LAeq (15 minute)	Night – LA1 (1 minute)											
All privately owned residences	35	35	35	45											
L3.2	<p>The noise limits identified in the above table do not apply at privately owned residences that are:</p> <p>a) identified as residences subject to acquisition or noise mitigation on request within the Project Approval; or</p> <p>b) subject to a private agreement, relating to the noise levels, between the licensee and the land owner.</p>	Note	Both N6 and N9 are private residences.	Note											
L3.3	<p>For the purpose of the table above:</p> <p>a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;</p> <p>b) Evening is defined as the period from 6pm to 10pm;</p> <p>c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.</p>	Note	Noted	Note											

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
L3.4	<p><b>Determining compliance</b></p> <p>To determine compliance:</p> <p>a) with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located:</p> <ul style="list-style-type: none"> <li>i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or</li> <li>ii) within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is. situated more than 30 metres from the property boundary closest to the premises; or, where applicable</li> <li>iii) within approximately 50 metres of the boundary of a National Park or a Nature Reserve.</li> </ul> <p>b) with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 metre of a dwelling facade.</p> <p>c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located:</p> <ul style="list-style-type: none"> <li>i) at the most affected point at a location where there is no dwelling at the location; or</li> <li>ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition.</li> </ul>	SLR Consulting Australia Pty Ltd, Noise Investigation, 3 October 2019	Noted to be compliant based on observations made onsite, review of sample Noise Monitoring Reports and the Current Environmental Monitoring Locations, dated 28 February 2017. However, SLR monitoring reports do not clearly outline these requirements in their methodology.	Obs C	Future noise monitoring reports should be updated to clearly confirm the sampling methodology is compliant with Condition L3.4.
L3.5	<p>The noise limits set out in the Noise Limits table apply under all meteorological conditions except for the following:</p> <p>a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or</p> <p>b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or</p> <p>c) Stability category G temperature inversion conditions.</p> <p>For the purposes of this condition:</p> <ul style="list-style-type: none"> <li>i) Data recorded by the meteorological station identified as EPA Identification Point(s) WW1 must be used to determine meteorological conditions; and</li> <li>ii) Temperature inversion conditions (stability category) are to be determined by direct measurement over a minimum 50m height interval as referred to in Part E2 of Appendix E of the "New South Wales Industrial Noise Policy" dated January 2000 ISBN 0 7313 2715 2.</li> </ul> <p><b>Auditor Note:</b> prior to 19 January 2017, ii) read: Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.</p>	Note	Noted	Note	
L3.6	<p>For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.</p>	SLR Noise Monitoring Reports	Review of sample SLR noise monitoring reports identify low frequency noise components being evaluated as per the NSW Noise Policy for Industry (2017). Whilst Condition L3.6 states that the NSW Industrial Noise Policy (2000) should apply, justification for the use of NSW Noise Policy for Industry (2017) was provided through reference to Clause 8 under the 'Implementation and transitional arrangements for the Noise Policy for Industry (2017)' prepared by EPA. Clause 8 states "that <i>The NSW Industrial Noise Policy (2000) will continue to apply where it is referenced in existing statutory instruments (such as consents and licences), except for the NSW Industrial Noise Policy Section 4 modifying factors, which will be transitioned to the Noise Policy for Industry (2017) Fact Sheet C through a NSW Industrial Noise Policy application note. This approach has been taken because the Noise Policy for</i>	C	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
			<i>Industry (2017) modification factor approach reflects more recent understanding of the impact of tonal and low-frequency noise on the community."</i>		
<b>L4 Blasting</b>					
L4.1	The overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
L4.2	The overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
L4.3	The airblast overpressure level from blasting operations listed in Conditions L4.1 and L4.2 must not be exceeded at any point within 30 metres of any non-project related residential building or other noise sensitive location.	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
L4.4	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
L4.5	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
L4.6	The ground vibration peak particle velocity limits listed in Conditions L4.5 and L4.4 must not be exceeded at any point within 3.5 metres of any non-project related residential building or other noise sensitive location.	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
L4.7	Blasting operations at the premises may only take place between 10:00am-4:00pm Monday to Friday. (Where compelling safety reasons exist, the Authority may permit a blast to occur outside the abovementioned hours. Prior written (or facsimile) notification of any such blast must be made to the Authority).	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
L4.8	Blasting at the premises is limited to: b) A maximum of two (2) blasts per day; c) Five (5) blasts a week, averaged over a twelve month period; on each day on which blasting is permitted.	Interview with Environmental Superintendent	Not triggered – no blasting conducted during audit period.	NT	
<b>4 Operating Conditions</b>					
<b>O1</b>	<b>Activities must be carried out in a competent manner</b>				
O1.1	Licensed activities must be carried out in a competent manner This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	ChemAlert SafeWork Notification of Hazardous Chemicals dated 13 February 2015 Waste Contractor Licences EPA, Clean-up Notice, 30 April 2016	EPA issued a Penalty Notice to NCO following review of video footage on 5 January 2019 which showed 'large clouds of black coal dust coming off the pit top working area of the Narrabri Coal Miner. That video showed large volumes of coal dust being generated by the Tripper and by bulldozers operating on the coal stockpiles at the premises'. EPA subsequently	NC	Continue to comply with directions from the EPA in relation to the matter. Implement a procedure and provide information to site personnel on the appropriate disposal of all wastes generated at the site.



Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
		<p>EPA, Penalty Notice Advice, 14 July 2019</p> <p>EPA, Show Cause Letter, 17 October 2019</p>	<p>were of the opinion that NCO contravened EPL Condition O1.1.</p> <p>EPA issued a Show Cause letter to NCO dated 17 October 2019 which refers to an incident at Narrabri Landfill (located offsite) where the disposal of Oxy 6000 rescuer units that are part of breathing apparatus were disposed of as general solid waste by NOCPL between 2 April and 18 April 2019. Based on review of material safety data sheets (MSDS), EPA suspected that the canisters disposed of were hazardous waste and as such should have been disposed as such. NCO responded to the Show Cause on 25 October 2019 providing information on the clean-up activities undertaken to-date. Further meetings between NCO, EPA and Narrabri Shire Council have been held to try to agree a course of action. No further direction from EPA had been received at the time of the audit.</p>		
<b>O2</b>	<b>Maintenance of plant and equipment</b>				
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	As per CoA, Condition 2.15	As per CoA, Condition 2.15	C	
<b>O3</b>	<b>Dust</b>				
O3.1	All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.	As per CoA, Condition 4.6	<p>NCO has noted to implemented a trigger action response plan (TARP) as a dust control measure which varies or ceases operations depending on wind speeds and weather conditions. Wetting down of roadways and stockpiles was also observed to occur.</p> <p>As per CoA, a number of dust exceedances of CoA conditions were noted to have occurred in designated monitoring locations. These were reported to have occurred during regional events including dust storm and bushfires.</p> <p>As per Condition O1.1, EPA issued a Penalty Notice in relation to coal dust being generated by the Tripper and bulldozers operating on coal stockpiles at the site. The sites EPL has subsequently been varied (in effect 3 December 2019) requiring a Pollution Reduction Programme (PRP) to investigate the potential use of chemical veneers to suppress dust from coal stockpiles by 31 March 2020 and to engage a suitably qualified person to undertake a quality control audit and report on dust suppression systems (fixed and mobile) in operation at the pit top area by 30 April 2019.</p> <p>Whilst the dust suppression systems at the site are to be reviewed, the auditor notes that there</p>	C	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations								
			no other known dust emission events reported with the exception of 11 complaints relating to dust during the audit period (two in 2019). Coal processing was not being undertaken at the time of the audit and as such dust control systems could not be reviewed by the auditor whilst onsite. Given the PRP requirements above, compliance with this condition will need to be assessed further as part of the next IEA.										
<b>O4</b>	<b>Other operating conditions Pollution Incident Response Management Plan</b>												
O4.1	The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must document systems and procedures to deal with all types of incidents (e.g. spills, explosions, fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment.	Pollution Incident Response Management Plan dated September 2019 Test PIRMP Memo, conducted on 6 <sup>th</sup> September 2019	Review of the PIRMP for the site indicates that it covers legislative requirements and considers the major pollution risks across the facility. The PIRMP has been tested on a 12 month basis.	C									
O4.2	The licensee must keep the PIRMP on the premises at all times.	Observation during site walkover	Observed to be present at reception.	C									
<b>5 Monitoring and Recording Conditions</b>													
<b>M1</b>	<b>Monitoring records</b>												
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Note	Noted	Note									
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	EPL Monitoring Reports 2016 to 2019 Monitoring spreadsheet 2012 to 2019.	Monitoring records were observed to be maintained back to 2012.	C									
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Example sighted for deposited dust and surface water chain of custody documentation SLR Noise Monitoring Reports	Records were observed to be maintained.	C									
<b>M2</b>	<b>Requirement to monitor concentration of pollutants discharged</b>												
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	ALS Current Best Method Documentation, dated 7 June 2019	The ALS Current Best Method Documentation describes the particulates sampling procedure as per Australian Standard 3580.10.1:2003 as required under Sampling Method AM-19.	C									
M2.2	Air monitoring requirements <b>Point 3</b> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>Particulates – deposited matter</td> <td>Grams per square metre per month</td> <td>Once a month (min. of 4 weeks)</td> <td>AM-19</td> </tr> </tbody> </table>	Pollutant	Units of measure	Frequency	Sampling method	Particulates – deposited matter	Grams per square metre per month	Once a month (min. of 4 weeks)	AM-19		Sampling of particulates is conducted on a monthly basis. The maximum recorded concentration for monitoring was February 2017, 7.3 g/m <sup>2</sup> .month	C	
Pollutant	Units of measure	Frequency	Sampling method										
Particulates – deposited matter	Grams per square metre per month	Once a month (min. of 4 weeks)	AM-19										
M2.3	Water and/or Land Monitoring Requirements <b>Point 11, 12, 13, 18, 27</b>	EPL Monitoring Reports 2016 to 2019	Monitoring conducted during discharge events from Discharge Points 15, 16, 19, 21 and 22 in	C									

