

Whitehaven Coal Limited

**Independent Environmental
Compliance Audit
Narrabri North Coal Mine**

April 2011

Independent Environmental Compliance Audit Narrabri North Coal Mine

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Whitehaven Coal Limited

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1.0 Introduction

1.1 Narrabri North Mine

Whitehaven Coal Limited (Whitehaven) is the leading coal producer in the Gunnedah basin. Whitehaven has one underground and four active open cut mining operations, including the Narrabri North Underground Mine which is the subject of this independent environmental compliance audit.

The Narrabri North Underground Coal Mine is located within the Narrabri Shire, approximately 30 kilometres south-south-east of Narrabri, and 10 kilometres north-north-west of Baan Baa. The mine produces a low ash, high energy, low sulphur thermal coal for the export market.

The Narrabri North Underground Mine has proceeded in stages with Stage 1 being approved in 2007 and Stage 2 approved in 2010.

The Narrabri Coal Project - Stage 1 (Project Approval No. 05_0102) was approved by the Minister for Planning on 13 November 2007 and included:

- mining up to 2.5 million tonnes of run-of-mine (ROM) coal by continuous miners over a 25 year period;
- conducting a mining caveability trial;
- constructing and operating surface facilities and infrastructure, including coal screening and crushing, administration facilities and workshops;
- constructing and operating a rail loop and coal loading facilities adjacent to the Narrabri - Gunnedah rail line;
- transporting coal by rail to the Port of Newcastle;
- constructing and operating two access drifts and one ventilation shaft; and
- providing access from the mine site to the Kamilaroi Highway.

The Narrabri Coal Project - Stage 2 (Project Approval No 08_0144) was approved by the Minister for Planning on 26 July 2010 and included:

- establishing longwall mining operations at the Narrabri Coal Mine;
- increasing the maximum production rate from 2.5 to 8.0 Mtpa;
- constructing and operating a range of associated infrastructure including:
 - a coal handling and preparation plant;
 - a ventilation shaft and fan;
 - mine dewatering; and
 - gas drainage facilities.
- a combined water supply/disposal pipeline between the mine site and the Namoi River.

1.2 Independent Environmental Audit

Whitehaven commissioned Umwelt (Australia) Pty Limited (Umwelt) to conduct an independent environmental audit of its Narrabri North operations. The audit was conducted in accordance with Condition 6 of Schedule 4 of the Narrabri Stage 1 Approval, and Condition 7 of Schedule 6 of the Narrabri Stage 2 Approval. The audit assessed the compliance status of Narrabri North against the Project Approvals and other relevant environmental approvals and licences, for operations occurring between January 2008 and February 2011.

The on-site component of the environmental audit was conducted on 1 and 2 February 2011. Some information requested by the audit team but not available on-site at the time of the audit was subsequently provided to the audit team for review. This report provides an outline of the audit methodology and results, and provides recommended actions for achieving full compliance with environmental approvals. The appendices include detailed checklists of the status of compliance with the conditions of the Project Approval, Statement of Commitments, Environment Protection Licence and Mining Lease for the project.

The audit was led by Jenny Ehmsen, Senior Environmental Scientist with the assistance of Rod Williams, Senior Environmental Scientist. Michelle Kirkman, Associate, was the Project Director and provided strategic direction for the audit and reviewed this report.

1.3 Audit Scope

Condition 2 of Schedule 2 of each of the Stage 1 and Stage 2 Approvals provides the Terms of Approval for each stage of the project and identifies that the project shall be carried out generally in accordance with the:

- Environmental Assessment (EA);
- Statement of Commitments; and
- Conditions of the Approval.

In order to assess the level of compliance with the terms of the approvals, Condition 6 of Schedule 4 of the Narrabri Stage 1 Approval, and Condition 7 of Schedule 6 of the Narrabri Stage 2 Approval require that independent environmental audits be carried out.

Specifically, Condition 6 of Schedule 4 of the Narrabri Stage 1 Approval states:

Within 2 years of this approval, and every 3 year thereafter, unless the Director-General directs otherwise, the proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:

- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
- (b) include consultation with 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 and EPL (including any strategy, plan or program under these approvals); and
- (d) review the adequacy of strategies, plans and/or programs required under these approvals; and, if appropriate,
- (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

Notes: This audit team should be led by a suitably qualified auditor, and include experts in the field of water and noise management.

While this audit was due to be commissioned by November 2009, it is understood that the audit was not undertaken and approval was granted by the Department of Planning to allow the Stage 1 audit to be undertaken concurrently with the Stage 2 Audit requirement.

Specifically, Condition 7 of Schedule 6 of the Narrabri Stage 2 Approval states:

Prior to 13 September 2010, and every 3 years thereafter, unless the Director-General 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:

- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
- (b) include consultation with 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 and EPL (including any strategy, plan or program under these approvals); and
- (d) review the adequacy of strategies, plans and/or programs required under these approvals; and, if appropriate,
- (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

Notes: This audit team should be led by a suitably qualified auditor, and include experts in the field of subsidence water and noise management (other than the 2010 audit which is not required to include a subsidence expert in the audit team).

As required by the Project Approvals, the audit covered the following key areas:

- consultation with relevant agencies;
- the environmental performance of the development, and its effect on the surrounding environment;
- compliance with relevant standards, performance measures and regulatory requirements; and
- the adequacy of the Environmental Management Strategy and environmental management plans/protocols.

Statutory compliance of the Narrabri North operations was ascertained with reference to conditions and commitments made in the following documents:

- Project Approval Stage 1 (PA 05_0102);
- Environmental Assessment (EA) titled Environmental Assessment Narrabri Coal Project, (RW Corkery April 2007);
- Response to Public and Government Agency Submissions Provided by the Department of Planning (RW Corkery and Co Pty Limited June 2007);
- Project Approval Stage 2 (PA 08_0144);
- Environmental Assessment (EA) titled Environmental Assessment Narrabri Coal Mine Stage 2 Longwall Project, (RW Corkery 2009);
- Environmental Management Strategy (December 2007);
- Energy Savings Action Plan (September 2008);

- Noise Monitoring Program incorporating a Noise Management Protocol and Noise Monitoring Program (December 2007);
- Noise Management Plan (May 2010);
- Construction Phase Surface Water Management Plan (February 2008);
- Site Water Management Plan (June 2010);
- Waste Management Plan (December 2007);
- Air Quality Monitoring Program incorporating an Air Monitoring Protocol (December 2007);
- Blast Monitoring Program (December 2007);
- Greenhouse Gas Minimisation Plan (draft November 2009);
- Aboriginal Cultural Heritage Management Plan (December 2007);
- Landscape Management Plan (September 2009);
- Environmental Protection Licence (No. 12789); and
- Mining Lease No 1609.

Additionally, the following plans were reviewed which were not specifically required by the conditions of the Project Approval but which were prepared by NCM to guide the environmental management of the operations.

- Mining Operations Plan for the Construction and Continuous Miner Development of Stage 1 of the Narrabri Coal Mine (June 2010);
- Spontaneous Combustion Management Plan (December 2007); and
- Stockpile Management Plan (April 2010).

1.4 Structure of this Document

This report contains the following sections:

- *Section 1.0 – Introduction.* An overview of the North Narrabri Coal Mine Project and purpose and scope of the audit.
- *Section 2.0 – Audit Process.* A detailed description of the audit process.
- *Section 3.0 – Audit Findings.* An overview of the findings of the audit, including detailed descriptions of any non-compliance identified.
- *Section 4.0 – Environmental Performance.* An overview of the environmental performance of the Narrabri North operations, including the findings from the site inspection.
- *Section 5.0 – Conclusion*
- *Appendix 1. Agency Interview Questions.*

- *Appendices 2 to 6.* Checklists of relevant approval documentation including the Project Approvals, Statements of Commitments, EPL, and mining lease applying to the project. The checklists provide a detailed review of each compliance condition applying to the project.
- *Appendix 8. Photographic Plates.* Photographs of key site features referred to in this report.

2.0 Audit Methodology

The audit process involved the interview of personnel and relevant regulatory agencies, a review of documentation and samples of records provided by NCM and a site inspection of the Narrabri North operations to determine the level of environmental performance and compliance of the project. The audit process is described in more detail in **Sections 2.1 to 2.5**.

2.1 Preliminary Document Review

Prior to the audit, environmental documentation associated with the Narrabri North mining operations was reviewed by the auditors. This involved a review of the EA and Project Approval for each stage and the management plans that have been prepared to guide the environmental management of the operations.

2.2 Agency Consultation

As part of the audit process, interviews were undertaken with relevant government agency staff with a regulatory role relating to the project. The views of these agencies in relation to the project were determined through phone interviews. These phone interviews consisted of an Umwelt representative asking a standard set of questions which are provided in **Appendix 1**. A summary of the phone interviews is provided in **Section 3.2**.

2.3 Site Interviews and Inspections

2.3.1 Opening Meeting

The opening meeting was held at the Narrabri North Mine office commencing at 8.15 am on 1 February 2011. The participants are outlined in **Table 2.1**.

Table 2.1 - Opening Meeting Attendees

Opening Meeting	Organisation	Title
Danny Young	Whitehaven	Group Environmental Manager
Jill Scealy	Whitehaven	Environmental Officer
Matthew Klein	NCM	Mine Manager
Shane Pegg	NCM	Technical Services Manager
Ben Bomford	NCM	Project Manager
Dean Lawrence	NCM	Commercial Manager
Jenny Ehmsen	Umwelt	Lead Environmental Auditor
Rod Williams	Umwelt	Environmental Auditor

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

particularly those related to the relevant approvals and licences for the Narrabri North operations.

Following the opening meeting, a preliminary site inspection was undertaken to familiarise the audit team with the site and operations.

2.3.2 Audit Interviews

Audit interviews were conducted with Danny Young (Group Environmental Manager), Jill Scealy (Environmental Officer), Shane Pegg (Technical Services Manager) and Ben Bomford (Project Manager) during the site component of the audit on 1 and 2 February 2011.

2.3.3 Data Collection and Verification

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

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

2.3.4 Site Inspections

A detailed site inspection of the key areas of the mine was undertaken as part of the audit. Shane Pegg, Ben Bomford, Danny Young and Jill Scealy accompanied the audit team during the site inspection. Areas inspected during the inspection included:

- the pit top area, including the administration office, workshop, stores and laydown areas;
- the ventilation shaft construction site;
- gas drainage infrastructure, including gas wells, pipelines and gas drainage plant;
- the box cut, including the drift conveyor, box cut sump and ventilation fan;
- CHPP construction site;
- longwall construction pad;
- coal stockpiles;
- rail line and loadout facility;
- hydrocarbon storage facility behind the workshop;
- sewage treatment plant;
- amenity bunds;
- water management structures, including sediment basins and evaporation ponds, diversion drains and waterway crossings; and
- rehabilitation areas.

2.3.5 Closing Meeting

The closing meeting was held at the Narrabri North Mine office commencing at 3.00 pm on 2 February 2011. The participants are outlined in **Table 2.2**.

Table 2.2 - Closing Meeting Attendees

Closing Meeting	Organisation	Title
Danny Young	Whitehaven	Group Environmental Manager
Jill Scealy	Whitehaven	Environmental Officer
Matthew Klein	NCM	Mine Manager
Shane Pegg	NCM	Technical Services Manager
Ben Bomford	NCM	Project Manager
Dean Lawrence	NCM	Commercial Manager
Jenny Ehmsen	Umwelt	Lead Environmental Auditor
Rod Williams	Umwelt	Environmental Auditor

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

2.4 Reporting

Following completion of the site audit, the development consent checklist was completed and audit notes were reviewed in order to compile a list of outstanding matters to be noted in the audit report. This report was prepared to provide an overview of the status of compliance by reference to the relevant compliance documentation and any other observations of the auditors during the site inspections and interviews. This report has been prepared on an exception basis, highlighting any areas where action or improvement is required.

2.5 Definitions

The reporting of results from the compliance audit was determined based on the following definitions.

Compliance

The intent and explicit requirements of the condition have been met. This includes meeting all requirements with respect to consultation (agency or otherwise), timing of actions or activities, the preparation of management plans or other specific requirements of the condition.

The failure to meet any or all of the specific requirements of the condition would result in a non compliance.

Non Compliance

A non compliance occurs when all of the specific requirements of the condition have not been met (i.e. if any sub-component of a requirement is not met (such as timing or consultation), the entire requirement is considered to be non-compliant).

Verification

The inability to provide formal written verification (letter, fax, email, meeting minutes, etc.) that a requirement has been met does not necessarily result in a non compliance. If the auditor is able to verify by other demonstrable means (visual inspection, personal communication, etc.) that a condition has been met then, in most cases, the operation should be considered to be in compliance for that condition.

Note

The intent and explicit requirements of the condition have been met, however further improvement is recommended.

Not Triggered

A condition or requirement has an activation or timing requirement which had not been triggered or completed at the time of the audit and therefore a determination of compliance could not be made. It is recommended that future audits assess compliance of any conditions or requirements that were found to have not been triggered during this audit.

Timing of Environmental Performance

For the purpose of a compliance audit the timeframe for environmental performance against the Environment Protection Licence (EPL) can be divided into two periods:

- the current period which is the time from the beginning of the most recent EPL reporting period to the time the audit is conducted; and
- the historical period, which is the time prior to the most recent EPL reporting period.

3.0 Audit Findings

The detailed findings of the audit are presented in this section. Detailed assessments of compliance with relevant compliance documents are provided in **Appendices 2 to 7**. The findings of this audit are based upon visual observations of the site and its vicinity, interviews with site personnel and our interpretation of the documentation provided by NCM.

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

A summary of the phone interviews undertaken with agencies with regulatory roles relating to the project is provided in **Section 3.2**. Specific findings of the audit in relation to each approval, lease or licence is discussed in **Section 3.3**. The results of the site inspections undertaken for the project and any other issues identified during the audit are provided in **Section 4.0**.

The audit found Narrabri North to be non-compliant with a number of the administrative aspects associated with the conditions of the Project Approvals which require NCM to consult with, or gain approval from government agencies for certain activities. It is considered that compliance with the majority of these conditions is generally an administrative matter in that in most cases the overall intent of the condition has been complied with, although specific elements of the condition have not.

The assessment of compliance against the Statement of Commitments identified NCM to be non-compliant with a number of commitments. It was found that these non-compliances generally relate to commitments made in the management plans that are in addition to those specified in the Project Approval and the EA.

A summary of the compliance assessment is provided in **Table 3.1**.

Table 3.1 - Summary of Statutory Compliance

Approval/Licence	Not Triggered	Compliance	Non-Compliance	Verification Required
Project Approval Stage 1	26	154	25	1
Statement of Commitments – Stage 1	17	133	25	17
Project Approval Stage 2	53	45	3	3
Statement of Commitments – Stage 2	122	147	12	22
Environmental Protection Licence No. 12789	21	63	4	0
Mining Lease 1609	13	24	0	1

Note that the numbers refer to the number of conditions and subconditions

3.1 Status of Development at Narrabri North Mine

The audit has identified that the operations at Narrabri North Mine are generally being undertaken in accordance with the project approvals and associated approval documentation including the EAs and Response to Submissions Reports; and other permits, such as EPL (No. 12789) and Mining Lease (1609).

Measures are generally in place to prevent and minimise environmental harm and very few community complaints have been received since operations commenced.

Construction of Stage 1 has generally been completed with the first coal mined in June 2010. Construction of Stage 1 MOD 1 and Stage 2 works was in progress at the time of the audit. As longwall operations have not yet commenced, many of the conditions of the Stage 2 Project Approval have not yet been triggered.

The status of the Stage 1 works at the time of the audit was as follows:

- Construction of the Pit Top surface facilities and infrastructure, including coal screening and crushing, administration facilities and workshops, has generally been completed;
- The rail loop and coal loading facilities adjacent to the Narrabri - Gunnedah rail line have been constructed and are in operation transporting coal by rail to the Port of Newcastle;
- The box cut has been completed to provide two access drifts and one ventilation shaft;
- Underground mining using continuous miners has commenced with first coal produced in June 2010; and
- The site access road from the mine site to the Kamilaroi Highway has been constructed.

The status of the Stage 2 works at the time of the audit was as follows:

- construction of a range of associated infrastructure was in progress including:
 - a coal handling and preparation plant;
 - a ventilation shaft and fan;
 - mine dewatering; and
 - gas drainage facilities.
- the combined water supply/disposal pipeline between the mine site and the Namoi River was under construction.

3.2 Agency Consultation

Consultation was undertaken with relevant government agencies to identify any particular issues of concern relating to the Narrabri North operations. The results of the consultation undertaken are tabled in **Table 3.2**.

Table 3.2 - Agency Consultation

Agency	Person Contacted	Date(s) Contacted	Response
DECCW	Steve O'Donoghue	25/1/11	Noise complaints had been an issue for Narrabri North but generally the mine had responded appropriately. Gas drainage and venting were identified as a potential issue – were NCM investigating options for gas use?
Gunnedah Council	Carolyn Hunt	28/1/11	Not aware of any particular issues. Council receives a copy of the AEMR and has input through the CCC.
I&I NSW	Michael Lloyd	25/1/11 & 4/3/11	Messages have been left however no response has been received.
Narrabri Council	Nick Wilton	25/1/11 & 4/3/11	Messages have been left however no response has been received.
NOW	Christie Jackson	25/1/11 & 4/3/11	Messages have been left however no response has been received.

3.3 Compliance Issues

The Narrabri North operation was found to be operating generally in compliance with the terms of the relevant approvals and licences applying to it. However, a number of non-compliances were identified where action is required to ensure full compliance is met for some conditions/requirements. A number of verifications were also identified, where full compliance with a condition/requirement could not be determined as either insufficient evidence was available but the auditor felt that the requirement had likely been met, or the determination of compliance was dependent on the outcome of a programmed action being finalised by NCM and there was no specific timing requirement in the condition.

A full compliance assessment against the requirements of relevant approval documents and licences is provided in **Appendices 2 to 7**. A summary of the non-compliances for each approval document is provided below.

3.3.1 Project Approval 05_0102 (Including Modification 05_0102_MOD 1)

Operations at the Narrabri North site are generally being undertaken in a manner that is consistent with the requirements of the Project Approval for Stage 1 (PA 05_0102). However, a number of non-compliances were identified where action is required to ensure full compliance.

A full compliance checklist against the requirements of the Project Approval was completed as part of the audit and is included as **Appendix 2**. A summary of the non-compliance issues are outlined below.

Schedule 2: Condition 1 – Non-compliance

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.

The site inspection and audit of compliance documentation found no significant issues relating to environmental management at the site. However several non-conformances have been identified as documented in the compliance checklists and summarised in this report.

Environmental Management Plans have been established and evidence was sighted that they have been generally implemented. It was noted that there is a good level of environmental awareness amongst all staff interviewed as part of the audit.

Schedule 2: Condition 2 (b) – Non-compliance

**The Proponent shall carry out the project generally in accordance with the:
(b) statement of commitments (see Appendix 3)**

A number of non-compliances with the Statement of Commitments were identified during the audit as noted in this report.

Schedule 2: Condition 2 (c) – Non-compliance

**The Proponent shall carry out the project generally in accordance with the:
(c) conditions of this approval.**

A number of non-compliances with the Project Approval were identified during the audit as noted in this report.

Schedule 2: Condition 8 – Non-compliance

With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.

Management plans have been prepared and letters of submission indicate that they have been submitted progressively. DoP has provided approval to submit the greenhouse gas management plan as part of the Stage 2 operations. The environmental monitoring program has not been submitted and no evidence was sighted during the audit to indicate that DoP has provided approval for the delayed submission of this document. It is noted however the preparation of an environmental monitoring program is not a requirement of the Stage 2 approval. It is noted that the Stage 1 approval will be surrendered within 12 months of approval of Stage 2.

Schedule 3: Condition 6 (c) – Non-compliance

The Proponent shall:

(c) prior to commissioning the ponds, submit an "as constructed" report, produced by an experienced and qualified engineer, to DECC;

The "As Constructed" report prepared by URS (September 2010) was sighted during the audit but NCM has advised that it has not yet been submitted to DECCW as required by the condition.

Recommendation

Ensure that the As Constructed Report is submitted to DECCW.

Schedule 3: Condition 8 (b) and (c) – Non-compliance

The Site Water Balance must:

(b) describe measures to minimise water use by the project; and

(c) be reviewed and recalculated each year in the light of the most recent water monitoring data.

A review of the Site Water Management Plan (prepared June 2010) indicated that the Plan does not include a description of measures to minimise water use by the project. It was

further noted that the Plan does not identify the requirements for review and recalculation of the site water balance each year in light of the most recent water monitoring data.

Recommendation

Revise the Site Water Management Plan as part of the Stage 2 approval conditions to ensure that all requirements of the Project Approval are identified and implemented.

Schedule 3: Condition 10 (a) – Non-compliance

The Surface Water Management Plan must:

(a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the project;

A review of the Site Water Management Plan indicated that detailed baseline data on surface water flows and quality in creeks in the vicinity of the Project was not included in the Plan. During the audit, NCM advised that nearby creeks/waterbodies are ephemeral and, as such, the collection of baseline data was not possible at the time of preparing the SWMP. Since approval of the plan by DoP, NCM have undertaken sampling during wet weather/flow events to establish baseline conditions. NCM have committed to including this information in the Stage 2 SWMP.

Recommendation

Revise the Site Water Management Plan as part of the Stage 2 approval conditions to include baseline data on surface water flows and quality.

Schedule 3: Condition 11 (e) – Non-compliance

The Groundwater Monitoring Program must include:

(e) a program to monitor, (by the use of shallow piezometers/lysimeters), detect, and quantify any leakage from the site's evaporation/storage ponds;

The requirement to develop a program to monitor, detect and quantify any leakage from the site's evaporation and storage ponds was not specifically documented in the Site Water Management Plan. During the audit, NCM advised that piezometers/lysimeters have been installed around the evaporation ponds but that monitoring has not yet commenced.

Recommendation

Revise the Groundwater Monitoring Program contained in the Site Water Management Plan as part of the Stage 2 approval conditions to include the requirement for monitoring, detecting and quantifying any leakage from the evaporation ponds. Further, NCM should commence monitoring of the piezometers/lysimeters that have been installed and report the results as part of the AEMR.

Schedule 3: Condition 12 – Non-compliance

The Proponent shall ensure that the noise generated by the project does not exceed the levels set out in Table 1 at any privately-owned residence.

Location	Day	Evening	Night	
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{A1} (1 minute)
All privately owned residences	35	35	35	45

Table 1: Impact assessment criteria dB(A)

Notes:

- To determine compliance with the L_{Aeq}(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 DECC 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.
- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the L_{A1}(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 DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- 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.

The monitoring results reviewed during the audit showed no exceedances for the 2009/2010 reporting period. However, for the 2008/2009 reporting period, exceedances were recorded in June, July and August 2008. The 2008-2009 AEMR outlined the reasons for the exceedances as being due to temperature inversion conditions during the winter months. The mitigative measures put in place included delaying starting times of noisy activities during winter and the development of a real time noise and weather monitoring protocol. The exceedances were reported to both DoP and DECCW by letters dated 21/8/08 (letters sighted during the audit).

Schedule 3: Condition 13(b) and (c) – Non-compliance

The Proponent shall:

- (b) 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**
- (c) report on these investigations and the implementation and effectiveness of these measures in the AEMR;**

Management safeguards and ameliorative actions are identified in Section 3 of the Noise Monitoring Program. However, the proposed controls only cover road transport. No documentation is provided in relation to undertaking any investigation works for road, rail and/or sleep disturbance issues.

Requirements to report on the implementation and effectiveness of identified measures are identified in Section 5 of the Noise Monitoring Program. A review of the 2009/2010 AEMR showed that the effectiveness of individual measures was not discussed in the AEMR as required. Quarterly monitoring noted in the AEMR identifies that noise emissions from the site were below the criterion of 35 dB(A) at all receivers.

Recommendation

Revise the Noise Monitoring Program documentation as part of the Stage 2 approval requirements to ensure it includes the requirements of this condition. Ensure that the results of the investigations and any resulting implementation are documented in the AEMR.

Schedule 3: Condition 23 – Non-compliance

The Proponent shall ensure that dust emissions generated by the project does not cause additional exceedances of the criteria listed in Tables 4 to 6 at any residence on privately owned land, or on more than 25 per cent of any privately-owned land.

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 $\mu\text{g}/\text{m}^3$
Particulate matter < 10 μm (PM ₁₀)	Annual	30 $\mu\text{g}/\text{m}^3$

Table 4: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 μm (PM ₁₀)	24 hour	50 $\mu\text{g}/\text{m}^3$

Table 5: Short term impact assessment criteria for particulate matter

Pollutant	Averaging period	Maximum Increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 $\text{g}/\text{m}^2/\text{month}$	4 $\text{g}/\text{m}^2/\text{month}$

Table 6: Long term impact assessment criteria for deposited dust

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Air quality monitoring results reviewed during the audit showed that the PM₁₀ 24 hour criteria were exceeded on two occasions at Claremont (both in December 2009 (114 $\mu\text{g}/\text{m}^3$, and 58 $\mu\text{g}/\text{m}^3$)), on two occasions at Turrabaa (both in December 2009 (86 $\mu\text{g}/\text{m}^3$, and 53 $\mu\text{g}/\text{m}^3$)), and one exceedance at Turrabaa in May 2008 (70 $\mu\text{g}/\text{m}^3$). Exceedances were reported to DECCW and DOP by letters dated 25/7/08 and 10/2/10 which were sighted during the audit.

It was noted during the audit that specific TSP monitoring is not being undertaken. While the approval does not specifically require TSP monitoring to be undertaken, it has specified a criterion. NCM advised that compliance with the TSP criterion is assessed via the interpolation of PM₁₀ monitoring results. It is also noted that while DoP has not confirmed TSP monitoring is not required, it has approved the Air Quality Monitoring Program for the mine which did not include the monitoring of TSP. It was further noted that the EPL for the site does not require TSP to be monitored.

Recommendation

Confirm with DoP that compliance with the TSP criterion can be assessed via the interpolation of PM₁₀ monitoring results.

Schedule 3: Condition 29(a) – Non-compliance

The Proponent shall prepare and implement a detailed Landscape Management Plan for the site to the satisfaction of the Director-General and DPI. This plan must:

(a) be submitted to the Director-General for approval within 12 months of this approval;

The Landscape Management Plan was due to be submitted by November 2008. The Plan reviewed during the audit was not prepared until September 2009. No evidence was sighted

during the audit to indicate that any extension of time had been requested by NCM or approved by DoP.

Schedule 3: Condition 30(b) – Non-compliance

The Rehabilitation Plan must include:

(b) a strategic description of how the rehabilitation of the site would be integrated with surrounding land use;

It was noted that the Landscape Management Plan, including the Rehabilitation Plan in Appendix 4, had been submitted to and approved by DoP. However, a review of the Rehabilitation Plan undertaken during the audit found that there was no strategic description included in the Plan of how the rehabilitation of the site would be integrated with surrounding land use.

Recommendation

During the review of the Rehabilitation Plan as part of the Stage 2 approval, ensure that the Plan includes a strategic description of how the rehabilitation of the site would be integrated with the surrounding land use.

Schedule 3: Condition 38(c) and (d) – Non-compliance

The Proponent shall prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Director-General. This plan must be:

(c) be submitted to the Director-General for approval within 3 months of this approval; and

(d) include a program to monitor the effectiveness of measures to reduce energy use on site.

The Energy Savings Action Plan (ESAP) was due to be lodged by February 2008. NCM applied for, and were granted from DoP, an extension of time for submission of the Plan until 13/5/08. However the letter of submission sighted during the audit indicated that the Plan was not lodged until September 2008. There was no further evidence of an additional extension of time from DoP.

The ESAP was reviewed as part of the audit. During the review it was noted that the ESAP did not clearly specify a program to monitor the effectiveness of measures to reduce energy use on site. Some measures were identified in Table 7.2 of the Plan but it was considered by the auditor that the Plan did not meet the intent of the condition. It was further noted that not all of the measures have been implemented. Issues associated with the ESAP are further discussed in **Section 3.4.1**.

Recommendation

During the review of the Energy Savings Action Plan as part of the Stage 2 approval, ensure that the Plan includes a program to identify and monitor the effectiveness of measures to reduce energy use on site.

Schedule 3: Condition 40(a), (b), (c) and (d) – Non-compliance

Prior to carrying out underground coal mining operations, the Proponent shall submit a Greenhouse Gas Minimisation Plan to the Director-General. This plan must:

(a) identify options for minimising greenhouse gas emissions from underground mining operations, with a particular focus on capturing and/or using these emissions;

(b) investigate the feasibility of implementing each option;

(c) propose the measures that would be implemented in the short to medium term on site; and

(d) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.

A draft Greenhouse Gas Minimisation Plan was prepared by Heggies Pty Ltd, (November 2009) and submitted to DoP on 24/11/09. First coal was produced 28 June 2010 so the plan was prepared and submitted prior to the commencement of underground mining. Subsequent verbal discussions with the DoP (D. Young pers comm.) identified that the supplied plan was inadequate in meeting the requirements of the condition. It was agreed with DoP that a revised plan would be prepared in conjunction with the Stage 2 Project Approval requirements.

The Greenhouse Gas Minimisation Plan was reviewed as part of the audit. In relation to the requirements for the Plan the following observations were noted during the audit:

- (a) Options for minimising greenhouse gas emissions from underground mining have not been specifically identified and discussed in the draft Plan;
- (b) As no options were specifically identified, there was no discussion in the Plan on the feasibility of implementing the different options;
- (c) Some mitigative measures are included in Section 8.3 of the draft Plan, however these do not address the issues associated with pre-mining gas drainage from the underground operations. It was noted on site that CO₂ from the pre-mining gas drainage is vented to atmosphere, however this was not addressed in the draft Plan;
- (d) The condition requires the inclusion of a research program to inform the continuous improvement of the greenhouse gas minimisation measures. It was noted during the review that a research program is not specifically addressed in the draft Plan.

Interviews with the Group Environmental Manager and the Technical Services Manager identified that NCM has a program in place to monitor gas levels as part of the pre-mining gas drainage program. Data from this program could be used to better define the emissions associated with the operations and allow for a more robust assessment of options for mitigating those emissions.

Recommendation

Review and update the Greenhouse Gas Minimisation Plan in conjunction with the Stage 2 approval requirements to include information addressing the requirements of this condition. The revised Plan should incorporate information from the pre-mining gas drainage program to better define the emissions and the management measures to mitigate them.

Schedule 4: Condition 1(b) and (d) – Non-compliance

The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General prior to the commencement of construction activities, and:

- (b) identify the statutory requirements that apply to the project;**
- (d) describe the procedures that would be implemented to:
manage cumulative impacts; and ...**

An Environmental Management Strategy has been prepared for the project and was approved by DoP on 15/1/08. Whilst the majority of the statutory requirements that apply to the project were identified in the Strategy, it was noted that the additional requirements associated with the modification have not been included in Section 3 of EMS. It was further noted that the version provided for audit and available on website has not been amended to

include the modification, nor has it been updated to reflect changes in legislation (eg repeal of Dangerous Goods Act).

The review of the EMS also highlighted that management of cumulative impacts associated with the operations was not specifically addressed in the Stage 1 EMS. It is noted that the requirement for management of cumulative impacts has not been included in the Stage 2 approval condition relating to the EMS (Schedule 6 Condition 1). Given that the Stage 1 consent will be surrendered by July 2011, no further action on this issue is required.

Recommendation

Review the EMS as part of the Stage 2 approval to ensure it updates the applicable legislation.

Schedule 4: Condition 2 – Non-compliance

The Proponent shall prepare and implement an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must be submitted to the Director-General within 6 months of this approval and consolidate the various monitoring requirements in schedule 3 of this approval into a single document.

The Environmental Monitoring Program has not been prepared or submitted and there is no evidence that DoP have provided approval for the delayed submission of this document. It is noted however the preparation of Environmental Monitoring Program is not a requirement of the Stage 2 approval. It is also noted that the Stage 1 approval will be surrendered within 12 months of approval of Stage 2 (i.e. the Stage 1 consent will be surrendered by July 2011). This is further discussed in **Section 3.4.3**.

Schedule 4: Condition 3 – Non-compliance

As soon as practicable, and in any event within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) material harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.

As discussed for conditions 12 and 23 above, noise and air exceedances have been identified during routine monitoring. These exceedances were notified to DoP and DECCW, however notification was not provided within 24 hours of detecting exceedance.

3.3.2 Project Approval 08_0144

The Stage 2 works are currently under construction and as a result many of the conditions of the Stage 2 Project Approval have not yet been triggered. The works that are in progress were inspected during the audit and it was found that operations at the Narrabri North site are generally being undertaken in a manner that is consistent with the requirements of the Project Approval for Stage 2 (PA 08_0144). However, a number of non-compliances were identified where action is required to ensure full compliance.

A full compliance checklist against the requirements of the Project Approval was completed as part of the audit and is included as **Appendix 3**. A summary of the non-compliance issues are outlined below.

Schedule 2: Condition 1 – Non-compliance

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.

The site inspection and audit of compliance documentation found no significant issues relating to environmental management at the site. However several non-conformances have been identified as documented in the compliance checklists and summarised in this report. Environmental Management Plans were established as part of the Stage 1 approval and, as per Stage 2 Approval Condition 12 in Schedule 2, these will continue in force until the approval of revised plans. Evidence was sighted that the Stage 1 management plans have generally been implemented. It was noted that there is a good level of environmental awareness amongst all staff interviewed as part of the audit.

Schedule 2: Condition 2 (b) – Non-compliance

**The Proponent shall carry out the project generally in accordance with the:
(b) statement of commitments (see Appendix 3)**

A number of non-compliances with the Statement of Commitments were identified during the audit as noted in this report.

Schedule 2: Condition 2 (c) – Non-compliance

**The Proponent shall carry out the project generally in accordance with the:
(c) conditions of this approval.**

A number of non-compliances with the Project Approval were identified during the audit as noted in this report.

3.3.3 Statement of Commitments Stage 1

A full compliance checklist against the requirements of the Stage 1 Statement of Commitments was completed as part of the audit and is included as **Appendix 4**. A summary of the non-compliance issues are outlined below.

Commitment 2.4 – Non-compliance

Undertake construction of drifts from box cut during the hours of 7.00 am to 10.00 pm/7 days.

Drift construction has been undertaken 24 hours 7 days a week. These are the hours that were stated in the approved EA and in various management plans that have also been approved by DoP. This commitment is inconsistent with the EA and the various management plans that have been approved, all of which permit drift construction 24/7. Under Schedule 2 Condition 2, the project was to be carried out generally in accordance with the EA, the Statement of Commitments and the conditions of the approval. Condition 3 outlines that if there is any inconsistency between the above documents, the later document shall prevail to the extent of the inconsistency. However, the conditions of the approval shall prevail to the extent of any inconsistency. Given that the approval does not specify any hours of operation, the inconsistency between the EA and the Statement of Commitments would be resolved by the later document, which in this case would be the Statement of Commitments. Construction of the drift 24 hours 7 days a week would therefore be a non-compliance with this commitment.

It is noted that whilst this is a technical non-compliance, the intent was clearly to construct the drift on a 24/7 basis and that this technical non-compliance relates to an error in drafting of the Statement of Commitments.

As the drift construction has been completed, no further action was considered necessary.

Commitments 5.8 and 9.9 – Non-compliance

Undertake noxious weed control or eradication in consultation with DPI (Agriculture), Rural Lands Protection office and/or local Noxious Weeds Inspector (Narrabri Council weeds officer).

During the audit, no evidence was sighted to indicate that consultation with DPI (Agriculture) or the Rural Lands Protection Board has been undertaken. D. Young (Whitehaven) advised that local Noxious Weeds Inspector (John Busby from NSC) had been on site approximately 18 months ago and was satisfied with weed management on site. Weed management is addressed in the Landscape Management Plan and during the site inspection, no obvious signs of significant weed infestation were observed.

Commitment 6.6 – Non-compliance

Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and have a capacity to contain a minimum 110 per cent of the largest storage tank capacity.

During the site inspection, it was observed that there are a number of self bunded facilities which are considered adequate however, there are also locations where 1000 L intermediate bulk containers (IBC) and 20 L drums were placed at the edge of the bund facility such that if a leak occurred it may not be captured within the bund (refer to **Plate 1** in **Appendix 8**). It was noted that spill kits were available adjacent to the IBC and drum storages which could be used to clean up a spill, however, it is considered that containment of a spill should be the principle action rather than relying on cleanup.

The *Environmental Compliance Report: Liquid Chemical Storage, Handling and Spill Management – Part B – Review of Best Practice and Regulation* (DEC, 2005) identifies that drums and other containers should be stored (stacked) in such a manner and location that if the drums and other containers are ruptured or toppled, the contents will not spill outside the containment structure. In the case of the 1000 L IBC containers at Narrabri North, the secondary containment provided would not be adequate in providing spill protection should one of the tanks rupture or leak.

Similarly, the guidelines contained in *Storing and Handling Liquids: Environmental Protection – Participants Manual* (DECC, 2007) identify that, in sizing a secondary containment area, consideration needs to be given to the possibility of stacked containers toppling outside of a secondary containment area. Therefore a wider area may be required to ensure suitable distances between the containers and the perimeter.

At Narrabri North, particularly for the storage of 1000 L IBC containers of oils and lubricants at the ventilation shaft site (**Plate 1** in **Appendix 8**), there is the possibility of containers toppling (or being knocked) off the secondary containment structure, or of ruptures causing spills of liquid outside of the secondary containment. The bunded platform structure at the ventilation shaft site is sited on bare ground such that liquids escaping over the sides of the structure would not be contained by an impervious surface or structure. Such storage would not be considered to represent best practice in storing of liquid substances.

Recommendation

Review the hydrocarbon storage practices around the site to ensure that leaks and spills can be contained within a secondary containment area.

Commitment 6.7 – Non-compliance

Securely store all hydrocarbon products.

Hydrocarbons including oils and greases were generally observed to be stored in lockable bunded storage containers. However, waste oil was not securely stored. The location of the

temporary waste oil facility in a 1000 L IBC adjacent to the workshop access door is considered to be a high risk area i.e. damage due to collision. Whilst the IBC was contained within a secondary containment area which drained to an oil/water interceptor pit, best practice would be to avoid a potential spill. It was noted that NCM are in the process of decommissioning the temporary waste oil facilities and will be installing a permanent self bunded 4000 L waste oil tank.

Recommendation

It is recommended that NCM continue to investigate suitable locations for the installation of more permanent waste oil facilities at the workshop.

Commitment 6.12 – Non-compliance

Monitor the volume of water discharged to, and remaining storage capacity of, the evaporation ponds.

The volume of water discharge to the dam is being monitored through the use of flow meters at identified pumping points. The remaining capacity in the dam is however not being monitored at present.

Recommendation

Develop a mechanism for monitoring the remaining capacity of each evaporation pond.

Commitment 6.13 – Non-compliance

Undertake an annual review of the water balance and submit a report demonstrating a nil discharge for the equivalent wettest 10 year cycle of the 116 year rainfall record. Following completion of the transient calibration of the groundwater model and first annual review of the water balance, prepare a Dewatering Plan for the project. The plan will include identification of lead times to implement the proposed management strategies.