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																																																
	<p><b>Auditor Note:</b> 27 added as of 18 June 2019 <b>Auditor Note:</b> 12 was removed 19 January 2017</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>Microsiemens per litre</td> <td>Special Frequency 1</td> <td>In Situ</td> </tr> <tr> <td>Oil and Grease</td> <td>Milligrams per litre</td> <td>Special Frequency 1</td> <td>Grab sample</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Special Frequency 1</td> <td>In Situ</td> </tr> <tr> <td>Total organic carbon</td> <td>Milligrams per litre</td> <td>Special Frequency 1</td> <td>Grab sample</td> </tr> <tr> <td>Total suspended solids</td> <td>Milligrams per litre</td> <td>Special Frequency 1</td> <td>Grab sample</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Special Frequency 2</td> <td>In Situ</td> </tr> </tbody> </table> <p><b>Point 14, 15, 16, 17, 19, 20, 21, 22</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>pH</td> <td>Special Frequency 2</td> <td>In Situ</td> </tr> </tbody> </table> <p><b>Point 24, 25, 26</b> <b>Auditor Note:</b> 24, 25 and 26 added as of 18 June 2019</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>pH</td> <td>Special Frequency 3</td> <td>In Situ</td> </tr> <tr> <td>Total dissolved solids</td> <td>Milligrams per litre</td> <td>Special Frequency 3</td> <td>Grab sample</td> </tr> </tbody> </table>	Pollutant	Units of measure	Frequency	Sampling method	Conductivity	Microsiemens per litre	Special Frequency 1	In Situ	Oil and Grease	Milligrams per litre	Special Frequency 1	Grab sample	pH	pH	Special Frequency 1	In Situ	Total organic carbon	Milligrams per litre	Special Frequency 1	Grab sample	Total suspended solids	Milligrams per litre	Special Frequency 1	Grab sample	pH	pH	Special Frequency 2	In Situ	Pollutant	Units of measure	Frequency	Sampling method	pH	pH	Special Frequency 2	In Situ	Pollutant	Units of measure	Frequency	Sampling method	pH	pH	Special Frequency 3	In Situ	Total dissolved solids	Milligrams per litre	Special Frequency 3	Grab sample		<p>March and June 2017. No discharge events have occurred since this period and as such no further monitoring has been conducted.</p> <p>No surface water discharge is understood to have occurred during audit period from Points 11, 12, 13, 18, 24 or 27 and as such no monitoring of has been undertaken.</p> <p>The Auditor observed that the discharge points listed were dry at the time of the Audit.</p>		
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M2.4	For the purposes of the table(s) above Special Frequency 1 means the collection of samples as soon as practicable after each discharge commences and in any case not more than 12 hours after each discharge commences.	Note	Noted	Note																																																	
M2.5	For the purposes of the table(s) above Special Frequency 2 means the collection of samples quarterly (in the event of flow during the quarter) at a time when there is flow and as soon as practicable after each wet weather discharge from points 11, 12, 13,18 or 27 commences and in any case not more than 12 hours after each discharge commences. <b>Note: 27 added as of 18 June 2019</b> <b>Note: 12 was removed 19 January 2017</b>	Note	Noted	Note																																																	
M2.6	Note: Groundwater monitoring has not been formally included in the licence. However, the licensee is required to undertake groundwater monitoring in accordance with the Department of Planning and Environment approved "Stage 2 Water Management Plan" required under Schedule 4, condition 18 of the Project Approval (08_0144) for the Stage 2 project. The results of this monitoring are required to be reported in the Annual Review.	Water Management Plan, Issue 4, March 2013	Groundwater monitoring is conducted in accordance with the Water Management Plan and is reported in Annual Reviews.	C																																																	
M2.7	For the purposes of the table(s) above Special Frequency 3 means the collection of samples as soon as practicable after each discharge commences from point NR1 and in any case not more than 4 hours after each discharge.	Note	Noted	Note																																																	
<b>M3 Testing Methods – Concentration Limits</b>																																																					
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: <ul style="list-style-type: none"> <li>a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or</li> <li>b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or</li> <li>c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.</li> </ul>	ALS Current Best Method Documentation, dated 7 June 2019	The ALS Current Best Method Documentation describes the sampling procedure as per Australian Standard 3580.10.1:2003 as required under Sampling Method AM-19.	C																																																	
M3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the	ALS Current Best Method Documentation, dated 7 June 2019	Air quality monitoring is being conducted using approved methods.	C																																																	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																																													
	Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted. Note: <i>The Protection of the Environment Operations (Clean Air) Regulation 2010</i> requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".		Note: no sampling of waters has been conducted during the audit period.																																															
<b>M4 Weather Monitoring</b>																																																		
<b>M4.1</b>	<p><b>Requirement to monitor weather</b></p> <p>For each monitoring point specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the parameter specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns:</p> <p><b>Point W1:</b></p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Units of Measure</th> <th>Frequency</th> <th>Averaging Period</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Rainfall</td> <td>mm</td> <td>Continuous</td> <td>1 hour</td> <td>AM-4</td> </tr> <tr> <td>Wind speed @ 10 metres</td> <td>m/s</td> <td>Continuous</td> <td>15 minute</td> <td>AM-2 &amp; AM-4</td> </tr> <tr> <td>Wind direction @ 10 metres</td> <td>°</td> <td>Continuous</td> <td>15 minute</td> <td>AM-2 &amp; AM-4</td> </tr> <tr> <td>Temperature @ 2 metres</td> <td>°C</td> <td>Continuous</td> <td>15 minute</td> <td>AM-4</td> </tr> <tr> <td>Temperature @ 10 metres</td> <td>°C</td> <td>Continuous</td> <td>15 minute</td> <td>AM-4</td> </tr> <tr> <td>Sigma theta @ 10 metres</td> <td>°</td> <td>Continuous</td> <td>15 minute</td> <td>AM-2 &amp; AM-4</td> </tr> <tr> <td>Solar radiation</td> <td>W/m2</td> <td>Continuous</td> <td>15 minute</td> <td>AM-4</td> </tr> <tr> <td>Additional requirements - siting - measurement</td> <td></td> <td></td> <td></td> <td>AM-1 &amp; AM-4 AM-2 &amp; AM-4</td> </tr> </tbody> </table>	Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method	Rainfall	mm	Continuous	1 hour	AM-4	Wind speed @ 10 metres	m/s	Continuous	15 minute	AM-2 & AM-4	Wind direction @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4	Temperature @ 2 metres	°C	Continuous	15 minute	AM-4	Temperature @ 10 metres	°C	Continuous	15 minute	AM-4	Sigma theta @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4	Solar radiation	W/m2	Continuous	15 minute	AM-4	Additional requirements - siting - measurement				AM-1 & AM-4 AM-2 & AM-4	Sentinex Weather Station Calibration Report, dated 7 February 2019	The weather station was observed to monitor required parameters via unit of method and averaging period in real-time.  According to the Sentinex Weather Station Calibration reports, the weather stations are calibrated to <i>AS3580.14-2011: Methods for sampling and analysis of ambient air, Part 14: Meteorological monitoring for ambient air quality monitoring applications.</i>	C	
Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method																																														
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Additional requirements - siting - measurement				AM-1 & AM-4 AM-2 & AM-4																																														
<b>M5 Recording of pollution complaints</b>																																																		
M5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Complaint Register 2017, 2018 and 2019	Noted to comply.	C																																														
M5.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint;	Complaint Register 2017, 2018 and 2019	Noted to comply.	C																																														

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations								
	e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.												
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Complaint Register 2015, 2016, 2017, 2018 and 2019	Noted to comply.	C									
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Note	Noted	Note									
<b>M6 Telephone complaints line</b>													
M6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Via website: <a href="http://www.whitehavencoal.com.au/sustainability/environmental-management/narrabri-mine/">http://www.whitehavencoal.com.au/sustainability/environmental-management/narrabri-mine/</a>	Complaints number is available on company website, 0447 934 755. All complaints go directly to the site Environment Superintendent.	C									
M6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Via website: <a href="http://www.whitehavencoal.com.au/sustainability/environmental-management/narrabri-mine/">http://www.whitehavencoal.com.au/sustainability/environmental-management/narrabri-mine/</a>	Complaints number is available on company website, 0447 934 755. All complaints go directly to the site Environment Superintendent.	C									
M6.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Note	Noted	Note									
<b>M7 Noise monitoring</b>													
M7.1	For each monitoring point specified below, the Licensee must monitor the noise or vibration parameter specified in Column 1. The Licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns.  <b>POINTS: N5, N6, N7 and N8</b> <b>Auditor Note:</b> N7 was removed on 19 January 2017	Monitoring Reports 2016, 2017 and 2018SLR	Monitoring was conducted on a quarterly basis for Points N5, N6, N7, N8 and N9 during the audit period. It is noted that quarterly monitoring at Point N8 commenced in September 2019 as prior to this, surface activities had not been conducted in the eastern end of the southern longwall panels.	C									
	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>Ambient noise</td> <td>LAeq (15 minute) LAmax LA1 LA10 LA90 LAmin</td> <td>Quarterly monitoring as details in the most recently approved "Noise Management Plan" for the premises.</td> <td>As detailed in the most recently approved "Noise Management Plan" for the premises.</td> </tr> </tbody> </table>	Parameter	Units of measure	Frequency	Sampling method	Ambient noise	LAeq (15 minute) LAmax LA1 LA10 LA90 LAmin	Quarterly monitoring as details in the most recently approved "Noise Management Plan" for the premises.	As detailed in the most recently approved "Noise Management Plan" for the premises.				
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M7.2	<b>POINT: N10</b>	Note	Noted	Note									
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M7.3	For the purposes of conditions M7.1 and M7.2 the monitoring locations are described as:	Note	Noted	Note									
	<table border="1"> <thead> <tr> <th>EPA ID no.</th> <th>Description of location</th> </tr> </thead> <tbody> <tr> <td>N5</td> <td>Within 30 metres of the residence on the property "Oakleigh"</td> </tr> <tr> <td>N6</td> <td>Within 30 metres of the residence on the property "Newhaven"</td> </tr> </tbody> </table>	EPA ID no.	Description of location	N5	Within 30 metres of the residence on the property "Oakleigh"	N6	Within 30 metres of the residence on the property "Newhaven"						
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Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations						
	<table border="1"> <tr> <td>N8</td> <td>Within 30 metres of the residence on the property "Haylin View"</td> </tr> <tr> <td>N10</td> <td>Portable Monitor</td> </tr> <tr> <td>N9</td> <td>Within 30 metres of the residence on the property "High Range"</td> </tr> </table> <p>Note: Monitoring at N8 to commence when surface activities approach the eastern end of the southern longwall panels.</p> <p>Note: N10 is a portable monitor enabling the monitor to be relocated to areas of potential greatest impact. The licensee is responsible to ensure that it is located at the most suitable location.</p>	N8	Within 30 metres of the residence on the property "Haylin View"	N10	Portable Monitor	N9	Within 30 metres of the residence on the property "High Range"				
N8	Within 30 metres of the residence on the property "Haylin View"										
N10	Portable Monitor										
N9	Within 30 metres of the residence on the property "High Range"										
M7.4	<p>To assess compliance with the noise limits presented in the Noise Limits table, attended noise monitoring must be undertaken in accordance with the condition titled Determining Compliance, outlined above, and:</p> <ol style="list-style-type: none"> <li>at each one of the monitoring locations N5, N6, N8 and N9;</li> <li>occur Quarterly in a reporting period;</li> <li>occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of: <ol style="list-style-type: none"> <li>1.5 hours during the day;</li> <li>30 minutes during the evening; and</li> <li>1 hour during the night.</li> </ol> </li> <li>occur for three consecutive operating days.</li> </ol>	EPL Monitoring Reports for 2016 to 2019 Global Acoustics and SLR Noise Monitoring Reports, 2017 to 2019	Quarterly monitoring reports were available for review dated between May 2017 and October 2019. The scope of these assessments were noted to align with the requirements outlined in Condition M7.1.	C							