There was no evidence sighted during the audit to indicate that an annual review of the water balance has been undertaken as specified in this commitment. Some assessment has been undertaken and documented in the AEMR, however the assessment undertaken does not reflect the intent of this commitment. Under the terms of the Project Approval for Stage 1 (Schedule 3, Condition 2), the transient calibration of the groundwater model is required to be undertaken within 12 months after the commencement of mining operations. Given that mining commenced in May 2010, the transient calibration would be due in May 2011. No dewatering plan has been prepared to date.

Whitehaven environmental staff advised during the audit that a new groundwater model was being developed for the Stage 2 operations. The water management plan is being revised as part of Stage 2 operations and assessment will be undertaken once the Stage 2 plan has been approved.

Recommendation

Revise the Stage 1 Water Management Plan for the Stage 2 operations to ensure it reflects the findings of the new groundwater model being developed. Use the data from the revised Plan to prepare a Dewatering Plan for the operations.

Commitment 6.17 – Non-compliance

Armour the banks of the rail loop with ballast (larger diameter competent rock).

During the site inspection, it was noted that the batters of the rail loop are covered in vegetation negating the need for rock armouring.

Recommendation

In the auditor's opinion, no further action is required on this commitment. The banks of the rail loop have been stabilised with vegetation.

Commitment 7.4 – Non-compliance

Complete and submit to the DECC a post-construction verification report which includes works as executed drawings for the completed works; final surveyed dimensions and capacities; and results of QA/QC testing verifying that design clay liner depth and permeability has been achieved.

The As Built Report for Narrabri Coal Evaporation and Storage Dams has been prepared (URS, 2010) however it has not yet been submitted to DECCW. This commitment relates to Project Approval Condition 6(c).

Recommendation

Ensure that the As Constructed Report is submitted to DECCW.

Commitment 7.6 – Non-compliance

Update predictions of salt accumulation within the ponds based on measured dewatered mine in-flows and water quality

There was no evidence sighted during the audit to indicate that predictions of salt accumulation in the evaporation ponds are being maintained.

Recommendation

Develop and implement a procedure for predicting salt accumulations in the evaporation ponds.

Commitments 7.9 – Non-compliance

Construct shallow piezometers or soil lysimeters around the evaporation ponds and monitor soil and/or water quality within these (for salinity).

Shallow piezometers/lysimeters have recently been installed around the evaporation ponds, however monitoring of these piezometers has not yet commenced.

Recommendation

Commence monitoring of the shallow piezometers installed around the evaporation ponds.

Commitments 7.10 and 18.4 – Non-compliance

Prepare a Salinity Contamination Contingency Plan, in consultation with the DWE and DECC, presenting details of monitoring and remedial measures to identify and mitigate any salinity contamination.

There was no evidence sighted during the audit that a Salinity Contamination Contingency Plan has been prepared although some information on salinity contamination contingencies is contained in Site Water Management Plan. Further, there was no evidence sighted to indicate that consultation has been undertaken with DWE and DECC in relation to the Plan.

Recommendation

Prepare and implement a Salinity Contamination Contingency Plan.

Commitment 8.3 – Non-compliance

Prepare quarterly summary reports of monitoring that include average and maximum daily mine water inflow, average water quality (salinity), stored volume of water within the evaporation/storage dam system and remaining capacity within the evaporation/storage dam system.

Inflows to the evaporation/storage dam system are being monitored through the use of flow meters. However, there was no evidence sighted during the audit to indicate that the stored volume of water or the remaining capacity in the dams is being monitored and recorded. No summary reports were sighted during the audit.

Recommendation

Develop and implement a procedure for monitoring and recording the inflows, storage volume and remaining capacity in the evaporation/storage pond system.

Commitment 9.10 – Non-compliance

Undertake regular inspections of all Pit Top Area water storages for fauna and instigate appropriate measures if fauna identified.

During the audit, NCM staff advised that inspections are undertaken however no documented evidence was provided to support this statement.

Recommendation

Consider the development and implementation of an inspection checklist to record the outcomes of inspections that are undertaken.

Commitment 9.11 – Non-compliance

Undertake regular reviews of the revegetation program to ensure it remains relevant.

There was no evidence sighted during the audit to indicate that any reviews have been undertaken to date.

Recommendation

Develop and implement a system of regular reviews of the revegetation program and document the results of the reviews undertaken.

Commitments 9.15 and 18.4 – Non-compliance

Prepare a Flora and Fauna Management Plan.

NCM advised during the audit that a specific Flora and Fauna Management Plan has not been prepared but components of flora and fauna management are included in the Landscape Management Plan. This is further discussed in **Section 3.4.4**.

Commitment 11.12 – Non-compliance

Implement downslope sedimentation controls as required.

During the site inspection, it was observed that controls were either absent or consisted of a sediment basin (larger disturbance areas only). For example at the ventilation shaft site, no controls were observed immediately downslope of the spoil stockpiles but a large sediment basin was in use further down the catchment. Whilst some control is being implemented by use of the sediment basin, the use of more immediate controls (for example silt fencing) may be more effective in minimising the amount of turbid water to be captured and stored.

Recommendation

Consider the implementation of measures such as diversion drains and silt fences as downslope controls on stockpiles.

Commitment 16.2 – Non-compliance**Provide regular newsletters regarding project progress and operations.**

During the audit, NCM staff advised that regular newsletters have not been provided but the issue of regular newsletters was planned to commence in the next month or two. It was noted that monitoring data and copies of the CCC minutes were available on the website for any interested member of the public.

Recommendation

Ensure that regular newsletters are provided to the local community regarding the project progress and operations.

Commitment 17.7 – Non-compliance**Monitor the water quality with the evaporation/brine ponds. The analysis will include EC, TDS, pH, TSS, TOC, heavy metals, Sodium Adsorption Ratio (SAR).**

Water quality monitoring data from the evaporation ponds reviewed during the audit shows that monitoring has only included EC, TDS, pH, TSS, TOC and heavy metals. No results have been provided to date for SAR.

Recommendation

Expand the analysis of water samples from the evaporation ponds to include assessment of SAR.

Commitment 17.13 – Non-compliance**Develop the groundwater monitoring program in consultation with the Proponent's consultant hydrogeologist, the Department of Natural Resources and those groundwater users potentially affected by the project.**

Whilst a groundwater monitoring program has been developed and is being implemented, there was no evidence sighted during the audit to indicate that the monitoring program had been developed in consultation with DNR and affected groundwater users.

Recommendation

During the revision of the Site Water Management Plan to include Stage 2 operations, consider consulting with NOW (formerly DNR) and affected groundwater users when updating the groundwater monitoring program.

Commitment 17.14 – Note**Commission a review by a qualified hydrogeologist of the results and frequency of monitoring to determine the adequacy of the monitoring program and to provide interim assessment of operational impacts on groundwater levels and identify data gaps in monitoring or impact assessment needs.**

NCM advised that this has not been undertaken to date as a sufficient time period has not elapsed since the commencement of mining to enable a meaningful assessment of data to be undertaken. NCM are proposing to undertake this assessment in conjunction with the review of the Site Water Management Plan requires as part of the Stage 2 approval.

Recommendation

During the revision of the Site Water Management Plan to include Stage 2 operations, commission a review by a qualified hydrogeologist of the results and frequency of monitoring to determine the adequacy of the monitoring program and to provide interim assessment of operational impacts on groundwater levels.

Commitment 17.16 – Non-compliance**Monitor potential leakage of salts from the ponds.**

Shallow piezometers/lysimeters have recently been installed to monitor the leakage of salt from the ponds, however, monitoring has not yet commenced.

Recommendation

Commence monitoring of the shallow piezometers installed around the evaporation ponds.

Commitment 17.17 – Non-compliance**Undertake soil profile testing down-gradient of the evaporation pond system to assess whether seepage of salts into the soils is occurring.**

NCM advised during the audit that soil profile testing has not yet commenced but is proposed to be incorporated as part of the revision to the Site Water Management Plan for the Stage 2 operations.

Recommendation

Commence soil profile testing down-gradient of the evaporation ponds.

Commitment 19.2 – Non-compliance**Implement a policy encouraging employment of local district personnel, with arrangements for training and certification.**

NCM staff reported that there is no official policy that they were aware of but that they generally try to recruit locals where possible.

Recommendation

Consider the development of a policy of encouraging employment of local district personnel.

Commitment 19.4 – Non-compliance**Develop and incorporate an environmental training program to ensure all employees and contractors are environmentally responsible and follow all relevant site-specific procedures.**

NCM advised during the audit that no specific training program is currently in place and environmental training is not necessarily formally recorded. However, environmental training is undertaken for example, the environmental staff have recently undertaken Mine Closure training.

Recommendation

Develop and implement an environmental training program for all staff as required and ensure that environmental training records are maintained.

3.3.4 Statement of Commitments Stage 2

A full compliance checklist against the requirements of the Stage 1 Statement of Commitments was completed as part of the audit and is included as **Appendix 5**. A summary of the non-compliance issues are outlined below.

Commitment 4.15 – Non-compliance**Obtain certification from plant supplier/contractor that equipment imported to the Mine Site has been cleaned and is free of soil and vegetation.**

NCM advised during the audit that certification is not currently obtained in relation to plant and machinery brought onto the site. NCM has an Introduction to Site Surface Mobile Plant

Checklist, however it was noted that requirements for certification were not included on the checklist.

Recommendation

Consider amending the Introduction to Site Surface Mobile Plant Checklist to include the requirement for all plant and machinery to be certified as being cleaned and free of soil and vegetation prior to coming to site.

Commitment 4.16 – Non-compliance

Undertake campaign weed spraying over the Pit Top Area and areas of surface disturbance of the Mining Area in consultation with I&I NSW-Agriculture and/or the local Noxious Weeds Inspector.

During the audit, no evidence was sighted to indicate that consultation with I&I NSW (Agriculture) or the local Noxious Weeds Inspector has been undertaken. Weed management is addressed in the Landscape Management Plan and during the site inspection, no obvious signs of significant weed infestation were observed.

Commitment 7.8 – Non-compliance

Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and have a capacity to contain a minimum 110 per cent of the largest storage tank capacity.

As noted in the compliance assessment for Stage 1 Statement of Commitments (Commitment 6.6), it was observed that there are a number of self bunded facilities which are considered adequate however, there are also locations where 1000 L IBCs and 20 L drums were placed at the edge of the bund facility such that if a leak occurred it may not be captured within the bund (refer to **Plate 1** in **Appendix 8**). Although spill kits are in place adjacent to these facilities, the lack of adequate secondary containment would not represent best practice for the storage of liquid substances.

Recommendation

Review the hydrocarbon storage practices around the site to ensure that leaks and spills can be contained within a secondary containment area.

Commitment 7.28 – Non-compliance

Armour the banks of the rail loop with ballast (larger diameter competent rock).

During the site inspection, it was noted that the batters of the rail loop are covered in vegetation negating the need for rock armouring.

Recommendation

In the auditor's opinion, no further action is required on this commitment. The banks of the rail loop have been stabilised with vegetation.

Commitment 7.30 – Note

Participate in, as required, the development of a salt accounting protocol with the DoP, DECCW and NOW.

NCM advised during the audit that this has not yet been undertaken as the water conditioning plant has yet to be constructed. Given that Whitehaven personnel advised during the audit that the water conditioning plant is expected to be completed by June 2011, it is considered appropriate that Whitehaven commence consultation with DoP, DECCW and NOW, to determine the requirements for the development of a salt accounting protocol.

Recommendation

Liaise with DoP, DECCW and NOW to determine the requirements for the development of a salt accounting protocol.

Commitment 7.31 – Note

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).

NCM advised during the audit that this has not yet been undertaken as the water conditioning plant has yet to be constructed. As discussed for Commitment 7.30 above, given that Whitehaven personnel advised during the audit that the water conditioning plant is expected to be completed by June 2011, it is considered appropriate that Whitehaven commence negotiations with NOW in relation to the Cap and Pipe the Bores Program, such that an agreement is in place prior to the commissioning of the water conditioning plant.

Recommendation

Liaise with DECCW and NOW to determine the requirements for an agreement under the "Cap and Pipe the Bores" Program.

Commitment 8.7 – Non-compliance

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.

There was no evidence sighted during the audit to indicate that an assessment was undertaken for the powerline corridor. It was noted that there was no assessment of aquatic or fish habitat reported in the Water Pipeline and Powerline Pre-Clearing Survey (November 2010) prepared by EcoLogical. It was noted that NCM has a ground disturbance permitting system and this could be expanded to address the assessment of fish and aquatic habitat.

Recommendation

Consider expanding the ground disturbance permitting process to include assessment of fish and aquatic habitat.

Commitment 8.15 – Non-compliance

Implement a weed management strategy, in consultation with the Livestock Health and Pest Authority and the Narrabri Shire Council weeds officer, for the retained or rehabilitated natural vegetation within the Mine Site.

Whilst weed management was noted to be included in the Landscape Management Plan prepared for the Stage 1 operations, there was no evidence sighted during the audit of any consultation with the Livestock Pest and Health Authority. D. Young (Whitehaven) advised that local Noxious Weeds Inspector (John Busby from NSC) had been on site approximately 18 months ago and was satisfied with weed management on site.

Recommendation

Undertake and document consultation with the Livestock Pest and Health Authority in relation to weed management on the site.

Commitment 8.17 – Non-compliance

Inspect the sediment dams, evaporation ponds and brine storage ponds for fauna during the course of regular maintenance and operational inspections.

During the audit, NCM staff advised that inspections are undertaken however no documented evidence was provided to support this statement.

Recommendation

Consider the development and implementation of an inspection checklist to record the outcomes of inspections that are undertaken.

Commitment 8.18 – Non-compliance

Undertake regular reviews of the revegetation program to ensure it remains relevant.

There was no evidence sighted during the audit to indicate that any reviews have been undertaken to date.

Recommendation

Develop and implement a system of regular reviews of the revegetation program and document the results of the reviews undertaken.

Commitment 14.3 – Note

Construct and vegetate a bund wall around the ventilation shaft areas to restrict the visibility of the activities from neighbouring residences.

The Stage 1 EA (in Section 4B.9.4) identified that excavated material from the ventilation shaft and elsewhere would be used to construct a 4 metre acoustic bund around the ventilation shaft to shield fan noise from the surrounding residences, particularly the “Westhaven” residence. The Stage 2 EA (in Section 2.4.9.7) also indicated that waste rock and subsoil removed during drilling of the shaft would be used to construct the acoustic bund wall around the ventilation shaft area. Given that both EA’s identify the construction of an acoustic bund, it is considered that this Commitment should relate to restricting noise from the ventilation shaft rather than its visibility.

The bund wall around the ventilation shaft area has not yet been constructed, although construction of the ventilation shaft is in progress. As noted above, the bund is to be built with material excavated from the ventilation shaft so it is not feasible to build the bund before the shaft has been excavated. Given that the acoustic bund was primarily to shield the Westhaven residence from noise, and that the Westhaven property has since been acquired by NCM, this commitment may no longer be relevant.

Recommendation

Monitor the noise levels associated with the ventilation shaft at the nearest affected non-project related residences and implement the acoustic bund if required.

Commitment 15.2 – Non-compliance

Provide regular newsletters regarding project progress and operations.

During the audit, NCM staff advised that regular newsletters have not been provided but the issue of regular newsletters was planned to commence in the next month or two. It was noted that monitoring data and copies of the CCC minutes were available on the website for any interested member of the public.

Recommendation

Ensure that regular newsletters are provided to the local community regarding the project progress and operations.

Commitment 18.2 – Non-compliance

Implement a policy encouraging employment of local district personnel, with arrangements for training and certification.

NCM staff reported that there is no official policy that they were aware of but that they generally try to recruit locals where possible.

Recommendation

Consider the development of a policy of encouraging employment of local district personnel.

Commitment 18.4 – Non-compliance

Develop and incorporate an environmental training program to ensure all employees and contractors are environmentally responsible and follow all relevant site-specific procedures.

NCM during the audit that no specific training program is currently in place and environmental training is not necessarily formally recorded. However, environmental training is undertaken for example, the environmental staff have recently undertaken Mine Closure training.

Recommendation

Develop and implement an environmental training program for all staff as required and ensure that environmental training records are maintained.

3.3.5 Environmental Protection Licence

NCM is required to and does hold an EPL for its operation as it conducts an activity that requires a licence under the POEO Act. The EPL outlines NCM's responsibilities and the environmental performance standards it is required to meet, being:

- operating conditions;
- monitoring and recording conditions; and
- reporting conditions.

NCM reports its performance against the above responsibilities and environmental performance stands via the submission of its Annual Return.

The licence reviewed as part of this audit has a review date of 20 February 2013.

A full compliance checklist against the requirements of EPL 12789 was completed as part of the audit and is included as **Appendix 6**. A summary of the non-compliance issues are outlined below.

Condition L6.1 – Non-compliance

Noise from the premises must not exceed:

(a) 35 dB(A)_{LAeq(15minute)} during the day (7.00 am to 6.00 pm), evening (6.00 pm to 10.00 pm) and night (10.00 pm to 7.00 am) for construction activities.

Monitoring data shows that noise exceedances were recorded during the winter months of 2008 during construction of Stage 1 works. The 2008-2009 AEMR outlined the reasons for the exceedances as being due to temperature inversion conditions during the winter months. The mitigative measures put in place included delaying starting times of noisy activities during winter and the development of a real time noise and weather monitoring protocol. The exceedances were reported to both DoP and DECCW by letters dated 21/8/08.

Recommendation

Continue the implementation of the real time noise monitoring protocol described in the Noise Monitoring Program and adjust operational activities as required to ensure noise levels are not exceeded.

Condition R2.2 – Non-compliance

The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Written notifications of air and noise exceedances were provided to DECCW by letters dated 25/7/08, 21/08/08 and 10/2/10 but these were not provided within seven days of the incident.

Recommendation

Ensure that the exceedances are notified in writing to DECCW within seven days of each incident.

Condition E1.1 – Non-compliance

Prior to the commissioning of the evaporation and storage ponds, the licensee must provide the DECC 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.

The 'As Constructed' report prepared by URS (September 2010) was sighted during the audit but NCM has advised that it has not yet been submitted to DECCW as required by the condition.

Recommendation

Ensure that the As Constructed Report is submitted to DECCW.

3.3.6 Mining Lease 1609

A full compliance checklist against the requirements of ML 1609 was completed as part of the audit and is included as **Appendix 7**.

No non-compliances were identified.

3.4 Environmental Management Plans

NCM has developed a number of environmental management plans and monitoring programs for the project in accordance with relevant requirements of the Project Approval. These documents address specific impacts associated with the project, such as noise, and reflect the requirements detailed in the Project Approval and statement of commitments. The plans and programs include:

- Environmental Management Strategy (December 2007);
- Energy Savings Action Plan (September 2008);

- Noise Monitoring Program incorporating a Noise Management Protocol and Noise Monitoring Program (December 2007);
- Noise Management Plan (May 2010);
- Construction Phase Surface Water Management Plan (February 2008);
- Site Water Management Plan (June 2010);
- Waste Management Plan (December 2007);
- Air Quality Monitoring Program incorporating an Air Monitoring Protocol (December 2007);
- Blast Monitoring Program (December 2007);
- Greenhouse Gas Minimisation Plan (draft November 2009);
- Aboriginal Cultural Heritage Management Plan (December 2007);
- Landscape Management Plan (September 2009);

Additionally, the following plans were reviewed which were not specifically required by the conditions of the Project Approval but which were prepared by NCM to guide the environmental management of the operations.

- Mining Operations Plan for the Construction and Continuous Miner Development of Stage 1 of the Narrabri Coal Mine (June 2010);
- Spontaneous Combustion Management Plan (December 2007); and
- Stockpile Management Plan (April 2010).

Condition 6(c) of Schedule 4 of the Project Approval requires that the audit assess the environmental performance of the project against any plan or program made under the Project Approval or other approval. Condition 6(d) also requires that the audit review the adequacy of any plan or program made under an approval document.

The audit found that the management plans and programs prepared for the project were generally adequate and prepared in accordance with the relevant compliance requirements. NCM were found to generally be operating in accordance with these management plans. However, several non-compliances were noted which generally related to timing or other requirements for gaining DoP or DECCW approval for the documents under the Project Approval, and these are described in **Section 3.3.1**.

Under the requirements of Schedule 2 Condition 12 of the Stage 2 Project Approval, Stage 1 strategies, plans or programs will continue to have effect until replaced by an equivalent approved strategy, plan or program prepared and approved under the Stage 2 approval. In most instances, the Stage 2 approval requires revision of the Stage 1 management plans with the revised plans due for submission to DoP by 30 June 2011.

Key issues in relation to the adequacy of the documents reviewed are discussed in the following sections.

3.4.1 Energy Savings Action Plan

The Energy Savings Action Plan was prepared in September 2008. A review of the Plan showed that generally it has been prepared in accordance with the Guidelines for Energy Savings Action Plans (DEUS, 2005).

It was noted by the auditors that DECCW advised in an email dated 1/9/08 that it would not be reviewing or providing comment on the draft ESAP and that reporting under the DUES guidelines was not required by DECCW for the Narrabri project. This was confirmed by DoP in a letter dated 3/8/10. However, the exemption granted by DoP from reporting under the DEUS guidelines did not alter the requirements of the remainder of the project approval condition relating to the development and implementation of the ESAP.

A specific requirement of the Plan included the development of a program to monitor the effectiveness of measures to reduce energy use on site. Whilst some information was provided in Table 7.2 of the Plan, it does not particularly specify what measures would be used to minimise energy use on site, nor what measures would be utilised to monitor the effectiveness of the energy reduction measures.

As the Energy Savings Action Plan is required to be revised as part of the Stage 2 approval requirements, NCM should ensure that the review of the Plan includes the development of an effective monitoring program to monitor energy use, and outlines a program for using the energy monitoring data to identify any further options for reducing energy usage on site.

3.4.2 Greenhouse Gas Minimisation Plan

The draft Greenhouse Gas Minimisation Plan was reviewed as part of the audit. Although this Plan has been submitted to DoP, it has not yet been approved on the basis that a revised strategy would be developed associated with the Stage 2 Project Approval requirements. In relation to the requirements for the Plan the following observations were noted during the audit:

- (a) Options for minimising greenhouse gas emissions from underground mining have not been specifically identified and discussed in the draft Plan.
- (b) As no options were specifically identified, there was no discussion in the Plan on the feasibility of implementing the different options.
- (c) Some mitigative measures are included in Section 8.3 of the draft Plan, however these do not address the issues associated with pre-mining gas drainage from the underground operations. It was noted on site that CO₂ from the pre-mining gas drainage is vented to atmosphere, however this was not addressed in the draft Plan.
- (d) The condition requires the inclusion of a research program to inform the continuous improvement of the greenhouse gas minimisation measures. It was noted during the review that a research program is not specifically addressed in the draft Plan.

The Greenhouse Gas Minimisation Plan is required to be reviewed and updated as part of the Stage 2 approval conditions. It is recommended that the review of the Plan include a review of data collected as part of the pre-mining gas drainage program to better define and characterise the emissions from the mining operations and allow a more comprehensive assessment of management options to be undertaken.

3.4.3 Environmental Monitoring Program

Condition 2 of Schedule 4 of the Stage 1 approval requires the preparation of an Environmental Monitoring Program which consolidates the various monitoring requirements in schedule 3 of that approval into a single document. The Program was required to be prepared within six months of the approval being granted. NCM has advised that to date this Program has not been prepared but that the monitoring requirements are identified in each of the management plan documents.

It was noted during the audit that the preparation of an environmental monitoring program is not a requirement of the Stage 2 approval. It is also noted that the stage 1 approval will be surrendered within 12 months of approval of Stage 2 (i.e. the Stage 1 consent will be surrendered by July 2011).

Whilst it is considered that no further action is required on this non-compliance, NCM should ensure that all applicable monitoring requirements identified in either the Project Approval, Statement of Commitments or EPL are clearly identified in each relevant management plan.

3.4.4 Flora and Fauna Management Plan

The Statement of Commitments for Stage 1 commits NCM to the development and implementation of a Flora and Fauna Management Plan. This Plan has not been prepared, however, it was noted that some components of flora and fauna management were included in the Landscape Management Plan, particularly in the Rehabilitation Management Plan.

The Statement of Commitments for Stage 2 does not require the preparation of a Flora and Fauna Management Plan. As the Stage 1 approval will be surrendered by June 2011, the Stage 1 Statement of Commitments will no longer be applicable to the operations. To ensure ongoing flora and fauna management for the Narrabri North operations, it is recommended that the flora and fauna management measures in the Rehabilitation Management Plan (Appendix 4 of the Landscape Management Plan) be reviewed and expanded during the revision of the Landscape Management Plan for Stage 2.

3.4.5 Erosion and Sediment Control Plan

The Statement of Commitments for Stage 2 commits NCM to the preparation of a detailed Erosion and Sediment Control Plan for each gas drainage or ventilation shaft area.

Whilst some information on erosion and sediment control was noted to be included in the Site Water Management Plan prepared for Stage 1, it does not specifically address the requirements outlined in the commitment. It is noted that the Site Water Management Plan is required to be revised to include Stage 2 with this Plan not due to be submitted until June 2011.

The review of the Site Water Management Plan for Stage 2 should incorporate a review of the erosion and sediment controls required for gas drainage and ventilation infrastructure to ensure compliance with the commitments made.

3.4.6 Salinity Contamination Contingency Plan

The Statement of Commitments for both Stages 1 and 2 require the preparation of a Salinity Contamination Contingency Plan. At present NCM has indicated that this has not yet been prepared as the water conditioning plant has not yet been constructed. However the EA indicates that groundwater pumped out from the underground operations also has the potential to be very saline.

During the audit, NCM indicated that the water conditioning plant is expected to be constructed and operational by the end of 2011. Given that saline groundwater is being pumped from the underground and the production of brine is likely to commence by the end of the year, it is recommended that NCM prepare the Salinity Contamination Contingency Plan within the next six months.

4.0 Environmental Performance

4.1 Site Inspection

As described in **Section 2.4**, inspections of the project site and associated infrastructure were undertaken on 1 and 2 February 2011. Areas inspected during the site inspection included the pit top area, the ventilation shaft construction site, gas drainage infrastructure, box cut, CHPP construction site, hydrocarbon storage facility, sewage treatment plant, amenity bunds, water management structures, and rehabilitation areas.

The site was found to be operating with effective environmental management controls in place and NCM personnel were found to have a very good understanding of key environmental management issues. In particular, NCM personnel were found to have a good understanding of dust, noise, greenhouse gas and groundwater management issues and overall, indicated a genuine belief that minimising off-site environmental impacts is critical to the success and community acceptance of mining operations in the area.

Key observations made during the site inspection included:

- existing environmental management measures described by Narrabri North during the audit interviews were verified during the inspection;
- the Perimeter Amenity Bund and adjacent areas have recently been planted with local native vegetation and covering crops which appear to be establishing well (see **Plate 2** in **Appendix 8**). The bund also appears to be stable, with no slumping and little erosion being observed;
- the ventilation shaft construction contractor had well maintained facilities and was aware of the environmental controls required;
- rehabilitation of the gas drainage infrastructure areas is ongoing with backfilling of sumps and rehabilitation of SIS sites 5 and 6 observed during the site inspection;
- all equipment was observed to be well maintained, with no maintenance issues being noted with equipment or vehicles, however it was noted that the new refuelling truck (Registration No. BJ 30 MV) did not have a spill kit on board;
- hydrocarbon management is in need of some attention, in particular the management of waste oil and the storage of hydrocarbons and other chemicals on the edge of raised bund trays (see **Plate 3** and **Plate 1** in **Appendix 8**). These issues are discussed further in **Sections 4.2.5** and **4.2.6**;
- NCM proactively manage wastes generated on-site and has employed a waste contractor to recycle waste material wherever possible. Waste bins are clearly defined and located around the site; and
- overall, it is considered that NCM appears to be maintaining its site well, with the site being observed to be noticeably well kept and no significant issues of concern being noted.

4.2 Key Environmental Issues

4.2.1 Construction

Stage 1 construction works have generally been completed. Works associated with Stage 1 Modification 1 and Stage 2 were observed to be in progress at the time of the audit. Major construction activities included the construction of the ventilation shaft (see **Plate 4** in **Appendix 8**) and the CHPP (see **Plate 5** in **Appendix 8**).

Appropriate environmental controls were in place for the construction activities, including erosion and sediment controls and dust controls, and the construction contractors interviewed during the audit both had a good understanding of the environmental issues associated with their works.

Construction work areas and laydown areas were observed to be tidy and well managed at both construction sites inspected during the site inspection.

4.2.2 Noise

NCM has established a noise monitoring program with both attended and non-attended monitoring undertaken. Noise monitoring results showed that exceedances of the noise criteria had been recorded in June, July and August 2008. The AEMR for 2008-2009 outlined reasons for exceedances and mitigative measures put in place. No further exceedances have been identified during routine monitoring.

One landowner (Kurrajong) had refused access for monitoring. Following discussions with DoP and DECCW, a decision was made for monitoring to be conducted at the boundary of the Kurrajong property and a correction factor applied based on a calibrated noise model. Following ongoing complaints from the resident of Kurrajong, a Barn-Owl monitor was placed at the boundary between the Kurrajong and Claremont properties for a one month period in May/June 2009. Results of the monitoring showed the mine to be compliant. The Kurrajong property was the main source of noise complaints as evidenced by the complaints records maintained by NCM. Narrabri Coal Mine has since acquired the property in mid 2010.

The actions taken by NCM in responding to both the identified exceedances and the complaints from the Kurrajong property, in the auditors opinion, demonstrate a pro-active and positive approach to managing noise issues associated with the operations.

4.2.3 Air Quality

The audit found that there have been recorded exceedances of PM₁₀ criteria at local monitors and that NCM has undertaken an investigation whenever such an exceedance is recorded. These investigations have found that exceedances of air quality criteria to date were attributable to regional events such as dust storms and bushfires with no exceedances attributed to any specific activities occurring at the site at the time of the exceedance. When exceedances have occurred, NCM has notified both DoP and DECCW and provided a report on the investigations and the probable cause of the exceedance.

Water carts were in operation at the time of the audit, watering construction areas and access roads. Dust levels were observed to be well managed during the site inspection, with staff interviews indicating a high level of environmental awareness, particularly in relation to dust control.

4.2.4 Water Management

Surface water was observed to be generally well managed. Diversion drains and sediment basins were in operation at the time of the audit and the water management system was separating clean and dirty water streams. The evaporation ponds have been constructed – Ponds A1, A2 and A3 were observed to be lined with HDPE liner and were in operation (see **Plate 6** in **Appendix 8**). Cell B1 was under construction at the time of the audit with the liner being installed (see **Plate 7** in **Appendix 8**).

Groundwater was a key issue during the environmental assessment phase of the project, with the Project Approval for Stage 1 requiring a transient calibration of the groundwater model to confirm the predictions made in the EA. Underground mining did not commence until June 2010 and although groundwater monitoring has been undertaken, it is considered that there has not been a sufficient duration of mining to allow a meaning assessment to be undertaken.

The Stage 2 Project Approval requires the Site Water Management Plan to be reviewed and updated to include the Stage 2 operations. As part of this review, NCM should ensure that the groundwater modelling data collected to date is utilised to confirm the groundwater predictions made in the EA.

4.2.5 Hydrocarbon and Chemical Management

Hydrocarbons including oils and greases were generally observed to be stored in lockable bunded storage containers at various locations around the site (e.g. at the Pit Top workshop, in the workshop area of the ventilation shaft construction site, and at the Sedgeman's construction depot). There are a number of self bunded facilities which are considered adequate however, there are also locations where 1000 L IBCs and 20 L drums were placed at the edge of the bund facility such that if a leak occurred it may not be captured within the bund (refer to **Plate 1** in **Appendix 8**).

As noted in the compliance assessment in **Sections 3.3.3** and **3.3.4** (particularly Stage 1 Commitment 6.6 and Stage 2 Commitment 7.8), the lack of adequate secondary containment would not represent best practice for the storage of liquid substances.

It is recommended that NCM review their liquid substances storage practices using the *Technical Considerations* in *Appendix 2* of the *“Storage and Handling Liquids: Environmental Protection, Participant's Manual”* (DECC, 2007) as a guide.

4.2.6 Waste Management

NCM has developed and implemented a Waste Management Plan for the site. Generally waste management arrangements are appropriate for each of the waste streams identified with the exception of waste oil. Skip bins for metals and skip bins for paper and cardboard were observed at various places around the site and were utilised for appropriate recyclables.

In relation to the collection and storage of waste oil, this is currently collected in a 1000 L IBC which is acting as temporary waste oil storage. The 1000 L IBC waste oil tank was located on a spill pallet within an impervious grated bund area, however, it was located adjacent to the workshop vehicular door where there was no protection to the tank from vehicular collision (see **Plate 3** in **Appendix 8**). The location of the temporary waste oil facility adjacent to the workshop access door is considered to be a high risk area i.e. damage due to collision. Whilst the IBC was contained within a secondary containment area which drained to an

oil/water interceptor pit, best practice would be to avoid a potential spill, rather than rely on the secondary containment.

NCM advised during the audit that they were investigating the installation of a permanent waste oil facility which would comprise a self bunded tank located in an appropriate area of the workshop.

The underground operations utilise oils and lubricants in 20 litre drums for ease of handling. This results in a high number of empty drums to be disposed of. Currently, drum volumes are not significant as mining operations have only recently commenced, and drums are disposed of in scrap metal/waste bins without being crushed. As the rate of mining increases, and particularly when longwall operations commence, the number of drums to be disposed will increase significantly. Uncrushed drums will take up more space in the waste bins and result in higher disposal costs and potential impacts. It is recommended that NCM investigate the use of a drum crusher to crush used oil and lubricant drums prior to disposal.

4.2.7 Rehabilitation

Although mining operations at Narrabri North have not yet reached the point of requiring rehabilitation, the processes intended to be used to facilitate rehabilitation were noted to be documented in the approved MOP for the site and the approved Landscape Management Plan.

During the site inspection, it was noted that rehabilitation had been undertaken on works constructed as part of the construction phase of the project. For example, the Perimeter Road Amenity Bund and adjacent areas have recently been planted with local native vegetation and covering crops which appear to be establishing well on the outer edge of the bund. The bund also appears to be stable, with no slumping and little erosion being observed.

Rehabilitation of the gas drainage infrastructure areas is ongoing with backfilling of sumps and rehabilitation of SIS sites 5 and 6 observed during the site inspection.

5.0 Conclusion

NCM has implemented comprehensive environmental management and monitoring systems at its Narrabri North coal mine, including environmental management controls for both construction and operation. NCM's management team and environmental personnel have shown considerable commitment to environmental performance at the site. This is reflected through the overall positive responses received from government agencies interviewed for the audit and the general compliance with environmental performance found as part of this audit.

The audit found a number of non-compliances with the relevant approvals and licences that apply to the project which generally related to the following issues:

- exceedance of specific monitoring criteria; and
- secondary requirements for documents or actions required under the Project Approval, such as gaining formal approval from DoP or submitting management plans within a required timeframe.

Several of the non-compliances identified during the audit, particularly those related to secondary requirements for documents or actions under the Project Approval, are considered unlikely to affect NCM's ability to effectively manage environmental issues in accordance with the relevant approvals and licences that apply to the project. For the non-compliances identified that were associated with exceedances of monitoring criteria, NCM was found to be addressing the issues that have arisen in a satisfactory manner and reporting exceedances to relevant government agencies as required under the Project Approval and Environment Protection Licence.

APPENDIX 1

Agency Interview Questions

Sunnyside and Narrabri North Environmental Audits – February 2011

Agency Questions

Agency:		Time:	
Representative(s):		Location:	
Date:			

1. What is your agency's role in relation to the Sunnyside and/or Narrabri North mining operations?
•
2. What is your specific role within the agency, particularly relating to your involvement with the Sunnyside and/or Narrabri North mining operations?
•
3. What aspects of your agency's statutory role relate to the Sunnyside and/or Narrabri North mining operations?
•
4. In relation to the Sunnyside and/or Narrabri North mining operations compliance with statutory requirements administered by your agency:
4.1. Are you satisfied with the Sunnyside and/or Narrabri North mining operations reporting of compliance status (including monitoring results)?
•
4.2. Are you aware of any past or current compliance issues (including fines, notices etc.)? If so please provide details.
•
4.3. What actions were taken to resolve these compliance issues (e.g. programs developed, activities modified etc.) and were you satisfied with these actions?
•
4.4. Are you aware of any currently outstanding compliance issues or actions?
•
5. Are you aware of any outstanding community complaint issues in relation to the Sunnyside and/or Narrabri North mining operations?
•
6. Are you satisfied with the way in which community complaints have been managed by the Sunnyside and/or Narrabri North mining operations?
•
7. Do you have any other specific environmental or community issues in relation to the Sunnyside and/or Narrabri North mining operations that need to be addressed?
•

APPENDIX 2

Compliance Assessment PA 05_0102

Project Approval No: 05_0102 (including modification 05_0102_MOD 1) - Stage 1 Operations

Approval dated 13 November 2007, Modification 1 dated 26 March 2010

Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
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.	N	Site inspection and audit of compliance documentation found no significant issues relating to environmental management, however non-conformances have been identified. Environmental Management Plans are established. Good level of environmental awareness amongst all staff interviewed as part of the audit.	
	2	The Proponent shall carry out the project generally in accordance with the: (a) EA;	Y	Generally in accordance with the EA and the project layout shown in Figure 1.	
		(b) statement of commitments (see Appendix 3); and	N	Non-compliances identified	See separate compliance checklist
		(c) conditions of this approval.	N	Non-compliances identified	As noted in this checklist
		Note: the general layout of the project is shown in Figure 1 of Appendix 2.	Y		
	3	If there is any inconsistency between the above documents, the later document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	Y	Inconsistency noted between the EA and the Statement of Commitments in relation to hours of operation for construction of drifts from the box cut.	Refer to Section 3.3.3 of the Audit Report for further details.
	4	The Proponent shall comply with any reasonable and feasible requirements of the Director-General arising from the Department's assessment of:	Y	NCM have modified various management plans in response to requests Director-General as part of their review and approval of these documents. Sighted email from Colin Phillips (DoP) dated 21/2/2008.	
		(a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with the conditions of this approval; and	Y		
		(b) the implementation of any actions or measures outlined in these reports, plans, programs, strategies or correspondence.	NT		
	5	Mining operations may take place on the site for 21 years from the grant of the mining lease for the project.	Y	Approval granted November 2007 - therefore mining operations may take place until 2028.	
		Note: Under this Approval, the Proponent is required to rehabilitate the site to the satisfaction of the Director-General and DPI. 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.	Y	Rehabilitation of minor works areas such as gas drainage wells, exploration boreholes undertaken on an ongoing basis e.g. Surface to in seam sites 5 and 6.	
	6	The Proponent shall not extract more than 2.5 million tonnes of ROM coal a year from the site.	Y	First coal was produced 28 June 2010. As of the end of January 2011, 76,000 T of coal has been extracted.	
	7	The Proponent shall transport all coal from the site by rail.	Y	Rail loop constructed and operational	
	8	With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.	N	Management plans submitted progressively. Water management plan submitted in two stages - construction stage and operation stage - both plans approved. DOP have provided approval to submit the greenhouse gas management plan as part of the Stage 2 operations. The environmental monitoring program has not been submitted and DoP have not provided approval for the delayed submission of this document. It is noted however the preparation of environmental monitoring program is not a requirement of the Stage 2 approval. It is noted that the stage 1 approval will be surrendered within 12 months of approval of Stage 2.	
	9	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.	Y	Sighted Construction Certificate CC 7/2009 - approved 17 October 2008. Inspection Report/Permit to Occupy No 2413 - approved 6 August 2009.	
		Notes: Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.			