#### 6 Reporting Conditions

R1.1	<p>The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:</p> <ol style="list-style-type: none"> <li>a Statement of Compliance,</li> <li>a Monitoring and Complaints Summary,</li> <li>a Statement of Compliance - Licence Conditions,</li> <li>a Statement of Compliance - Load based Fee,</li> <li>a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,</li> <li>a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and</li> <li>a Statement of Compliance - Environmental Management Systems and Practices.</li> </ol> <p>At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.</p>	Annual Returns for 2016-2017, 2017-2018 and 2018-2019.	Noted to be compliant.	C	
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	Annual Returns for 2016-2017, 2017-2018 and 2018-2019.	Noted to be compliant.	C	
R1.3	<p>Where this licence is transferred from the licensee to a new licensee:</p> <ol style="list-style-type: none"> <li>the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and</li> <li>the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.</li> </ol>	Note	Not triggered	NT	



Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	Note	Not triggered	NT	
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	2018-2019 Annual Return	The reporting period under the EPL is 20 February to 19 February each year, given this, the Annual Return for the 2018-19 reporting period was required to be submitted to EPA on 21 April 2019. NOCPL submitted the Annual Return on the 7 May 2019. NOCPL received an Official Caution letter from the EPA dated 24 October 2019.	ANC	No action required, the Annual Return has been submitted to EPA.
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Annual Returns for 2015-2016, 2016-2017, 2017-2018 and 2018-2019.	Not to be compliant.	C	
R1.7	Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder. Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period. Note: An application to transfer a licence must be made in the approved form for this purpose.	Annual Returns for 2015-2016, 2016-2017, 2017-2018 and 2018-2019.	Noted to be signed by Company Directors.	C	
<b>R2 Notification of environmental harm</b>					
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	NCO, email to EPA dated 2 October 2019	Notification under Condition R2.1 was made to EPA in relation to the noise exceedance that occurred on 4 September 2019 during attended noise monitoring conducted by SLR. The Noise Monitoring Report was received on 30 September 2019 and Notification was made to EPA (reference number EPA103920) on 30 September 2019.	C	
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	NCO, email to EPA dated 8 October 2019	Evidence provided indicates that notifications are provided within the required timeframes.	C	
<b>R3 Written Report</b>					
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	EPA, Clean-up Letter 1578807 dated 30 April 2019 EPA, Clean-up Letter 1580984 dated 13 June 2019 EPA, Show Cause Letter 1584348 dated 17 October 2019 EPA, Notice to Provide Information and/or Records 1586941 dated 16 October 2019	The Auditor understands that no requests have been made by an authorised officer of the EPA under this Condition. A number of requests were made from the EPA under relevant sections of the POEO Act 1997 via other mechanisms (Clean-up Letters and Show Cause Letters).	NT	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	Note	Noted	NT	
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	Note	Noted	NT	
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Note	Noted	NT	
<b>R4 Other reporting conditions</b>					
R4.1	A noise compliance assessment report must be submitted to the EPA within thirty (30) days of the completion of the quarterly noise monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include: a) an assessment of compliance with noise limits detailed in the limit conditions of this licence; and b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits detailed in the limit conditions of this licence.	SLR Noise Monitoring Report dated 3 <sup>rd</sup> October 2019 NCO email to EPA dated 8 <sup>th</sup> October 2019	Report was submitted to the EPA on the 8 <sup>th</sup> October 2019 following receipt on 3 <sup>rd</sup> October 2019.	C	
<b>7 General Conditions</b>					
G1.1	Copy of licence kept at the premises or plant G1.1 A copy of this licence must be kept at the premises to which the licence applies.	Observed onsite	A hard copy of the licence is kept with the Environmental Superintendent.	C	
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Note	Noted	Note	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Note	Noted	Note	
<b>8 Special Conditions</b>					
<b>E1</b>	<b>Quality Assurance and Verification Report</b>				
	Prior to the commissioning of the Brine Storage Ponds (approved per Stage 2 Development Consent 08_0144), the licensee must provide the EPA Armidale office with an "as constructed" report, produced by an experienced and qualified engineer. The report must include detailed design plans for the ponds and illustrate the use of low permeability layers to manage mine waters generated by the project. The report also must include a detailed Quality Assurance/Quality Control program that was used throughout the construction of the ponds.	Note	Not triggered.	NT	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
<b>E2</b>	<b>Noise Impacts</b>				
	<p>Noise impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be addressed by:</p> <p style="padding-left: 20px;">a) documenting noise complaints received to identify any higher level of impacts or wind patterns;</p> <p>where levels of noise complaints indicated a higher level of impact then actions to quantify and ameliorate any enhanced impacts where wind speed exceeds 3 metres per second at 10 metres above the ground should be developed and implemented.</p>	Complaints Register 2016 to 2019	NCO advised that wind speed is checked when complaints are received to determine whether actions are required to quantify and ameliorate any enhanced actions where wind speed exceeds 3 metres per second at 10 metres above the ground. However, the complaints register reviewed did not make reference to wind speed data at the time of complaints. In addition, there is no process or procedure that requires the wind speed to be documented when a complaint is made nor for additional actions to be raised in accordance with this conditions.	NC	A process or procedure should be developed to ensure that wind speed is recorded on the complaints register at the time of the complaint and appropriate action taken.





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**TABLE C1 – MINING LEASE**

Compliance Assessment – Mining Lease 1609

<b>Document details</b>	
Document title	Table C1 – Mining Lease
Document subtitle	Compliance Assessment – Mining Lease 1609
Project No.	0532817
Date	31 January 2020
Version	1.1
Author	Heather Mckay, Peter Gleadhill
Client Name	Whitehaven Coal Limited



No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<b>Notice to Landholders</b>					
1	<p>Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.</p> <p>If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.</p>	Note	Not triggered during this audit period, last amendment to the Mining Lease took effect on 1 July 2014.	NT	
<b>Environmental Harm</b>					
2	The proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the development.		There were no recorded discharges of mine affected water from the site during the audit period. The Auditor notes that a number of non-compliances have been raised against Exploration Lease, however, this is outside of the Audit scope.	C	
<b>Mining Operations Plan</b>					
3a	Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries.	2018 Annual Review	The Annual Review 2018 refers to a non-compliance with this condition due to NCOPL being required under the MOP to complete additional testing of the Reject Emplacement Area (REA) by 28 November 2018. The Annual Review notes that additional testing had commenced but had not been completed within the specified timeframe. A Direction Notice issued by the Resources Regulator required the additional sampling to be completed by 31 July 2019. The report was prepared by ATC Williams and submitted to the Resources Regulator on 31 July 2019.	ANC	No action required, additional testing has been completed.
3b	<p>The MOP must:</p> <p>(i) identify areas that will be disturbed by mining operations;</p> <p>(ii) detail the staging of specific mining operations;</p> <p>(iii) identify how the mine will be managed to allow mine closure;</p> <p>(iv) identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;</p> <p>(v) reflect the conditions of approval under:</p> <ul style="list-style-type: none"> <li>• the <i>Environmental Planning and Assessment Act 1979</i></li> <li>• the <i>Protection of the Environment Operations Act 1997</i></li> <li>• and any other approvals relevant to the development including the conditions of this lease; and</li> </ul> <p>(vi) have regard to any relevant guidelines adopted by the Director-General.</p>	Mining Operations Plan (MOP) dated 6 November 2017 Narrabri Coal Mine MOP Approval Letter dated 28 November 2017	The approved MOP adequately addresses the requirements of this condition.	C	
3c	The titleholder may apply to the Director-General to amend an approved MOP at any time.	Mining Operations Plan (MOP) dated 9 October 2019 Narrabri Coal Mine MOP Amendment A_Approval Letter dated 28 November 2019	Noted, the MOP was last amended on 9 October 2019 and was approved by the Department of Planning, Industry & Environment on 28 November 2019.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3d	It is not a breach of this condition if: (i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the <i>Mining Act 1992, the Environmental Planning and Assessment Act 1979, Protection of the Environment Operations Act 1997 or the Occupational Health and Safety Act 2000; and</i> (ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.	Interview – Environmental Superintendent	No breaches reported during audit period.	C	
3e	A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director General.	Narrabri Coal Mine MOP Amendment A_ Approval Letter dated 28 November 2019	The MOP is approved by the Department until 30 November 2020.	C	
<b>Environment Management Reporting</b>					
4	The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.	2016 Annual Review 2017 Annual Review 2018 Annual Review	Annual Reviews have been prepared and submitted as required by the Project Approval during the audit period. Note the Annual Review for 2019 is to be submitted in Q1 2020.	C	
5	a) report against compliance with the MOP; b) report on progress in respect of rehabilitation completion criteria; c) report on the extent of compliance with regulatory requirements; and d) have regard to any relevant guidelines adopted by the Director-General;	2016 Annual Review 2017 Annual Review 2018 Annual Review	The Annual Reviews prepared during the audit period adequately address the requirements of this condition.	C	
6	Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.	Directions Notice 0847 2018 dated 21 December 2018 NCOPL response to DI 0847 2018 dated 30 July 2019 NCOPL response to DI 0847 2018 dated 29 August 2019	The Resources Regulator issued Directions Notice 0847 2018 in accordance with Section 240(1)(C) to NCOPL dated 21 December 2018. NCOPL were noted to respond to all directions within the Notice within the required timeframes but are yet to receive a response from the Resources Regulator.	C	
<b>Rehabilitation</b>					
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	2016 Annual Review 2017 Annual Review 2018 Annual Review	Refer to CoA, Condition 5, progressive rehabilitation was undertaken during the audit period and examples sighted by the auditor. Rehabilitation performance against goals is reported in the Annual Reviews.	C	
<b>Subsidence Management</b>					
8	(a) The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc.), and pillar extractions. and are otherwise defined by the <i>Applications for Subsidence Management Approvals guidelines (EDG17)</i> (c) The lease holder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Director-General, an approval under the Mine Health & Safety Act 2004, or the document <i>New Subsidence Management Plan Approval Process - Transitional Provisions (EDP09)</i> .	Subsidence Management Plan	The SMP was approved by the DG on 13 April 2012	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(d) Subsidence Management Plans are to be prepared in accordance with the <i>Guideline for Applications for Subsidence Management Approvals</i> . (e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 2 and will be subject to the Annual Environmental Management Report process as set out under Condition 3. The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document <i>New Approval Process for Management of Coal Mining Subsidence - Policy</i> .				
<b>Working Requirement</b>					
9	The lease holder must: (a) ensure that at least 212 competent people are efficiently employed on the ease area on each week day except Sunday or any week day that is a public holiday, OR (b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than \$3,710,00 per annum whilst the lease is in force. The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.	CCC Meeting Minutes, June 2018 and September 2019.  Interview – Environmental Superintendent	Sample CCC meeting minutes for June 2018 and September 2019 confirm that direct employment numbers at NCO were in excess of 240 with an additional workforce of over 200 contractors.  NCOPL also confirmed that monthly expenditure exceeds \$3.7m.	C	
<b>Control of Operations</b>					
10	(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:- (i) cease working the lease; or (ii) cease that part of the operation not complying with the Act or conditions; until in the opinion of the Environmental Officer the situation is rectified. (b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction. (c) A direction referred to in this condition may be served on the Mine Manager.	Note	Noted	Note	
<b>Reports</b>					
11	The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following; (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period; (b) Details of expenditure incurred in conducting that exploration; (c) A summary of all geological findings acquired through mining or development evaluation activities; (d) Particulars of exploration proposed to be conducted in the next twelve months period; (e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.	Annual Exploratory Reports 2017, 2018, 2019	Annual exploratory reports reviewed for the audit period adequately meet the requirements of this condition.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<b>Licence to Use Reports</b>					
12	(a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright. (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.	Note	Noted	Note	
<b>Confidentiality</b>					
13	(a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where: (i) the lease holder has agreed that specified reports may be made non-confidential. (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease. (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated. (c) The Director-General may extend the period of confidentiality.	Note	Noted	Note	
<b>Terms of the non-exclusive licence</b>					
14	The terms of the non-exclusive copyright licence granted under condition 12 are: (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports. (b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database. (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright. (d) there is no royalty payable by the Minister for the licence. (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months' notice.	Note	Noted	Note	
<b>Blasting</b>					
15a	<b>Ground Vibration</b> The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Climate Change.	Interview – Environment Superintendent	No blasting took place during the audit period.	NT	
15b	<b>Blast Overpressure</b> The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and Climate Change.	Interview – Environment Superintendent	No blasting took place during the audit period.	NT	
<b>Safety</b>					
16	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.		Safety not subject of IEA	Note	
<b>Exploratory Drilling</b>					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
17 (1)	At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Climate Change and Environment regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.	Notification emails	A total of four notifications were submitted to the Department of Resources & Energy prior to exploratory drilling during the audit period as summarised below: <ul style="list-style-type: none"> <li>• 14 October 2016 for drilling conducted in 2017</li> <li>• 25 October 2016 for drilling conducted in 2017</li> <li>• 9 July 2018 for drilling conducted in 2019</li> <li>• 23 July 2018 for drilling conducted in 2019</li> </ul>	C	
17 (2)	If the lease holder drills exploratory drill holes he must satisfy the Director-General that:- <ol style="list-style-type: none"> <li>a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;</li> <li>b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;</li> <li>c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;</li> <li>d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;</li> <li>e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.</li> <li>f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.</li> <li>g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.</li> </ol>	Notification emails Sample cementing records: NC719C, NC 757, NC715	Sample cementing records reviewed for wells NC719C, NC757, NC715.	C	
<b>Prevention of Soil Erosion and Pollution</b>					
18	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	Refer to CoA Condition 4.6. Annual Reviews 2016, 2017, 2018	With the exception of exceedances of dust criteria during dust storm events as discussed under CoA Condition 4.6, no recorded discharges of mine affected water or exceedances of air quality criteria recorded during the reporting period.	C	
<b>Transmission lines, Communication lines and Pipelines</b>					
19	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.	2016 IEA	Transmission line work was undertaken outside of audit period	NT	
<b>Fences, Gates</b>					
20	(a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate. (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	Interview – Environmental Superintendent	No fences removed in the mining lease location. NCOPL are the landholders in which the mining lease applies.	NT	
<b>Roads and Tracks</b>					
21	(a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate. (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.	Interview – Environmental Superintendent	Not triggered. Greylands Road is under mine ownership. There is no mine related infrastructure on Scratch Road and it is noted to largely be covered under the exploration lease.	NT	
22	Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Climate Change and Environment.	Interview – Environmental Superintendent	Tracks and drill pads are planned in accordance with disturbance limit. Gravel reused when access tracks are removed and rehabilitated along with other rehabilitation areas.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
<b>Trees and Timber</b>					
23	<p>(a) The lease holder must not fell trees, strip bark or cut limber on the lease without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden.</p> <p>(b) The lease holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the Native Vegetation Act 2003.</p> <p>(c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.</p>	Interview – Environmental Superintendent	<p>NCOPL is the landholder of the Mining Lease area.</p> <p>State forest is mostly on Exploration Lease area. No timber removed from Crown land at Scratch Road.</p>	C	
<b>Resource Recovery</b>					
25a	Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.	Interview – Environmental Superintendent	No such requests have been made.	NT	
25b	The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.	Interview – Environmental Superintendent	No such requests have been made.	NT	
25c	The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.	Interview – Environmental Superintendent	No such requests have been made.	NT	
25d	The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.	Interview – Environmental Superintendent	No such requests have been made.	NT	
25e	The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.	Interview – Environmental Superintendent	No such requests have been made.	NT	
25f	After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.	Interview – Environmental Superintendent	No such requests have been made.	NT	
<b>Indemnity</b>					
26	The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.	Interview – Environmental Superintendent	\$25M public liability insurance for any one occurrence dated 30 September 2019 from SRS Broking Pty Limited.	C	
<b>Security</b>					
27a	A security in the sum of \$100,000 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.	2016 IEA	Verified in previous IEA	C	