Project Approval No: 05_0102 (including modification 05_0102_MOD 1) - Stage 1 Operations

Approval dated 13 November 2007, Modification 1 dated 26 March 2010

Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
		Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.			
	10	The Proponent shall ensure that all demolition work is carried out in accordance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i> , or its latest version.	NT	No demolition work has been undertaken to date.	
	11	The Proponent shall ensure that all plant and equipment used on site is:			
		(a) maintained in a proper and efficient condition; and	Y	PULSE system generates inspection and maintenance schedules / checklists. Sighted Weekly Inspection Checksheet for Plant No 806 printed 26/1/11, Mechanical Preventative Maintenance Schedule for Plant No DMT007 dated 31/1/2011 and Mechanical Daily 103 Inspection for Plant No LHD003 dated 13/1/2011.	
		(b) operated in a proper and efficient manner.	Y	Sighted training records for Josh Lancaster dated 24/12/2010 for operation of shuttle car, HFX Bolter Unit, underground induction checklist, feeder breaker (dated 7/12/2010), electrical tradesperson (dated 26/11/2010). Operator tickets also sighted.	
	12	Within 12 months of this approval, the Proponent shall enter into a planning agreements with Narrabri Shire Council (NSC), Gunnedah Shire Council (GSC) and the Minister in accordance with:	Y	Planning agreement prepared by McCulloch Robertson sighted - terms of agreement are generally as per the matters set out in Appendix 4 of the Approval. Sighted letters from Gunnedah and Narrabri Councils in relation to their confirmation of agreements. Agreements were due to be reached by November 2008. NCM have been liaising with DoP in relation to the agreements - DoP are currently assessing a modification to the approval to remove the need for NCM to enter into an agreement with DoP - this was at DoP's request. Agreements were made with both Council's within the timeframe but agreement has not been finalised yet due to DoP issue.	
		(a) Division 6 of the Part 4 of the EP&A Act; and			
		(b) the terms of the Proponent's offer to the Minister on 7 September 2007, which includes the matters set out in Appendix 4.			
3	1	Within 5 years of the date of this approval, the Proponent shall ensure that 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 to the satisfaction of the DWE. Note: The EA predicts a maximum impact of 100 megalitres a year for the Great Artesian Basin aquifers in year 50 of the project.	NT	Would be due in November 2012. However, Stage 1 consent will be surrendered by June 2011.	
	2	Within 12 months of the commencement of mining operations, the Proponent shall undertake a transient calibration of the groundwater model presented in the EA, in consultation with DWE and DECC, and to the satisfaction of the Director-General.	NT	Requirements included in Section 8.3 of the Water Management Plan. Coal was first produced June 2010 - therefore transient calibration of the model due June 2011.	
	3	Following the completion of the transient calibration of the groundwater model and the first annual review of the water balance, the Proponent shall prepare a Dewatering Contingency Plan. This plan must:	NT	Transient calibration of groundwater model has not yet been undertaken would be due in June 2011.	
		(a) be prepared in consultation with DWE and DECC and to the satisfaction of the Director-General;			
		(b) identify the freeboard required to prevent the evaporation/storage ponds from discharge of water under weather conditions of a 1 in 100 year 72 hour storm event for the site;			
		(c) contain measures to ensure minewater is not pumped to the evaporation/storage ponds once this freeboard level is reached;			

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		(d) identify lead times required for the construction of a water conditioning plant to ensure the capacity of the site's evaporation /storage ponds is not exceeded (see below);			
		(e) refine its estimates of quantities of salts that would be accumulated within the evaporation/storage ponds over the life of the project;			
		(f) identify how it would manage and/or dispose of these accumulated salts, in consultation with DWE and DECC, and to the satisfaction of the Director-General.			
	4	The Proponent must commence construction of the water conditioning plant identified in condition 10(d) when daily mine dewatering volumes exceed 0.88 megalitres, or an alternative trigger point based on a review of the water balance and model and established in consultation with DWE and DECC, and approved by the Director-General.	NT	Dewatering records reviewed during the audit show the volume of water extracted from the underground operation is less than 0.88 ML per day. NCM have however commenced construction of the water conditioning plant for the treatment of captured water such that is suitable for use underground thereby minimising dependence on captured surface water and / or extraction from the Namoi River.	
	5	Except as may be expressly provided for by an EPL, the Proponent shall not discharge any surface waters from the site. However, product water from the water conditioning plant may be transferred to water users in accordance with an approved Water Management Plan (see below).	Y	One discharge has occurred from EPL licenced discharge point 12 (SD5) in January 2010. The discharge water quality satisfied the criteria specified in the EPL.	
	6	The Proponent shall:			
		(a) construct evaporation/storage ponds incorporating the use of low permeability layers to manage minewater generated by the project;	Y	Ponds have been constructed with liners in place to provide low permeability layers. Ponds A1, A2, and A3 sighted in operation with liners in place. Pond B1 was under construction at the time of the audit. Liner installation observed.	
		(b) prior to commencement of construction, submit pond designs and a construction QA/QC program to DECC; and	Y	Sighted Design Report Evaporation and Storage Dams, Narrabri Coal Pit Top Infrastructure, prepared by URS December 2007.	
		(c) prior to commissioning the ponds, submit an "as constructed" report, produced by an experienced and qualified engineer, to DECC;	N	"As Constructed" report prepared by URS (September 2010) was sighted during the audit but NCM has advised that it has not yet been submitted to DECCW. Ponds A1, A2, and A3 have been commissioned and were in operation at the time of the audit.	
		to the satisfaction of the Director-General.			
	7	The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the commencement of construction activities (not including the construction of the Kamilaroi Highway intersection) in consultation with DECC and DWE by suitably qualified expert/s whose appointments have been approved by the Director-General and include a:	Y	Sighted and reviewed Construction Phase Surface Water Management Plan (prepared February 2008). Sighted and reviewed Site Water Management Plan (prepared June 2010) - includes S75W modification. Consultation undertaken with DECC on Construction Water Management Plan by emails dated 17/2/2008 and 20/02/08 and with DWE by letter dated 8/2/08 (email and letters sighted). Construction Plan was submitted to and approved by DoP by letter dated 20/2/08 (letter sighted). For the Site Water Management Plan, consultation with DECCW occurred via email dated 8/4/2010 and with NOW by letter dated 4/5/10 (letters sighted). The Site Water Management Plan was submitted to DoP on 3/6/10 and approved by letter dated 13 July 2010 (letters sighted).	Construction of the Kamilaroi Highway intersection commenced at the end of January 2008. Construction of Pit Top area commenced in March 2008. Construction Phase water management plan was approved prior to construction commencing on site. Coffey Geotechnics were approved by DoP to prepare the construction water management plan and WRM Water and Environment were approved by DoP to prepare the Site Water Management Plan (letters sighted).
		(a) Site Water Balance;	Y	Section 5 of Site Water Management Plan	
		(b) Erosion and Sediment Control Plan;	Y	Section 4 of Site Water Management Plan	
		(c) Surface Water Monitoring Plan;	Y	Section 6 of Site Water Management Plan	
		(d) Groundwater Monitoring Plan;	Y	Section 7 of Site Water Management Plan	

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		(e) Surface and Groundwater Response Plan, setting out the procedures for:	Y	Section 8 of Site Water Management Plan	
		investigating, and if necessary mitigating, any exceedances of the surface or groundwater assessment criteria (see below); and	Y	Sections 8.1 and 8.2 of the Site Water Management Plan	
		responding to any unforeseen impacts of the project.	Y	Section 8.4 of Site Water Management Plan	
	8	The Site Water Balance must:			
		(a) include details of:			
		sources and security of water supply;	Y	Section 5.2 of Site Water Management Plan	
		water use on site;	Y	Section 5.1 of Site Water Management plan	
		water management on site;	Y	Section 2 of Site Water Management Plan	
		off-site water transfers;	Y	Section 5.3 of Site Water Management Plan	
		reporting procedures;	Y	Section 5.4 of Site Water Management Plan	
		(b) describe measures to minimise water use by the project; and	N	Not specifically described in Site Water Management Plan	
		(c) be reviewed and recalculated each year in the light of the most recent water monitoring data.	N	Requirements for review and recalculation of the site water balance are not specifically identified in the Site Water Management Plan.	
	9	The Erosion and Sediment Control Plan must:			
		(a) be consistent with the requirements of <i>Managing Urban Stormwater: Soils and Construction</i> manual (Landcom, 2004), or its latest version;	Y	Section 4.1 of both the Site Water Management Plan and the Construction Phase Water Management Plan	
		(b) identify activities that could cause soil erosion and generate sediment;	Y	Section 4.2 of both the Site Water Management Plan and the Construction Phase Water Management Plan	
		(c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters;	Y	Section 4.3 of both the Site Water Management Plan and the Construction Phase Water Management Plan	
		(d) describe the location, function, and capacity of erosion and sediment control structures; and	Y	Detailed in Section 4.4 of Construction Phase Water Management Plan and referenced in Site Water Management Plan	
		(e) describe what measures would be implemented to monitor and maintain the structures over time.	Y	Detailed in Sections 4.7 and 4.8 of Construction Phase Water Management Plan and referenced in Site Water Management Plan.	
	10	The Surface Water Monitoring Plan must include:			
		(a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the project;	N	Nearby creeks / waterbodies are ephemeral and as such NCM advised that the collection of baseline data was not possible at the time of preparing the SWMP. Since approval of the plan by DoP, NCM have undertaken sampling during wet weather / flow events to establish baseline conditions. NCM have committed to including this information in the Stage 2 SWMP.	
		(b) surface water impact assessment criteria;	Y	Section 6.4 of Site Water Management Plan	
		(c) a program to monitor the impact of the project on surface water flows and quality;	Y	Section 6.3 of Site Water Management Plan	
		(d) procedures for reporting the results of this monitoring.	Y	Section 6.5 of Site Water Management Plan	
	11	The Groundwater Monitoring Program must include:			
		(a) further development of the regional and local groundwater model;	Y	Section 7.7 of Site Water Management Plan	
		(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);	Y	Section 7.3 of Site Water Management Plan	
		(c) groundwater impact assessment criteria;	Y	Section 7.5 of Site Water Management Plan	
		(d) a program monitor the impact of the project on groundwater levels, yield and quality;	Y	Section 7.4 of Site Water Management Plan	
		(e) a program to monitor, (by the use of shallow piezometers/lysimeters), detect, and quantify any leakage from the site's evaporation/storage ponds; and	N	Not specifically addressed in either Water Management Plan. NCM advises that piezometers have been constructed however no monitoring has occurred to date.	
		(f) procedures for reporting the results of this monitoring.	Y	Section 7.6 of Site Water Management Plan	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information															
	12	<p>The Proponent shall ensure that the noise generated by the project does not exceed the levels set out in Table 1 at any privately-owned residence.</p> <table><tr><th>Location</th><th>Day LAeq(15 minute)</th><th>Evening LAeq(15 minute)</th><th colspan="2">Night</th></tr><tr><th></th><th></th><th></th><th>LAeq(15 minute)</th><th>LA(1 minute)</th></tr><tr><td>All privately owned residences</td><td>35</td><td>35</td><td>35</td><td>45</td></tr></table> <p>Table 1: Impact assessment criteria dBA(A)</p> <p>Notes</p> <ul style="list-style-type: none">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 stations) 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 DECC 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.These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.To determine compliance with the LA(1 minute) noise limits, noise from the project is to be measured at 1 metre from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).These limits do not apply if the Proponent has an agreement with the relevant owners of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.	Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night					LAeq(15 minute)	LA(1 minute)	All privately owned residences	35	35	35	45	N	Results show no exceedances for 2009/2010 reporting period - results discussed in AEMR. For 2008/2009 reporting period, exceedances were recorded in June, July and August 2008. AEMR 2008-2009 outlined reasons for exceedances and mitigative measures put in place. Exceedances were reported to both DoP and DECCW by letters dated 21/8/08 (letters sighted).	Noise monitoring undertaken by Spectrum Acoustics - both attended and non-attended monitoring undertaken. One landowner (Kurrajong) has refused access for monitoring - monitoring conducted at boundary of property and correction factor applied based on calibrated noise model. Following ongoing complaints from the resident of Kurrajong, a Barn-Owl monitor was placed at the boundary between Kurrajong and Claremont for a one month period in May/June 2009. Results of the monitoring showed the mine to be compliant. Sentinex real time noise monitoring delivered to site December 2010. The Kurrajong property was the main source of noise complaints. Narrabri Coal Mine have acquired the property in mid 2010.
Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night																	
			LAeq(15 minute)	LA(1 minute)																
All privately owned residences	35	35	35	45																
	12A	<p>If the noise generated by the project exceeds the criteria in Table 1A at any residence on privately-owned land, or on more than 25% of any privately owned land, then the Proponent shall, upon receiving a written request for acquisition from the land owner, acquire the land in accordance with the procedures in conditions 5-7 of Schedule 3A.</p> <p>Table 1A: Noise acquisition criteria dB(A)</p> <table><tr><th>Location</th><th>Day LAeq(15 minute)</th><th>Evening LAeq(15 minute)</th><th>Night LAeq(15 minute)</th></tr><tr><td>All privately owned residences</td><td>40</td><td>40</td><td>40</td></tr></table> <p>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.</p>	Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night LAeq(15 minute)	All privately owned residences	40	40	40	NT	There have been no exceedances of this criteria since the modification was approved in 2010. No written requests for acquisition received.	Narrabri Coal Mine acquired the Kurrajong property in mid 2010 via negotiation.							
Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night LAeq(15 minute)																	
All privately owned residences	40	40	40																	
	12B	<p>If the noise generated by the project is equal to or exceeds the criteria in Table 1B at any residence on privately-owned land, then the Proponent shall, upon receiving a written request from the land owner, 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 Director-General for resolution.</p> <p>Table 1B: Additional noise mitigation criteria</p> <table><tr><th>Location</th><th>Day LAeq(15 minute)</th><th>Evening LAeq(15 minute)</th><th>Night LAeq(15 minute)</th></tr><tr><td>All privately owned residences</td><td>38</td><td>38</td><td>38</td></tr></table> <p>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.</p>	Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night LAeq(15 minute)	All privately owned residences	38	38	38	NT	There have been no exceedances of this criteria since the modification was approved in 2010. No written requests for noise mitigation received.								
Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night LAeq(15 minute)																	
All privately owned residences	38	38	38																	

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	13	The Proponent shall: (a) implement all reasonable and feasible best practice noise mitigation measures;	Y	Requirements identified in Section 3 of Noise Monitoring Program.					
		(b) 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	N	Management safeguards and ameliorative actions identified in Section 3 of Noise Monitoring Program. The proposed control however only cover road transport. No documentation is provided in relation to undertaking any investigation works for road, rail and / or sleep disturbance issues.					
		(c) report on these investigations and the implementation and effectiveness of these measures in the AEMR;	N	Requirements identified in Section 5 of the Noise Monitoring Program. Effectivness of individual measuers not discussed in 2009/2010 AEMR. Quarterly monitoring noted in the AEMR identifies noise emissions from the site were below the criterion of 35dBA at all receivers.					
		to the satisfaction of the Director-General.	Y	AEMR submitted to DOP and no comments received to date.					
	13A	The Proponent shall prepare and implement a Noise Management Plan for the mine's activities to the satisfaction of the Director-General. This Plan shall:	Y	Sighted and reviewed Noise Management Plan (prepared by Spectrum Acoustics, May 2010)					
		(a) be prepared in consultation with DECCW by a suitably qualified expert whose appointment has been approved by the Director-General;	Y	Sighted correspondence from DECCW dated (9/6/2010). Sighthted letter from DoP dated 29/4/2010 approving Neil Pennington appointment.					
		(b) be submitted to the Director-General for approval by 31 May 2010;	Y	Letter to DoP submitting plan for approval dated 28/5/10 sighted.					
		(c) include a Noise Monitoring Program incorporating real time noise and temperature inversion monitoring; and	Y	Pages 12 and 13 of the Noise Management Plan					
		(d) include reactive noise control measures to manage noise impacts for sensitive receivers. Prior to 14 May 2010.	Y	Pages 9 and 10 of the Noise Management Plan	The instrument of modification included the words "Prior to the 14 May 2010" at the end of this condition. It is not know what this refers to and was assumed to be a typographical mistake.				
	14	The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:	Y	Sighted and reviewed Noise Monitoring Program (prepared December 2007).					
		(a) be submitted to the Director-General for approval prior to the commencement of construction activities;	Y	Submitted to DoP December 2007 and approved 15/1/08 - letters sighted.	Construction of the Kamilaroi Highway intersection commenced in January 2008 with construction of the Pit Top commencing in March 2008 so Plan was submitted and approved prior to construction commencing.				
		(b) be prepared in consultation with the DECC;	Y	Sighted correspondence from DECCW dated (7/1/2008).					
		(a) use attended noise monitoring measures to monitor the performance of the project	Y	Table B in Noise Monitroing Program					
		(c) include a protocol to establish whether the project is complying with the noise impact assessment criteria in Table 1.	Y	Page 13 of Noise Monitoring Program					
	15	The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 2 at any residence on privately-owned land.	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 113.3 dBL					
		<table border="1"><thead><tr><th>Airblast overpressure level (dBL in Peak)</th><th>Allowable exceedance</th></tr></thead><tbody><tr><td>115</td><td>5% of the total number of blasts in a 12 month period</td></tr><tr><td>120</td><td>0%</td></tr></tbody></table> <p>Table 2: Airblast overpressure impact assessment criteria</p> <p>Notes: The overpressure values in Table 2 apply when the measurements are performed with equipment having a lower cutoff frequency of 2 Hz or less. If the instrumentation has a higher cutoff frequency a correction of 5 dB should be added to the measured value. Equipment with a lower cutoff frequency exceeding 10 Hz should not be used.</p>	Airblast overpressure level (dBL in Peak)	Allowable exceedance	115	5% of the total number of blasts in a 12 month period	120	0%	
Airblast overpressure level (dBL in Peak)	Allowable exceedance								
115	5% of the total number of blasts in a 12 month period								
120	0%								

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information						
	16	<p>The Proponent shall ensure that the ground vibration level from blasting, or any other activity at the project does not exceed the criteria in Table 3 at any residence on privately-owned land.</p> <table><tr><th>Peak particle velocity (mm/s)</th><th>Allowable exceedance</th></tr><tr><td>5</td><td>5% of the total number of blasts in a 12 month period</td></tr><tr><td>13</td><td>0%</td></tr></table> <p><i>Table 3: Ground vibration impact assessment criteria</i></p>	Peak particle velocity (mm/s)	Allowable exceedance	5	5% of the total number of blasts in a 12 month period	13	0%	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 1.44 m/sec	
	Peak particle velocity (mm/s)	Allowable exceedance									
	5	5% of the total number of blasts in a 12 month period									
	13	0%									
	17	The Proponent shall only carry out blasting associated with construction activities on site between 10am and 4pm Monday to Friday.	Y	Blast results includes date and time of blast which shows all blasts were within required timeframes.							
	18	The Proponent may carry out: (a) a maximum of 2 blasts a day associated with construction activities; and	Y	Blast results show that blasting has only been undertaken once on any one day.							
		(b) 5 blasts a week associated with construction activities, averaged over a 12 month period; on site without the written approval of the Director-General.	Y	Blast results show that to date blasts have only occurred once per week.							
	19	Before carrying out any blasting, the Proponent shall advise all landowners within 2km of proposed blasting activities, and any other landowner nominated by the Director-General, that they are entitled to a property inspection.	Y	Letters sent to landowners - copies of letters provided in Appendix 1 of Blast Management Plan							
	20	If the proponent receives a written request for a property inspection from any landowner within 2km of proposed blasting activities, or any other landowner nominated by the Director-General, the Proponent shall within 3 months of receiving this request:	NT	No requests received. However, NCM undertook pre blast inspection of properties within 2 km of the site in consultation with the residences. Sighted Blasting Monitoring Program Rev 1 Dated 3/12/2007.							
		(a) commission a suitably qualified person, whose appointment has been approved by the Director-General, to inspect the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and	NT	Kelly Cody from Tamworth commissioned to undertake the pre blasting property inspections. DoP approval was not considered necessary as no written requests were received but the company volunteered to undertake the inspections.							
(b) give the landowner a copy of this property inspection report.		NT	Copy provided to the landowner.								
21	If any landowner within a 2km of proposed blasting activities, or any other landowner nominated by the Director-General, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this request:	NT	No claims received.								
	(a) commission a suitably qualified person whose appointment has been approved by the Director-General to investigate the claim; and										
	(b) give the landowner a copy of the property investigation report.										
	If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damages to the satisfaction of the Director-General.										
	If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.										