No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
27b	The lease holder must provide the security required by sub-clause (a) in one of the following forms: (i) cash, (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.	2016 IEA	Verified in previous IEA	C	
<b>Trigonometrical Stations and Survey Marks</b>					
28	A person must not remove, damage, destroy, displace, obliterate or deface any marks in connection with any trigonometrical station, permanent mark or survey mark unless authorized to do so by the Surveyor-General.	Interview – Environmental Superintendent	No damage or impact to a trigonometrical station, permanent mark or survey mark is understood to have occurred as a result of operations.	NT	

## **APPENDIX B DEPARTMENTAL CORRESPONDENCE**



Mr Lynden Cini  
Ground Superintendent - Environment  
Whitehaven Coal Limited  
231 Conadilly St  
GUNNEDAH NSW 2380

Contact: James Epstein  
Phone: 02 6670 8650  
Email: [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)  
Our Ref: PA 08\_0144

Dear Mr Cini

### **Narrabri Coal Project – Independent Environmental Audit 2019**

Reference is made to correspondence from Whitehaven Coal Limited (WCL) dated 6 September 2019 seeking approval of the audit team for the upcoming Independent Environmental Audit (IEA) required by Schedule 6 Condition 7 of Project Approval 08\_0144 (the Approval) for the Narrabri Coal Project.