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information																							
	22	Prior to the commencement of blasting, the Proponent shall prepare and implement a detailed Blasting Monitoring Program for the project to the satisfaction of the Director-General.	Y	Blast Monitoring Program prepared December 2007, submitted to DOP in December 2007 and approved 15/1/08 - letters sighted. First blast undertaken in May 2008.																								
	23	<p>The Proponent shall ensure that dust emissions generated by the project does not cause additional exceedances of the criteria listed in Tables 4 to 6 at any residence on privately owned land, or on more than 25 percent of any privately-owned land.</p> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90 µg/m³</td></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>Annual</td><td>30 µg/m³</td></tr></table> <p>Table 4: Long term impact assessment criteria for particulate matter</p> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>24 hour</td><td>50 µg/m³</td></tr></table> <p>Table 5: Short term impact assessment criteria for particulate matter</p> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td>Deposited dust</td><td>Annual</td><td>2 g/m²/month</td><td>4 g/m²/month</td></tr></table> <p>Table 6: Long term impact assessment criteria for deposited dust</p> <p><small>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.</small></p>	Pollutant	Averaging period	Criterion	Total suspended particulate (TSP) matter	Annual	90 µg/m ³	Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month	N	Air quality monitoring results reviewed. PM10 24 hr criteria exceeded on 2 occasions at Claremont (both in December 09 (114 ug/m3, and 58 ug/m3)), on 2 occasions at Turrabaa (both in December 09 (86 ug/m3, and 53 ug/m3)), and once exceedance at Turrabaa in May 08 (70ug/m3). Exceedances were reported to DECCW and DOP by letters dated 25/7/08 and 10/2/10 (sighted).	Specific TSP monitoring is not being undertaken. While the approval does not specifically require TSP monitoring to be undertaken, it has specified a criterion. NCM advised that compliance with the TSP criterion is assessed via the interpolation of PM10 monitoring results. It is also noted that while DoP has not confirmed TSP monitoring is not required, it has approved the Air Quality Monitoring Program for the mine which did not include the monitoring of TSP.
Pollutant	Averaging period	Criterion																										
Total suspended particulate (TSP) matter	Annual	90 µg/m ³																										
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³																										
Pollutant	Averaging period	Criterion																										
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³																										
Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level																									
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month																									
	24	The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:	Y	Sighted and reviewed Air Quality Monitoring Program (prepared December 2007)																								
		(a) be submitted to the Director-General prior to the commencement of construction activities (not including the construction of the Kamilaroi Highway intersection);	Y	Submitted to DoP in December 2007 and approved 15/1/08, prior to construction commencing (letters sighted).	Construction of the intersection commenced in January 2008 with construction of the Pit Top facilities commencing in March 2008.																							
		(b) be prepared in consultation with the DECC; and	Y	Sighted correspondence from DECC dated 7/1/2008.																								
		(c) use a combination of high volume samplers and dust deposition gauges to monitor the performance of the project.	Y	Program uses PM10 high volume samplers and dust deposition gauges but does not monitor TSP.																								
	25	During the project, the Proponent shall ensure there is a suitable meteorological station on site that complies with the requirements in <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> (DECC, 2007), or its latest version.	Y	Meteorological station maintained on site - data reported in AEMR. Meteorological station sighted during site inspection.																								
	26	The Proponent shall ensure that the project does not result in subsidence impacts of greater than 20mm vertical subsidence on any land.	NT	First workings only undertaken to date.																								
	27	Six months prior to mining occurring under each privately owned property, the Proponent shall notify the relevant landowner/s of the extent of planned mining operations under their property.	NT	There is a crown road reserve located within longwall pannel No 1 which will be undermined early 2012. NCM are currently in the process of closing the crown road reserves. Based on the current land ownership status longwall mining will not be undertaken on privately owned land until year 14 of mining.																								
	28	The Proponent shall rehabilitate the site to the satisfaction of the Director-General and DPI.	NT	Rehabilitation of the majority of the surface disturbance areas (i.e. pit top) to be undertaken as part of mine closure. However, it was observed during the on site inspection that rehabilitation of exploration boreholes and surface to in seam gas drainage wells is being undertaken on an ongoing basis.																								
	29	The Proponent shall prepare and implement a detailed Landscape Management Plan for the site to the satisfaction of the Director-General and DPI. This plan must:	Y	Sighted and reviewed Landscape Management Plan (prepared by EcoLogical, September 2009)																								

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
		(a) be submitted to the Director-General for approval within 12 months of this approval;	N	Was due to be submitted by Nov 2008 but Plan not prepared until September 2009. No evidence sighted of any extension of time requested or approved.	
		(b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Director-General;	Y	Letter to DoP requesting approval of team on 29/4/09, team approved by DoP by letter dated 11/5/09 (letters included in Appendix to LMP)	
		(c) be prepared in consultation with DWE, DECC and NSC; and	Y	Letters from DWE and Narrabri Council included in Appendix to LMP.	Consultation undertaken with DECC by letter dated 30 April 2009 (sighted) - no response received.
		(d) include a:			
		Rehabilitation Management Plan; and	Y	Appendix 4 of Landscape Management Plan	
		Mine Closure Plan.	Y	Appendix 5 of Landscape Management Plan	
	30	The Rehabilitation Management Plan must include:			
		(a) the rehabilitation objectives for the site;	Y	Short term and long term objectives are identified in Section 3 of Rehabilitation Management Plan	
		(b) a strategic description of how the rehabilitation of the site would be integrated with surrounding land use;	N	Does not appear to be specifically addressed in management plan.	
		(c) a general description of the short and long term measures that would be implemented to rehabilitate the site;	Y	Section 3 of the Rehabilitation Management Plan	
		(d) a detailed description of the measures that would be implemented to rehabilitate the site, including the measures to be implemented for:	Y	Section 5 of Rehabilitation Management Plan	
		managing the remnant vegetation and habitat on site;	Y	Section 5.1 of Rehabilitation Management Plan	
		minimising impacts on fauna;	Y	Section 5.2 of Rehabilitation Management Plan	
		minimising visual impacts;	Y	Section 5.3 of Rehabilitation Management Plan	
		conserving and reusing topsoil;	Y	Section 5.4 of Rehabilitation Management Plan	
		controlling weeds, feral pests, and access;	Y	Section 5.5 of Rehabilitation Management Plan	
		managing bushfires; and	Y	Section 5.6 of Rehabilitation Management Plan	
		managing any potential conflicts between the rehabilitation works and Aboriginal cultural heritage.	Y	Section 5.7 of Rehabilitation Management Plan	
		(e) detailed performance and completion criteria for the rehabilitation of the site;	Y	Section 6 of Rehabilitation Management Plan	
		(f) 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	Y	Section 7 of Rehabilitation Management Plan	
		(g) details of who is responsible for monitoring, reviewing and implementing the plan.	Y	Section 8 of Rehabilitation Management Plan	
	31	The Mine Closure Plan must:			
		(a) define the objectives and criteria for mine closure;	Y	Section 2 of Mine Closure Plan	
		(b) investigate options for the future use of the site;	Y	Section 8 of Mine Closure Plan	
		(c) provide a detailed methodology for decommissioning the site's evaporation/storage ponds and the treatment of any accumulated salt within or around those ponds;	Y	Section 5.1.3 of Mine Closure Plan	
		(d) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment levels;	Y	Section 4.4 of Mine Closure Plan	
		(e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and	Y	Section 7 of Mine Closure Plan	
		(f) describe how the performance of these measures would be monitored over time.	Y	Section 7.3 of Mine Closure Plan	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
	32	The Proponent shall not destroy any known Aboriginal objects (as defined in the <i>National Parks and Wildlife Act 1974</i>) without the written approval of the Director-General.	Y	Observed fencing off of Aboriginal archaeological sites during site inspection.	
	32A	Prior to the commencement of any surface disturbance activities associated with modification application 05_0102_MOD 1, the Proponent shall protect, whether by fencing or appropriate signage, all known Aboriginal sites within 50 metres of these activities.	NT	Works have not commenced in that area as the first site to be impacted is located over Longwall 1.	
	33	The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:	Y	Sighted and reviewed Aboriginal Cultural Heritage Management Plan prepared December 2007	
		(a) be submitted to the Director-General prior to the commencement of construction activities (not including the construction of the Kamilaroi Highway intersection);	Y	Approval of AHCMP recived 4/2/2008 (letter from DoP sighted). Construction works in the Pit Top area did not commence until 21 March 2008.	
		(b) be prepared in consultation with the DECC and the Narrabri Local Aboriginal Land Council;	Y	Copies of letters to DECCW and Land Council included in Appendix 1 of ACHMP - responses from groups are also included.	
		(c) include a protocol for the ongoing consultation and involvement of Aboriginal communities in the conservation and management of Aboriginal heritage on site;	Y	Section 4 of Aboriginal Cultural Heritage Management Plan	
		(d) describe the measures that would be implemented to protect Aboriginal sites on site, or if any new Aboriginal objects or skeletal remains are discovered during the project.	Y	Section 3.2 of Aboriginal Cultural Heritage Management Plan	
	34	The Proponent shall construct the Kamilaroi Highway intersection in consultation with NSC and to the satisfaction of RTA. This intersection must:	Y	Intersection has been completed.	
		(a) be completed, other than for items listed in (c) below, prior to the commencement of construction activities on site (with the exception of construction of the Access Road);	Y	Intersection construction in January 2008 and on site construction works did not commence until March 2008.	
		(b) be constructed in accordance with a Traffic Management Plan approved by NSC and RTA;	Y	Sighted Traffic Management Plan prepared by Country West Road Services (November 2007)	
		(c) include boom gates, flashing lights and warning bells for the Kurrajong Creek Road level crossing, to the satisfaction of ARTC and NSC;	Y	NSC letter dated 28/5/2010 noted their satisfaction with the rail crossing and roadworks. Sighted ARTC risk assessment for intersection.	
		(d) include illumination of the Kurrajong Creek Road level crossing during construction of the intersection;	V	This was reported to have been done, however this cannot be verified at this stage as construction has been completed. It was noted that there is currently illumination of the intersection and level crossing.	
		(e) provide an information sign on Kurrajong Creek Road to inform road users of likely delays due to train traffic; and	Y	An information sign is provided on Kurrajong Creek Road.	
		(f) maintain permanent access for the "Bows Hills" quarry.	Y	Observed during site inspection.	
	35	Within 12 months of commencement of mining operations, the Proponent shall bitument seal Kurrajong Creek Road (Shire Road 188) for a distance of 7km south of the Kamilaroi Highway intersection (see Figure 2 of Appendix 2), to the satisfaction of NSC.	Y	Mining operations commenced June 2010 - therefore bitumen seal required by June 2011. However sealing works have already been completed and were observed during the audit. NSC letter dated 28/5/2010 noted their satisfaction with the works.	
	36	The Proponent shall minimise the visual impacts of the project to the satisfaction of the Director-General.	NT	The Director-General has not provided any advice in relation to this matter.	
	37	The Proponent shall ensure that: (a) no outdoor lights shine above the horizontal; and	Y	Requirements identified in Section 5.11 of Environmental Management Strategy. Lighting poles observed during the site inspection included lights which were directed downwards.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
		(b) all external lighting associated with the project complies with <i>Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting</i> .	Y	Requirements identified in Section 5.11 of Environmental Management Strategy	
	38	The Proponent shall prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Director-General. This plan must be:	Y	Sighted and reviewed Energy Savings Action Plan (prepared September 2008)	
		(a) be prepared in consultation with DECC;	Y	Sighted email from DECC dated 1/9/2008.	
		(b) be prepared in accordance with the <i>Guidelines for Energy Savings Action Plans</i> (DEUS, 2005), or its latest version;	Y	Stated in Section 2 - review of plan shows generally prepared in accordance with guidelines	
		(c) be submitted to the Director-General for approval within 3 months of this approval; and	N	Was due to be lodged by February 2008. Sighted email from DoP giving extension of time for submission to 13/5/08. However, Plan was not lodged until September 08.	
		(d) include a program to monitor the effectiveness of measures to reduce energy use on site.	N	Not clearly specified in Energy Savings Action Plan - some identified in Table 7.2 but does not really meet the intent of the condition.	
	39	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 Director-General.	Y	The predominant gas associated with the operations is carbon dioxide. During the construction of the gas drainage works, CO ₂ is vented to atmosphere at the gas drainage site. Once the gas drainage infrastructure is completed at each site, gas is pumped to a gas drainage plant in the Pit Top area where it is vented to atmosphere through a diffuser.	Information on gas volumes and gas quality is being collected as the gas drainage infrastructure is constructed. This information will be utilised to update the Greenhouse Gas Minimisation Plan for the Stage 2 operations.
	40	Prior to carrying out underground coal mining operations, the Proponent shall submit a Greenhouse Gas Minimisation Plan to the Director-General. This plan must:	Y	Plan submitted to DoP on 24/11/09, first coal was produced 28 June 2010. NCM are awaiting a response from DoP. Sighted and reviewed Greenhouse Gas Management Plan (prepared by Heggies Pty Ltd, November 2009)	
		(a) identify options for minimising greenhouse gas emissions from underground mining operations, with a particular focus on capturing and/or using these emissions;	N	Options for minimising greenhouse gas emissions from underground mining have not been specifically identified and discussed in the draft Plan.	
		(b) investigate the feasibility of implementing each option;	N	Not specifically addressed in the draft Plan.	
		(c) propose the measures that would be implemented in the short to medium term on site; and	N	Some mitigative measures are included in Section 8.3 of the draft Plan, however these do not address the issues associated with pre-mining gas drainage from the underground operations. It was noted on site that CO ₂ from the pre-mining gas drainage is vented to atmosphere.	
		(d) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.	N	Not specifically addressed in the draft Plan.	
	41	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must be:	Y	Sighted and reviewed Waste Management Plan (prepared December 2007)	
		(a) be submitted to the Director-General for approval prior to commencing of construction;	Y	Submitted to DoP December 2007 and approved 15/1/08 (letters sighted). Construction commenced in March 2008	
		(b) identify the various waste streams of the project;	Y	Section 2 and Appendix 1 of Waste Management Plan	
		(c) describe what measures would be implemented to reuse, recycle, or minimise the waste generated by the project;	Y	Section 5 of Waste Management Plan	
		(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	Y	Section 5.2 of Waste Management Plan	
		(e) include a program to monitor the effectiveness of these measures.	Y	Section 6 of Waste Management Plan	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
3A	1	If the results of the monitoring required in Schedule 3, identify impacts generated by the project are greater than the relevant impact assessment criteria except where an negotiated agreement has been entered into in relation to that impact, then the proponent shall within two weeks of obtaining the monitoring results notify the Director-General, the affected landowner and tenants (including tenants of mine owned properties) accordingly and provide quarterly monitoring results to each of these parties, until the results show that the project is complying with the criteria in schedule 3.	NT	Air and noise exceedences noted in Conditions 23 and 12 occurred prior to the inclusion of this condition as part of modification 05_0102_MOD1. As such notification was not applicable at the time of the exceedences.	
	2	If the results of the monitoring required in Schedule 3, identify that impacts generated by the project are greater than the relevant air quality impact assessment criteria in schedule 3, then the Proponent 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 requierd in condition 1.	NT	Air exceedences noted in Condition 23 occurred prior to the inclusion of this condition as part of modification 05_0102_MOD1. As such notification was not applicable at the time of the exceedences.	
	3	If a landowner considers the project to be exceeding the impact assessment criteria in Schedule 3, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.	NT	No independent reviews have been requested.	
		If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:			
		(a) consult with the landowner to determine his/her concerns;			
		(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:			
		determine whether the project is complying with the relevant impact assessment criteria in Schedule 3; and			
identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and					
(c) give the Director-General and landowner a copy of the independent review.					
4	If the independent review determines that the project is complying with the relevant impact assessment criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.	NT	No independent reviews have been requested.		
	If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:				
	(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				
	(b) secure a written agreement with the landowner to allow exceedences of the relevant criteria, to the satisfaction of the Director-General.				