The Secretary has considered WCL's request and approves the following audit team for the 2019 IEA:

- Heather McKay – Lead Auditor
- Wei-Lin Chen Yi Mei – Support Auditor
- Peter Gleadhill – Alternate Support Auditor
- Adriaan Benson – Subsidence Specialist
- Nathan Lynch – Acoustics Engineer
- Wijnand (Vey) Germson – Hydrogeologist
- Oliver Moore – Technical Review

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

Further, in accordance with Schedule 6, Condition 7 of the Approval, the Secretary requires that in undertaking the IEA, the Auditor:

- Consult with the following agencies prior to the IEA site inspection, with all matters raised to be clearly tabulated and addressed in the IEA report:
  - Department of Planning and Environment;
  - Department of Planning and Environment – Resources Regulator – Division of Resources and Geoscience;
  - Environmental Protection Authority;
  - Department of Industry – Crown Lands and Water;
  - Office of Environment and Heritage;

- Narrabri Shire Council; and
- Narrabri Coal Mine Community Consultative Committee.
- Only use the compliance status descriptors “compliant”, “non-compliant” or “not triggered”. The terms “partial compliance”, “partial non-compliance”, “not verified” or other similar terms are not to be used; and
- Recommends actions to address each non-compliance identified and any additional opportunities for improvement.

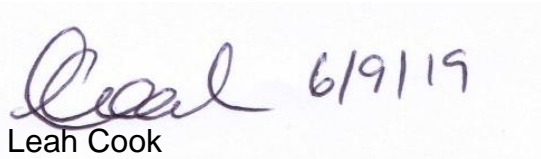
Further, Schedule 6 Condition 8 of the Approval requires that the IEA, along with any Responses to Recommendations (RAR), be submitted to the Secretary within 6 weeks of completing the Audit.

It is noted that the IEA site inspection is proposed to be undertaken in early December 2019 making submission due in mid-January. In this instance, due to the timing of a two-week shutdown, an extension to the submission, of the IEA report and RAR (which is to include target dates for the completion of proposed actions in DDMMYYYY format) is permitted.

The IEA and RAR shall be submitted to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) by **7 February 2020**, or as otherwise agreed by the Secretary.

Should you need to discuss the above, please contact James Epstein on (02) 6670 8650.

Yours sincerely,



Leah Cook  
**Team Leader Compliance**  
As nominee of the Secretary



Mr Lynden Cini  
Ground Superintendent - Environment  
Whitehaven Coal Limited  
231 Conadilly St  
GUNNEDAH NSW 2380

Contact: James Epstein  
Phone: 02 6575 3419  
Email: [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)  
Our Ref: PA 08\_0144

Dear Mr Cini

**Narrabri Coal Project – Independent Environmental Audit 2019**

Reference is made to correspondence from Whitehaven Coal Limited (WCL) dated 25 October 2019 seeking endorsement for an alternative subsidence expert for upcoming Independent Environmental Audit (IEA) required by Schedule 6 Condition 7 of Project Approval 08\_0144 (the Approval) for the Narrabri Coal Project.

The Secretary has considered WCL's request and endorses Mr Gareth Swarbrick in lieu of the previously endorsed subsidence expert.

The IEA is to be conducted in accordance with previous correspondence from the Department dated 6 September 2019.

As previously noted, the IEA and RAR shall be submitted to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) by **7 February 2020**, or as otherwise agreed by the Secretary.

Should you need to discuss the above, please contact James Epstein on the contact details above.

Yours sincerely,

*Watters 25/10/19*

Heidi Watters

**A/Team Leader Compliance**

As nominee of the Secretary

**From:** [Resources Regulator](#)  
**To:** [Heather McKay](#)  
**Subject:** AREQ0004947 | Narrabri Colliery | Enquiry | Other Enquiry | 07 Nov 2019 18:33:12  
**Date:** Friday, 15 November 2019 10:44:26 AM  
**Attachments:** [NSW Gov Logo 7k.jpg](#)  
[ERM Narrabri 2019.pdf](#)

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Dear Heather McKay,

In response to your email dated 7 November 2019, please find attached a letter outlining the Regulator's requirements for an independent audit of the Narrabri Mine.

Regards,

**Jennifer Ehmsen**

Principal Compliance Auditor

Compliance Coordination | Resources Regulator

T 4063 6443 M 0438 735 010



Ref:MSG0124827\_Y87f8xJ75w3h7aWXMnq9



**From:** [Michelle Henry](#)  
**To:** [Heather McKay](#)  
**Cc:** [LCini@whitehavencoal.com.au](#); [BrentBaker@whitehavencoal.com.au](#); [Oliver Moore](#); [Peter Gleadhill](#)  
**Subject:** FW: Whitehaven Coal Narrabri Mine Independent Environmental Audit 2019  
**Date:** Wednesday, 13 November 2019 12:58:47 PM  
**Attachments:** [image001.jpg](#)  
[Council Response to ERM Environmental Audit 2019 Whitehaven.pdf](#)

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Good afternoon Heather,

Further to your email correspondence below, please see attached Council's response as requested.

Should you have any questions, or require further information, please contact Council's Executive Manager Planning and Environment, Mr Daniel Boyce, on (02) 6799 6866.

Kind Regards,

**Michelle Henry**

*Assistant Town Planner*

Narrabri Shire Council

02 6799 6866

[michelleh@narrabri.nsw.gov.au](mailto:michelleh@narrabri.nsw.gov.au)



<http://www.narrabri.nsw.gov.au/files/uploaded/image/nscoutlooksignature/footer01.png>



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**From:** Heather McKay <[Heather.McKay@erm.com](mailto:Heather.McKay@erm.com)>

**Sent:** Thursday, 7 November 2019 6:19 PM

**To:** [council@narrabri.nsw.gov.au](mailto:council@narrabri.nsw.gov.au)

**Cc:** Lynden Cini ([LCini@whitehavencoal.com.au](mailto:LCini@whitehavencoal.com.au)) <[LCini@whitehavencoal.com.au](mailto:LCini@whitehavencoal.com.au)>; Brent Baker <[BrentBaker@whitehavencoal.com.au](mailto:BrentBaker@whitehavencoal.com.au)>; Oliver Moore <[Oliver.Moore@erm.com](mailto:Oliver.Moore@erm.com)>; Peter Gleadhill <[Peter.Gleadhill@erm.com](mailto:Peter.Gleadhill@erm.com)>

**Subject:** Whitehaven Coal Narrabri Mine Independent Environmental Audit 2019

Attn: Bileen Mell

Hi,

I am currently completing the Independent Environmental Audit (IEA) on the Conditions of Approval issued to Whitehaven Coal Narrabri Mine, PA 08\_0144.

One of the requirements of the audit is that it is to be undertaken in consultation with relevant agencies. To that end, this email invites you to raise any questions or concerns regarding this project from an environmental management aspect.

The attached Terms of Reference outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. The site inspection will be completed over the period 2-4 December 2019, therefore it would be appreciated if there are any concerns, areas of focus etc., they are raised by 21 November 2019.

I can be contacted at the details outlined below to discuss further.

Kind regards,  
Heather

Heather McKay  
Senior Environmental and Social Governance Consultant

**ERM**

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**From:** [Heidi Watters](#)  
**To:** [Heather McKay](#)  
**Cc:** [James Epstein](#)  
**Subject:** RE: Whitehaven Coal Independent Environmental Audit 2019  
**Date:** Friday, 15 November 2019 11:08:18 AM  
**Attachments:** [image002.jpg](#)  
[image003.jpg](#)

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Hi Heather

Thanks for your email regarding agency consultation for the upcoming Narrabri Coal Mine IEA.

Areas of interest for DPIE Planning Compliance are:

- Adequacy of actions to address recommendations of the 2016 IEA, and the status of all actions.
- Noise management and adequacy of responses to real time noise alarms, responses to noise complaints, and any recommendations for improvement to these processes.
- Appropriateness of monitoring locations (air, noise and blast) – are the locations representative of the current neighbouring private residences and are monitors sited in accordance with the relevant standards?
- Predicted (EA) air quality and noise impact compared to actual monitoring results.
- Predicted (EA) mining footprint and rehabilitation compared to actual (current) mine footprint and rehabilitation.
- Adequacy of visual screening.
- Complaints management, particularly adequacy of responses to complaints during the IEA period and actions taken by Narrabri Coal/Whitehaven to reduce the number of repeat complainants.

Please call if you require any clarification of the above.

Regards

**Heidi Watters**  
**Team Leader Compliance**

Planning & Assessment | Department of Planning, Industry and Environment  
**T** 02 6575 3401 | **M** 0472 820 374 | **E** [heidi.watters@planning.nsw.gov.au](mailto:heidi.watters@planning.nsw.gov.au)  
PO Box 3145 | Singleton NSW 2330

Please direct all email correspondence to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)

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

cid:image002.jpg@01D52FF8.8D0E30D0



*The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.*

---

**From:** Joel Curran <Joel.Curran@planning.nsw.gov.au> **On Behalf Of** DPE PSVC Compliance Mailbox  
**Sent:** Friday, 8 November 2019 7:27 AM  
**To:** Heidi Watters <Heidi.Watters@Planning.nsw.gov.au>  
**Subject:** FW: Whitehaven Coal Independent Environmental Audit 2019

---

**From:** Heather McKay <[Heather.McKay@erm.com](mailto:Heather.McKay@erm.com)>  
**Sent:** Thursday, 7 November 2019 6:18 PM  
**To:** James Epstein <[James.Epstein@planning.nsw.gov.au](mailto:James.Epstein@planning.nsw.gov.au)>; DPE PSVC Compliance Mailbox <[compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)>  
**Cc:** Lynden Cini (<[LCini@whitehavencoal.com.au](mailto:LCini@whitehavencoal.com.au)> <[LCini@whitehavencoal.com.au](mailto:LCini@whitehavencoal.com.au)>); Brent Baker <[BrentBaker@whitehavencoal.com.au](mailto:BrentBaker@whitehavencoal.com.au)>; Oliver Moore <[Oliver.Moore@erm.com](mailto:Oliver.Moore@erm.com)>; Peter Gleadhill <[Peter.Gleadhill@erm.com](mailto:Peter.Gleadhill@erm.com)>  
**Subject:** Whitehaven Coal Independent Environmental Audit 2019

Hi,

I am currently completing the Independent Environmental Audit (IEA) on the Conditions of Approval issued to Whitehaven Coal Narrabri Mine, PA 08\_0144.

One of the requirements of the audit is that it is to be undertaken in consultation with relevant agencies. To that end, this email invites you to raise any questions or concerns regarding this project from an environmental management aspect.

The attached Terms of Reference outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. The site inspection will be completed over the period 2-4 December 2019, therefore it would be appreciated if there are any concerns, areas of focus etc., they are raised by 21 November 2019.


I can be contacted at the details outlined below to discuss further.

Kind regards,  
Heather

Heather McKay  
Senior Environmental and Social Governance Consultant

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**From:** [Simon Lund](#)  
**To:** [Heather McKay](#)  
**Subject:** RE: Whitehaven Coal Narrabri Mine Independent Environmental Audit 2019  
**Date:** Friday, 29 November 2019 8:51:31 AM  
**Attachments:** [image001.jpg](#)  
[image002.jpg](#)

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Heather,

We have had ongoing environmental issues with this mine over the last 24 months that have led to regulatory action being taken against mine, some of which are very serious in nature and are part of an ongoing major investigation (which we cannot provide comment on).

The issues we are currently addressing include, Waste management, dust, and noise.

We are in the process of placing condition in relation to environmental studies for dust and an algal bloom outbreaks in the brine dam on the EPL. We are also placing a PRP on the EPL requiring a detailed QC/AC study into dust management of coal stockpiles.

Regards

### **Simon Lund**

#### **Senior Operations Officer**

North Branch, NSW Environment Protection Authority  
+61 2 6773 7003 +61 407 102 784

[simon.lund@epa.nsw.gov.au](mailto:simon.lund@epa.nsw.gov.au) [www.epa.nsw.gov.au](http://www.epa.nsw.gov.au)  @EPA NSW

**Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555**



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**From:** Heather McKay <Heather.McKay@erm.com>  
**Sent:** Thursday, 28 November 2019 7:21 PM  
**To:** Simon Lund <Simon.Lund@epa.nsw.gov.au>  
**Subject:** RE: Whitehaven Coal Narrabri Mine Independent Environmental Audit 2019

Hi,

I wanted to provide a reminder about my email below. If you could provide a response no later than 2 December 2019 that would be appreciated.

Regards,

Heather McKay  
Senior Environmental and Social Governance Consultant

#### **ERM**

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**From:** Heather McKay  
**Sent:** Thursday, November 7, 2019 5:19 PM  
**To:** [simon.lund@epa.nsw.gov.au](mailto:simon.lund@epa.nsw.gov.au)  
**Cc:** Lynden Cini ([LCini@whitehavencoal.com.au](mailto:LCini@whitehavencoal.com.au)) <[LCini@whitehavencoal.com.au](mailto:LCini@whitehavencoal.com.au)>; Brent Baker <[BrentBaker@whitehavencoal.com.au](mailto:BrentBaker@whitehavencoal.com.au)>; Oliver Moore <[Oliver.Moore@erm.com](mailto:Oliver.Moore@erm.com)>; Peter Gleadhill <[Peter.Gleadhill@erm.com](mailto:Peter.Gleadhill@erm.com)>  
**Subject:** Whitehaven Coal Narrabri Mine Independent Environmental Audit 2019

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I can be contacted at the details outlined below to discuss further.

Kind regards,  
Heather

Heather McKay  
Senior Environmental and Social Governance Consultant

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