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
		<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 Director-General.</p> <p>If the independent review determines that the project is not complying with the relevant land acquisition criteria in Schedule 3, 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 Director-General.</p>			
	5	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the 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:</p> <p>existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and</p> <p>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 the 'reasonable and feasible measures' in Condition 12B of Schedule 3 or Condition 4(a) of this Schedule;</p> <p>(b) the reasonable costs associated with:</p> <p>relocating within the Narrabri or Gunnedah local government areas, or to any other local government area determined by the Director-General;</p> <p>obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and</p> <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>However, if following this period, the Proponent and the 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 Director-General for resolution.</p> <p>Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to:</p> <p>(a) consider submissions from both parties;</p> <p>(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;</p> <p>(c) prepare a detailed report setting out the reasons for any determination; and</p> <p>(d) provide a copy of the report to both parties and the Director-General.</p>	NT	No written requests for acquisition have been received to date.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
		Within 14 days of receiving the independent valuers report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.			
		However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General 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 Director-General shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a) to (c) above and the independent valuer's report. Within 14 days of this determination, the Proponent shall make a written binding offer to the landowner to purchase the land at a price not less than the Director-General's determination.			
		If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.			
	6	The Proponent shall pay all reasonable costs associated with the land acquisition process described in Condition 5 above..	NT	No written requests for acquisition have been received to date.	
	7	If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall 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.	NT	No written requests for acquisition have been received to date.	
4	1	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General prior to the commencement of construction activities, and:	Y	Sighted and reviewed EMS submitted to DoP in December 2007 and approved 15/1/08 (letter sighted). Plan was submitted and approved prior to construction.	Construction of the Kamilaroi Highway intersection commenced in January 2008 with construction of the Pit Top facilities commencing in March 2008.
		(a) provide the strategic context for environmental management of the project;	Y	Sections 2 and 4 of the EMS	
		(b) identify the statutory requirements that apply to the project;	N	The additional requirements associated with the modification need to be included in Section 3 of EMS.	Version provided for audit and available on website has not been amended to include the modification, nor has it been updated to reflect changes in legislation (eg Dangerous Goods). There is no evidence to indicate that a revised version has been submitted to DoP.
		(c) describe in general how the environmental performance of the project would be monitored and managed;	Y	Section 5 of EMS	
		(d) describe the procedures that would be implemented to: keep the local community and relevant agencies informed about the operation and environmental performance of the project;	Y	Section 6.1 of EMS	
		receive, handle, respond to, and record complaints;	Y	Section 6.2 of EMS	
		resolve any disputes that may arise during the course of the project;	Y	Section 6.3 of EMS	
		respond to any non-compliance;	Y	Section 7 of EMS	
		manage cumulative impacts; and	N	Not specifically addressed	
		respond to emergencies; and	Y	Section 8 of EMS	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
		(e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project.	Y	Section 4 of EMS	
	2	The Proponent shall prepare and implement an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must be submitted to the Director-General within 6 months of this approval and consolidate the various monitoring requirements in schedule 3 of this approval into a single document.	N	The environmental monitoring program has not been submitted and DoP have not provided approval for the delayed submission of this document. It is noted however the preparation of environmental monitoring program is not a requirement of the Stage 2 approval. It is also noted that the stage 1 approval will be surrendered within 12 months of approval of Stage 2 (ie the Stage 1 consent will be surrendered by July 2011).	
	3	As soon as practicable, and in any event within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) material harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.	N	Noise and air exceedances have been reported - notified to DoP and DECCW - letters sighted as described in Conditions 12 and 23 above - notification was not provided within 24 hours of detecting exceedance.	
	4	Within 6 days of notifying the Department and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that:	Y	Letters provided relevant information - notification and report was provided at the same time	
		(a) describes the date, time, and nature of the exceedance/incident;	y		
		(b) identifies the cause (or likely cause) of the exceedance/incident;	y		
		(c) describes what action has been taken to date; and	y		
		(d) describes the proposed measures to address the exceedance/incident.	y		
	5	Within 12 months of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General and to all relevant agencies. This report must:	Y	Two AEMR's provided to date - 2008/2009 and 2009/2010	
		(a) identify the standards and performance measures that apply to the project;	Y	Sections 1.3 and 3 of AEMR	
		(b) describe the works carried out in the last 12 months;	Y	Section 2 of AEMR	
		(c) describe the works that would be carried out in the next 12 months;	Y	Section 2 of AEMR	
		(d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;	Y	Section 4.1 of AEMR	
		(e) include a summary of the monitoring results for the project during the past year;	Y	Section 3 of AEMR	
		(f) include an analysis of these monitoring results against the relevant:			
		impact assessment criteria/limits;	Y	Section 3 of AEMR	
		monitoring results from previous years; and	Y	Section 3 of AEMR	
		predictions in the EA;	Y	Section 3 of AEMR	
		(g) identify any trends in the monitoring results over the life of the project;	Y	Section 3 of AEMR	
		(h) identify any non-compliance during the previous year; and	Y	Section 3 of AEMR	
		(i) describe what actions were, or are being, taken to ensure compliance.	Y	Section 3 of AEMR	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
	6	Within 2 years of this approval, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:	Y	Letter to DoP dated 3/2/10 sighted requesting extension of time to undertake audit.	
		(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;	Y	Umwelt audit team was approved by DoP (letter dated 3/11/10).	
		(b) include consultation with the relevant agencies;	Y	Consultation with government agencies undertaken by the auditors by phone. Results of consultation documented in Section 3.2 of the Audit Report.	
		(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);	Y	Audit assessed compliance with Project Approval, Statement of Commitments, Environment Protection Licence and Mining Lease. The site inspection and review of monitoring data were also used to assess the environmental performance of the operations. Refer to Section 4 of the Audit Report.	
		(d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate,	Y	All management plans and programs were reviewed in terms of their ability to meet the requirements outlined in the Project Approval and the environmental controls committed to. Refer to Section 3.4 of the Audit Report.	
		(e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.	Y	Recommendations provided in Audit Report.	
		Note: this audit team must be led by a suitably qualified auditor and include experts in the fields of water and noise management.	Y	Audit team led by a RABQSA certified Lead Environmental Auditor.	
	7	Within 6 weeks of the completing of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.	NT		
	8	Within 3 months of submitting the audit report to the Director-General, the Proponent shall review, and if necessary revise the strategies/plans/programs required under this approval to the satisfaction of the Director-General.	NT		
	9	Within 3 months of this approval, the Proponent shall establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General, 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.	Y	CCC established - first meeting held 14/5/08. Regular meetings held since. Minutes of all CCC meetings available on website	
	10	Within 3 months of the approval of any strategy/plan/program required under this approval (or any subsequent revision of these strategies/plans/programs), or the completion of the audits or AEMRs required under this approval, the Proponent shall:	Y		
		(a) provide a copy of the relevant document/s to the relevant agencies and CCC; and		Copies of management plans and AEMR provided to CCC members and relevant agencies. Sighted letters to CCC members dated 26/6/09 regarding the provision of a copy of the AEMR and also sighted copy of Minutes of CCC Meeting No. 1 which indicates that a CD with copies of all management plans was provided to all CCC members. Sighted letters and emails to government agencies as described in relevant conditions above.	
		(b) put a copy of the relevant document/s on its website.	Y	All approved plans are available on website	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments/Additional Information
	11	During the project, the Proponent shall: (a) make a summary of monitoring results required under this approval publicly available at the mine and on its website;	Y	Monitoring results are available on the website	
		(b) update these results on a regular basis (at least every three months).	Y	Monitoring results are regularly updated	

APPENDIX 3

Compliance Assessment PA 08_0144

Project Approval No: 08_0144 - Stage 2 Operations


Approval dated 26 July 2010

Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	N	Site inspection and audit of compliance documentation found no significant issues relating to environmental management, however non-conformances have been identified. Environmental Management Plans were established as part of the Stage 1 approval and, as per Stage 2 Approval, these will continue in force until the approval of revised plans. Evidence was sighted that the Stage 1 management plans have been generally been implemented. Good level of environmental awareness amongst all staff interviewed as part of the audit.	
	2	The Proponent shall carry out the project generally in accordance with the: (a) EA;	Y	Site inspection	Works are currently under construction. Those works in progress appeared to be generally in accordance with the EA. Construction of some components has not yet commenced.
		(b) statement of commitments (see Appendix 3); and	N	See separate compliance assessment	Non-Conformances were identified.
		(c) conditions of this approval.	N	As discussed in this compliance assessment	Non-Conformances were identified.
		Note: the general layout of the project is shown in Figures 1 to 3 of Appendix 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.	NT		
	4	The Proponent shall comply with any reasonable and feasible requirements of the Director-General 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	NT	Management plans required under this approval are due for submission in June 2011.	
		(b) the implementation of any actions or measures outlined in these reports, plans, programs, strategies or correspondence.	NT		
	5	The Proponent may undertake mining operations on the site for 21 years from the date of this approval.	Y	Approval was granted in July 2010, therefore mining operations may take place until 2031.	
		<i>Note: Under this Approval, the Proponent is required to rehabilitate the site and to perform additional undertakings to the satisfaction of the Director-General. 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>			
	6	The Proponent shall not extract more than 8.0 million tonnes of ROM coal from the site per calendar year.	Y	Production records reviewed during the audit showed that coal production since June last year (commencement of mining) was totalled only 76,000 tonnes.	Underground mining using longwall methods has not yet commenced. It is expected that longwall operations will commence early in 2012.
	7	The Proponent shall transport all coal from the site by rail.	Y	Rail loop has been constructed and is operational.	
	8	The Proponent shall not transport any coal reject from the site.	Y	No reject is being produced from the mining operations and none was observed during the site inspection.	
	9	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:	Y	Letters from Gunnedah Council (23/2/10) and Narrabri Council (17/2/10) sighted. Also sighted copy of Planning Agreement prepared by McCulloch Robertson Lawyers.	Both Councils have agreed with the proposed contributions set out in the planning agreement. NCM advised that the first payment of \$770,000 was made in December 2010.

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		(a) Division 6 of Part 4 of the EP&A Act; and (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. 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 Director-General for resolution.	NT		
	10	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 Director-General, in accordance with section 75YA of the EP&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.	NT	Stage 1 consent is due to be surrendered by July 2011.	
	11	With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis. <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>	NT	Management plans required under this approval are due for submission in June 2011.	
	12	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.	Y	Stage 1 management plans are continuing in force until the Stage 2 plans have been prepared and approved.	
	13	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. <i>Notes: Under Part4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.</i>	Y	Construction certificate No. 121/2011 sighted. Stage 2 buildings are currently under construction. Occupancy certificate to be sought when completed.	
	14	The Proponent shall ensure that all demolition work is carried out in accordance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i> , or its latest version.	NT	No demolition work has been carried out on the site.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments										
	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><i>Note: These conditions should be read in conjunction with section 5 of the revised Statement of Commitments.</i></p>	<p>Y</p> <p>Y</p>	<p>PULSE system generates inspection and maintenance schdeules / checklists. Sighted Weekly Inspection Checksheet for Plant No 806 printed 26/1/11, Mechanical Preventative Maintenance Schedule for Plant No DMT007 dated 31/1/2011 and Mechanical Daily 103 Inspection for Plant No LHD003 dated 13/1/2011.</p> <p>Sighted training records for Josh Lancaster dated 24/12/2010 for opertaion of shuttle car, HFX Bolter Unit, underground induction checklist, feeder breaker (dated 7/12/2010), electrical tradesperson (dated 26/11/2010). Operator tickets also sighted.</p>											
3	1	<p>The Proponent shall ensure that mine subsidence does not cause any exceedances of the performance measures in Table 1.</p> <table><tr><td colspan="2">Table 1: Subsidence Impact Performance Measures</td></tr><tr><td colspan="2">Water Resources</td></tr><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 NOW.</td></tr><tr><td colspan="2">Biodiversity</td></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 this Director-General.</td></tr></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>	Table 1: Subsidence Impact Performance Measures		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 NOW.	Biodiversity		Flora and Fauna	The Proponent shall ensure that clearing and disturbance of vegetation above the mining area is minimised, to the satisfaction of this Director-General.	Y	No second workings or longwall mining have been undertaken to date. Mining to date has been first workings only.	
Table 1: Subsidence Impact Performance Measures															
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 NOW.														
Biodiversity															
Flora and Fauna	The Proponent shall ensure that clearing and disturbance of vegetation above the mining area is minimised, to the satisfaction of this Director-General.														
	2	The Proponent shall not carry out first workings in the project area that are not consistent with the approved mine plan without the written approval of the Director-General.	Y	First workings are currently being conducted in accordance with the approved mine plan. Current mine plans and survey plan sighted during audit.											
	3	<p>The Proponent shall prepare and implement Extraction Plans for all second workings in the project area to the satisfaction of the Director-General. These plans must:</p> <p>(a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Director-General and in consultation with DII;</p> <p>(b) be approved by the Director-General before the Proponent carries out second workings covered by the Plan;</p> <p>(c) include:</p> <p>detailed plans for second workings;</p> <p>detailed plans of any associated surface construction works;</p> <p>revised predictions of subsidence effects, subsidence impacts and environmental consequences, incorporating any relevant information obtained since this approval;</p> <p>a Subsidence Monitoring Program to calibrate and validate subsidence predictions; and analyse the relationship between subsidence effects and subsidence impacts and any ensuing environmental consequences;</p> <p>a program to collect sufficient environmental baseline data for future Extraction Plans; and</p> <p>a Public Safety Management Plan to ensure public safety in the project area.</p>	NT	No second workings undertaken to date.											

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments										
		<i>Note: In accordance with condition 11 of schedule 2, the preparation and implementation of Extraction Plans for second workings may be staged, provided that no less than 3 longwall panels are included in each plan, unless otherwise agreed to in writing by the Director-General. In addition, these plans are only required to contain management plans that are relevant to the specific second workings that are being carried out.</i>													
	4	The Proponent shall pay all reasonable cost incurred by the Department to engage independent experts to review the adequacy of any aspect of the Extraction Plan. <i>Note: These conditions should be read in conjunction with section 10 of the revised Statement of Commitments.</i>	NT	No second workings undertaken to date.											
4	1	<p>The Proponent shall ensure that the noise generated by the project does not exceed the levels set out in Table 1 at any privately-owned residence.</p> <p>Table 1: Impact assessment criteria dB(A)</p> <table><tr><th>Location</th><th>Day L_{Aeq}(15 minute)</th><th>Evening L_{Aeq}(15 minute)</th><th colspan="2">Night L_{Aeq}(15 minute) L_A(1 minute)</th></tr><tr><td>All privately-owned residences</td><td>35</td><td>35</td><td>35</td><td>45</td></tr></table> <p>Notes:</p> <ul style="list-style-type: none">To determine compliance with the L_{Aeq}(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 DECCW 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.These noise limits apply to applicable receivers under all meteorological conditions except for any one of the following:<ul style="list-style-type: none">wind speeds greater than 3 metres/second at 10 metres above ground level, ortemperature inversions of 1.5 - 4°C/100 metres and a source-to-receiver wind speed greater than 2 metres/second at 10 metres above ground level, ortemperature inversions of greater than 4°C/100 metres.The meteorological data to be used for determining meteorological conditions are the data recorded by the meteorological weather station to be determined in consultation with the DECCW.To determine compliance with the L_A(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 DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).These limits do not apply if the Proponent has an agreement with the relevant owner/s of those residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.	Location	Day L _{Aeq} (15 minute)	Evening L _{Aeq} (15 minute)	Night L _{Aeq} (15 minute) L _A (1 minute)		All privately-owned residences	35	35	35	45	Y	No exceedances reported to date from the Stage 2 construction operations to date.	Exceedances were reported during Stage 1 works as discussed in the Stage 1 compliance assessment spreadsheet.
Location	Day L _{Aeq} (15 minute)	Evening L _{Aeq} (15 minute)	Night L _{Aeq} (15 minute) L _A (1 minute)												
All privately-owned residences	35	35	35	45											
	2	<p>If the noise generated by the project exceeds the criteria in Table 2 at any residence on privately-owned land, or on more than 25% of any 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><tr><th>Location</th><th>Day L_{Aeq}(15 minute)</th><th>Evening L_{Aeq}(15 minute)</th><th>Night L_{Aeq}(15 minute)</th></tr><tr><td>All privately-owned residences</td><td>40</td><td>40</td><td>40</td></tr></table> <p>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.</p>	Location	Day L _{Aeq} (15 minute)	Evening L _{Aeq} (15 minute)	Night L _{Aeq} (15 minute)	All privately-owned residences	40	40	40	NT	No exceedances reported to date from the Stage 2 construction operations to date. No written requests for acquisition have been received.			
Location	Day L _{Aeq} (15 minute)	Evening L _{Aeq} (15 minute)	Night L _{Aeq} (15 minute)												
All privately-owned residences	40	40	40												

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments								
	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 Director-General for resolution.</p> <p><i>Table 3: Additional noise mitigation criteria</i></p> <table><tr><th>Location</th><th>Day L_{Aeq}(15 minute)</th><th>Evening L_{Aeq}(15 minute)</th><th>Night L_{Aeq}(15 minute)</th></tr><tr><td>All privately-owned residences</td><td>38</td><td>38</td><td>38</td></tr></table> <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>	Location	Day L _{Aeq} (15 minute)	Evening L _{Aeq} (15 minute)	Night L _{Aeq} (15 minute)	All privately-owned residences	38	38	38	NT	No exceedances reported to date from the Stage 2 construction operations to date. No written requests have been received.	
Location	Day L _{Aeq} (15 minute)	Evening L _{Aeq} (15 minute)	Night L _{Aeq} (15 minute)										
All privately-owned residences	38	38	38										
	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 Director-General. This Plan shall:</p> <p>(a) be prepared in consultation with DECCW by a suitably qualified expert whose appointment has been approved by the Director-General;</p> <p>(b) be submitted to the Director-General for approval by 30 June 2011;</p> <p>(c) include a Noise Monitoring Program incorporating: real-time noise and temperature inversion monitoring; and attended noise monitoring to monitor the performance of the project;</p> <p>(d) include reactive noise control measures to manage noise impacts for sensitive receivers; and</p> <p>(e) include a protocol to establish whether the project is complying with the noise impact assessment criteria in Table 1.</p>	NT	Plan is due for submission by 30 June 2011.									
	5	<p>The Proponent shall:</p> <p>(a) implement all reasonable and feasible best practice noise mitigation measures;</p> <p>(b) 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.</p> <p>(c) report on these investigations and the implementation and effectiveness of these measures in the AEMR; to the satisfaction of the Director-General.</p>	Y	Requirements identified in Section 3 of Stage 1 Noise Monitoring Program.									
			NT	Stage 2 of the project is currently under construction.	A similar condition was included in the Stage 1 approval with a non-compliance reported as discussed in the Stage 1 Compliance Assessment Checklist.								
			NT	An AEMR has not yet been prepared for the Stage 2 project. This will be due after July 2011.									

Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments																							
	6	<p>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, or on more than 25 percent of any privately-owned land.</p> <p><i>Table 4: Long term impact assessment criteria for particulate matter</i></p> <table><thead><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr></thead><tbody><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90 µg/m³</td></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>Annual</td><td>30 µg/m³</td></tr></tbody></table> <p><i>Table 5: Short term impact assessment criteria for particulate matter</i></p> <table><thead><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr></thead><tbody><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>24 hour</td><td>50 µg/m³</td></tr></tbody></table> <p><i>Table 6: Long term impact assessment criteria for deposited dust</i></p> <table><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>2 g/m²/month</td><td>4 g/m²/month</td></tr></tbody></table> <p><i>Note: Deposited dust is 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 Particulates - Deposited Matter - Gravimetric Method.</i></p>	Pollutant	Averaging period	Criterion	Total suspended particulate (TSP) matter	Annual	90 µg/m³	Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m³	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m³	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2 g/m²/month	4 g/m²/month	Y	No exceedance recorded since Stage 2 approval granted.	Specific TSP monitoring is not being undertaken. While the approval does not specifically require TSP monitoring to be undertaken, it has specified a criterion. NCM advised that compliance with the TSP criterion is assessed via the interpolation of PM10 monitoring results. It is also noted that while DoP has not confirmed TSP monitoring is not required, it has approved the Air Quality Monitoring Program for the mine which did not include the monitoring of TSP. Exceedances were reported as part of Stage 1 as discussed in the Stage 1 Compliance Assessment Checklist.
Pollutant	Averaging period	Criterion																										
Total suspended particulate (TSP) matter	Annual	90 µg/m³																										
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m³																										
Pollutant	Averaging period	Criterion																										
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m³																										
Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level																									
Deposited dust	Annual	2 g/m²/month	4 g/m²/month																									
	7	<p>The Proponent shall revise the Air Quality Monitoring Program for the Stage 1 project to encompass all proposed mine activities and potential impacts associated with air quality (Stages 1 and 2) and subsequently implement this revised version of the Air Quality Monitoring Program to the satisfaction of the Director-General. This program must:</p> <p>(a) be submitted to the Director-General for approval prior to 30 June 2011;</p> <p>(b) be prepared in consultation with DECCW; and</p> <p>(c) use a combination of high volume samplers and dust deposition gauges to monitor the performance of the project.</p>	NT	Plan is due for submission by 30 June 2011.																								
	8	During the project, the Proponent shall ensure there is a suitable meteorological station on site that complies with the requirements in <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> (DECC, 2007), or its latest version.	Y	Meteorological station sighted during site inspection. Records from met station reviewed during audit.																								
	9	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 NOW, and to the satisfaction of the Director-General. 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.	NT	Longwall coal extraction has not yet commenced.	Longwall extraction is scheduled to commence early 2012.																							
	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).	Y	No discharges from the site to date.																								
	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:	NT	Water conditioning plant has not yet been constructed.	Water conditioning plant is scheduled for construction in 2011.																							

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		(a) 50 percentile of all samples (volume based) are below 250mg/l of Total Dissolved Solids; (b) 100 percentile of all samples (volume based) are below 350mg/l of Total Dissolved Solids; and (c) pH values of all sampled water to be between 6.5 and 8.5.			
	12	Within 3 years of the date of this approval, or otherwise agreed by the Director-General, the Proponent must commission the water conditioning plant identified in the EA, to the satisfaction of the Director-General.	NT	Water conditioning plant has not yet been constructed.	Water conditioning plant is scheduled for construction in 2011.
	13	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 Director-General. This revised plan must be produced in consultation with DECCW and NOW by suitably qualified expert/s whose appointments have been approved by the Director-General and include a: (a) Site Water Balance; (b) Erosion and Sediment Control Plan; (c) Surface Water Monitoring Plan; (d) Raffinate Discharge and Transfer Control and Monitoring Plan; (e) Groundwater Monitoring Program; and (f) Surface and Groundwater Response Plan, setting out the procedures for: investigating, and if necessary mitigating, any exceedances of the surface or groundwater assessment criteria (see conditions 16(b) and 18(c) ; and responding to any unforeseen impacts of the project.	NT	Plan is due for submission by 30 June 2011.	
	14	The Site Water Balance must: (a) include details of: sources and security of water supply; underground water make; water use on site; water management on site; off-site water transfers; reporting procedures; (b) describe measures to minimise water use by the project; and (c) be reviewed and recalculated each year in the light of the most recent water monitoring data.	NT	Plan is due for submission by 30 June 2011.	
	15	The Erosion and Sediment Control Plan must: (a) be consistent with the requirements of <i>Managing Urban Stormwater: Soils and Construction</i> manual (Landcom, 2004), or its latest version; (b) identify activities that could cause soil erosion and generate sediment; (c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters; (d) describe the location, function, and capacity of erosion and sediment control structures; and	NT	Plan is due for submission by 30 June 2011.	

Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		(e) describe what measures would be implemented to monitor and maintain the structures over time.			
	16	The Surface Water Monitoring Plan must include: (a) detailed baseline data on surface water flows and quality in creeks and other water bodies that could be affected by the project; (b) surface water impact assessment criteria; (c) a program to monitor the impact of the project on surface water flows and quality; (d) procedures for reporting the results of this monitoring.	NT	Plan is due for submission by 30 June 2011.	
	17	The Raffinate Discharge Control and Monitoring Plan must: (a) be approved by the Director-General prior to any raffinate discharge to the Namoi River; (b) include measures for the continuous monitoring and recording of volumes of water discharged to the Namoi River; (c) contain an ambient water quality monitoring program upstream and downstream of the discharge point; and (d) contain a water quality monitoring program for discharged waters.	NT	Plan is due for submission by 30 June 2011.	
	18	The Groundwater Monitoring Program must include: (a) further development of the regional and local groundwater model; (b) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality (including at any privately owned bores in the vicinity of the site); (c) groundwater impact assessment criteria; (d) a program monitor the impact of the project on groundwater levels, yield and quality; (e) a program to monitor any impacts of the project on the Namoi River Alluvium; (f) a program to monitor, (by the use of shallow piezometers/lysimeters), detect, and quantify any leakage from the site's evaporation/storage ponds, brine storage area or coal reject emplacement area; and (g) procedures for reporting the results of this monitoring.	NT	Plan is due for submission by 30 June 2011.	
	19	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 1×10^{-14} m/s whenever these ponds are in use for the storage of saline waters and less than 1×10^{-9} m/s when being used to store raffinate or captured surface waters.	Y	Sighted "As Constructed" report prepared by URS (September 2010)	
	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 1×10^{-14} m/s whenever these storage ponds are in use.	NT	Brine storage ponds have yet to be constructed. Water conditioning plant has not yet been constructed therefore no brine production to date.	

Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
	21	Within 2 years of commissioning the water conditioning plant, and every 5 years thereafter, unless otherwise directed by the Director-General, the Proponent shall engage suitably qualified experts approved by the Director-General 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 Director-General.	NT	Water conditioning plant has not yet been constructed.	Water conditioning plant is scheduled for construction in 2011.
	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 Director-General.	Y	Requirements identified in ACHMP. Known aboriginal sites are identified and marked in the field with star pickets and flagging - observed marked site along road to ventilation shaft site.	
	23	<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 Director-General. This plan must:</p> <p>(a) be submitted to the Director-General by 30 June 2011;</p> <p>(b) be prepared in consultation with the DECCW, the Narrabri Local Aboriginal Land Council and the Narrabri Goomerai 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;</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>	NT	Plan is due for submission by 30 June 2011.	
	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 DECCW, and to the satisfaction of the Director-General. The Director-General may approve this survey being undertaken in several stages, as mining progresses.	NT	Longwall extraction has not yet commenced.	Longwall extraction is scheduled to commence early 2012.
	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 RTA.	V	Sighted letter from Narrabri Council in relation to roadworks. Intersection was observed to be well maintained at the time of the audit.	It is recommended that NCM continue to liaise with NSC and RTA in relation to maintenance of the intersection.
	26	<p>Prior to using Greylands and Scratch Roads to construct mine-related infrastructure, the Proponent shall enter into an agreement with NSC to:</p> <p>(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 I&I NSW (Fisheries) and to the satisfaction of NSC; and</p> <p>(b) fund the maintenance of those sections of these roads that it uses to an all-weather unsealed road standard.</p>	NT	Greylands and Scratch Roads are not currently being used to construct mine related infrastructure.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
	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>	V	Narrabri Coal has been involved in the study but have not been asked to make a monetary contribution to date.	Continue to liaise with GSC in relation to the study.
	28	The Proponent shall minimise visual impacts of the project to the satisfaction of the Director-General.	NT	The Director-General has not provided any advice in relation to this matter.	
	29	The Proponent shall ensure that: (a) no outdoor lights shine above the horizontal; and	Y	Requirements identified in Section 5.11 of Environmental Management Strategy. Lighting poles observed during the site inspection included lights which were directed downwards.	
		(b) all external lighting associated with the project complies with <i>Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting</i> .	Y	Requirements identified in Section 5.11 of Environmental Management Strategy	
	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 Director-General. This plan must: (a) be prepared in consultation with DECCW; (b) be prepared in accordance with the <i>Guidelines for Energy Savings Action Plans</i> (DEUS, 2005), or its latest version; (c) be submitted to the Director-General for approval prior to 30 June 2011; and (d) include a program to monitor the effectiveness of measures to reduce energy use on site.	NT	Plan is due for submission by 30 June 2011.	
	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 Director-General.	V	The predominant gas associated with the operations is carbon dioxide. During the construction of the gas drainage works, CO ₂ is vented to atmosphere at the gas drainage site. Once the gas drainage infrastructure is completed at each site, gas is pumped to a gas drainage plant in the Pit Top area where it is vented to atmosphere through a diffuser. The GHG Minimisation Plan has been submitted to DoP but not yet approved.	Information on gas volumes and gas quality is being collected as the gas drainage infrastructure is constructed. This information will be utilised to update the Greenhouse Gas Minimisation Plan for the Stage 2 operations.
	32	Prior to carrying out longwall coal mining operations, the Proponent shall submit a Greenhouse Gas Minimisation Plan for the approval of the Director-General. This plan must: (a) be prepared in consultation with DECCW; (b) identify options for minimising greenhouse gas emissions from underground mining operations, with a particular focus on capturing and/or using these emissions; (c) investigate the feasibility of implementing each option; (d) propose the measures that would be implemented in the short to medium term on site; and	NT	Longwall coal mining operations have not yet commenced.	Longwall extraction is scheduled to commence early 2012.

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments														
		(e) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.																	
	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 Director-General. This plan must be:</p> <p>(a) be submitted to the Director-General 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><i>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.</i></p>	NT	Plan is due for submission by 30 June 2011.															
5	1	<p>The Proponent shall rehabilitate the site to the satisfaction of the Director-General and DII in accordance with the rehabilitation objectives in Table 1.</p> <table><tr><th colspan="2">Table 1: Rehabilitation Objectives</th></tr><tr><th>Domain</th><th>Rehabilitation objective</th></tr><tr><td>Surface Facilities Area</td><td>Set through condition 4 below</td></tr><tr><td>Other land affected by the project</td><td>Restore ecosystem function, including maintaining or establishing self-sustaining native ecosystems:<ul style="list-style-type: none">comprised of local native plant species; witha landform consistent with the surrounding environment</td></tr><tr><td>Built features</td><td>Repair/restore to pre-mining condition or equivalent</td></tr><tr><td>Community</td><td>Minimise the adverse socio-economic effects associated with mine closure including the reduction in local and regional employment</td></tr><tr><td></td><td>Ensure public safety</td></tr></table> <p><i>Note: The Proponent may be required to define other rehabilitation objectives in management plans or strategy required under this schedule.</i></p>	Table 1: Rehabilitation Objectives		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">comprised of local native plant species; witha landform consistent with the surrounding environment	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	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Rehabilitation of the majority of the surface disturbance areas i.e. pit top to be undertaken as part of mine closure.	
Table 1: Rehabilitation Objectives																			
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">comprised of local native plant species; witha landform consistent with the surrounding environment																		
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																		
	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.	Y	Rehabilitation of minor works areas such as gas drainage wells, exploration boreholes undertaken on an ongoing basis e.g. Surface to in seam sites 5 and 6.															
	3	<p>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 Director-General and I&I NSW. This plan must:</p> <p>(a) be submitted to the Director-General for approval by 30 June 2011;</p> <p>(b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Director-General;</p> <p>(c) be prepared in consultation with NOW, DECCW and JNSC and</p>	NT	Plan is due for submission by 30 June 2011.															

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		(d) include a: Rehabilitation Management Plan; and Mine Closure Plan.			
	4	<p>The Rehabilitation Management Plan must include:</p> <p>(a) the rehabilitation objectives for the site;</p> <p>(b) a strategic description of how the rehabilitation of the site would be integrated with surrounding land use;</p> <p>(c) a general description of the short and long term measures that would be implemented to rehabilitate the site;</p> <p>(d) a detailed description of the measures that would be implemented to remediate predicted subsidence impacts under individual Extraction Plans;</p> <p>(e) 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:</p> <p>managing remnant vegetation and habitat on site;</p> <p>minimising impacts on fauna;</p> <p>minimising visual impacts;</p> <p>conserving and reusing topsoil;</p> <p>controlling weeds, feral pests, and access;</p> <p>managing bushfires; and</p> <p>managing any potential conflicts between the rehabilitation works and Aboriginal cultural heritage.</p> <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>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.</p>	NT	Plan is due for submission by 30 June 2011.	
	5	<p>The Mine Closure Plan must:</p> <p>(a) define the objectives and criteria for mine closure;</p> <p>(b) investigate options for the future use of the site;</p> <p>(c) provide a detailed methodology for decommissioning the site's evaporation/storage ponds and the treatment of any accumulated salt within or around those ponds;</p>	NT	Plan is due for submission by 30 June 2011.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		(d) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment levels;			
		(e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and			
	6	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:	Y	Sighted and reviewed Narrabri Coal Mine Stage 1 and 2, Biodiversity Offset Strategy (prepared by Eco Logical Australia and dated 23 September 2010.)	
		(a) be prepared in consultation with DECCW;	Y	Sighted letter dated 28/9/10 to DECCW requesting comment on the draft and response from DECCW dated 3/12/10.	
		(b) be submitted to the Director-General for approval by 31 December 2010, or as otherwise agreed by the Director-General;	Y	Sighted letter to DoP dated 28/9/10 submitting a copy of the Plan. Biodiversity Offset Strategy has not yet been approved by DoP.	
		(c) provide a detailed assessment of offset proposal/s involving the property/ies (agreed to by DECCW) 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;	Y	Included in Sections 3.2 and 3.3 and Appendix 5 of Biodiversity Offset Strategy	
		(d) include and assess proposals to offset impacts to the Inland Grey Box EEC, <i>Bertya opposens</i> , and foraging habitat for the Superb Parrot;	Y	Included in Sections 4.3 and 4.4 of Biodiversity Offset Strategy.	
		(e) include proposals on offsetting both direct and indirect impacts (ie. edge effects) of the project; and	Y	Included in Sections 2, 3 and 4 of Biodiversity Offset Strategy	
		(f) determine the best overall combination of lands to provide a suitable offset.	Y	Included in Sections 4.1 and 4.2 of Biodiversity Offset Strategy	
	7	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 Director-General, to the satisfaction of the Director-General. <i>Note: This schedule should be read in conjunction with sections 15,16 and 17 of the revised Statement of Commitments.</i>	NT	Long term security for offsets not required until 31/12/11.	Biodiversity Offset Strategy has not yet been approved by DoP.
6	1	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 Director-General. This strategy must : (a) be submitted to the Director-General for approval prior to 30 June 2011; (b) provide the strategic context for environmental management of the project; (c) identify the statutory requirements that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project	NT	Plan is due for submission by 30 June 2011.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		(e) describe the procedures that would be implemented to: keep the local community and relevant agencies informed about the operation and environmental performance of the project; receive, handle, respond to, and record compliants; resolve any disputes that may arise during the course of the project; respond to any non-compliance; and respond to emergencies; and (f) include a clear plan depicting all the monitoring currently being carried out in the project area.			
	2	The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: the relevant statutory requirements (including any relevant approval, licence or lease conditions); any relevant limits or performance measures/criteria; 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; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: impacts and environmental performance of the project; effectiveness of any management measures (see (c) above); (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the project over time; (g) a protocol for managing and reporting any: incidents; complaints; non-compliances with statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan.	NT	Management Plans are not due until 30 June 2011.	
	3	Within 3 months of the submission of an: (a) audit under condition 7 of schedule 6; (b) incident report under condition 4 of schedule 6; and (c) annual review under condition 5 of schedule 6, the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.	NT NT NT	This is the first audit of the operations No incidents have been reported during Stage 2 construction AEMR has not been produced yet for Stage 2	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		<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>			
	4	The Proponent shall notify the Director-General 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 Director-General and any relevant agencies with a detailed report on the incident.	NT	No incidents have been reported during Stage 2 to date.	Incidents reported during Stage 1 were reported to DoP and DECCW.
	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 Director-General.	Y	Quarterly environmental monitoring reports and AEMRs were sighted on the Whitehaven Narrabri North Mine website.	
	6	<p>Within 12 months of this approval, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:</p> <p>(a) describe the works that were carried out in the past year, and the works that are proposed to be carried out over the next year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against:</p> <p>the relevant statutory requirements, limits or performance measures/criteria;</p> <p>the monitoring results of previous years; and</p> <p>the relevant predictions in the EA and Extraction Plan;</p> <p>(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measure will be implemented over the next year to improve the environmental performance of the project.</p>	NT	Review will be due in July 2011.	AEMRs have been produced for the Stage 1 operations. These were reviewed as part of the Stage 1 approval.
	7	Prior to 13 September 2010, and every 3 years thereafter, unless the Director-General 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:	Y	Sighted Whitehaven Coal letter to DOP dated 2 September 2010 to seek approval of audit team.	
		(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;	Y	Umwelt audit team was approved by DoP (letter dated 3/11/10). Audit team members are certified with RABQSA as auditor or lead auditor.	
		(b) include consultation with the relevant agencies;	Y	Consultation with government agencies undertaken by the auditors by phone. Results of consultation documented in Section 3.2 of the Audit Report.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		(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);	Y	Audit assessed compliance with Project Approval, Statement of Commitments, Environment Protection Licence and Mining Lease. The site inspection and review of monitoring data were also used to assess the environmental performance of the operations. Refer to Section 4 of the Audit Report.	
		(d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate,	Y	All management plans and programs were reviewed in terms of their ability to meet the requirements outlined in the Project Approval and the environmental controls committed to. Refer to Section 3.4 of the Audit Report.	
		(e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.	Y	Recommendations provided in Audit Report	
		<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>	Y	Audit team led by a RABQSA certified Lead Auditor.	
	8	Within 6 weeks of the completing of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.	NT	Audit has not yet been submitted.	
	9	The Proponent shall maintain a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General, 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>	Y	CCC has been established for the Stage 1 approval and is continuing for the Stage 2 approval. Copies of meeting minutes were reviewed during the audit.	
	10	The Proponent shall make the following information publicly available on its website: (a) a copy of all current statutory approvals;	Y	Copies of Stage 1 and Stage 2 approvals were sighted on the Whitehaven Narrabri North website.	However, it was noted that a copy of the modification (05_0102_MOD 1) associated with Stage 1 approval was only included on the website as an Appendix to the 2009/2010 AEMR. A copy of the consolidated consent was not available on the website.
		(b) a copy of the current environmental management strategy and associated plans and programs;	Y	Copies of all currently approved management plans (Stage 1 plans) were sighted on the Whitehaven Narrabri North website.	
		(c) a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;	Y	Quarterly environmental monitoring reports were sighted on the Whitehaven Narrabri North website.	
		(d) a complaints register, which is to be updated on a monthly basis;	Y	Complaints registers from 2008 to 2011 are available on the Whitehaven Narrabri North website.	
		(e) a copy of the minutes of CCC meetings;	Y	Copies of all CCC meetings held to date are available on the Whitehaven	
		(f) a copy of any Annual Reviews (over the last 5 years);	Y	Copies of the AEMRs produced from Stage 1 of the project (2008/2009 and 2009/2010) were sighted on the Whitehaven Narrabri North website.	
		(g) a copy of any Independent Environmental Audit, and the Proponent's response to the recommendations in any audit; and	NT	No audits have been completed to date.	
		(h) any other matter required by the Director-General.	NT	The Director-General has not advised of any other matters.	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
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 Director-General, the affected landowners and tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of those parties until the results show that the project is complying with the criteria in schedule 4.	NT	Monitoring has shown no exceedances of the criteria for Stage 2 of the operations.	
	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.	NT	Monitoring has shown no exceedances of the criteria for Stage 2 of the operations.	
	3	<p>If a landowner considers the project to be exceeding the impact assessment criteria in schedule 4, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:</p> <p>(a) consult with the landowner to determine his/her concerns;</p> <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:</p> <p>determine whether the project is complying with the relevant impact assessment criteria in schedule 4; and</p> <p>identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and</p> <p>(c) give the Director-General and landowner a copy of the independent review.</p>	NT	No independent reviews requested to date.	
	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 Director-General.</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> <p>(a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria and conduct further monitoring to determine whether these measures ensure compliance; or</p>	NT	No independent reviews requested to date.	

Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		<p>(b) secure a written agreement with the landowner to allow exceedances of the relevant criteria,</p> <p>to the satisfaction of the Director-General.</p> <p>If further monitoring under paragraph (a) determines that the project is complying with the relevant criteria, then the Proponent may discontinue the independent review with the approval of the Director-General.</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 Director-General.</p>			
	5	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the 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:</p> <p>existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and</p> <p>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;</p> <p>(b) the reasonable costs associated with:</p> <p>relocating within the Narrabri or Gunnedah local government areas, or to any other local government area determined by the Director-General;</p> <p>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</p> <p>(c) reasonable compensation for any disturbance caused by the land acquisition.</p> <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 Director-General for resolution.</p> <p>Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:</p> <p>(a) consider submissions from both parties;</p> <p>(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;</p>	NT	No written requests for acquisition to date	

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Schedule	Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
		<p>(c) prepare a detailed report setting out the reasons for any determination; and</p> <p>(d) provide a copy of the report to both parties and the Director-General.</p> <p>Within 14 days of the 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 Director-General 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 Director-General 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 Director-General's determination.</p> <p>If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.</p>			
	6	<p>The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 5 above.</p> <p>If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall 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.</p>	NT	No written requests for acquisition to date	

APPENDIX 4

Compliance Assessment Statement of Commitments Stage 1

Statement of Commitments - Stage 1 Approval



	Requirement	Compliance Y/N/NT	Evidence	Comments
1.1	Survey and mark the boundaries of the areas of disturbance on the ground.	V	Construction of Stage 1 has generally been completed. Therefore, it is not possible to verify if the disturbance boundaries were marked out beforehand.	A review of the approved plans and comparison to the actual facilities constructed shows that construction has been undertaken within the approved boundary - this would indicate that areas were most likely marked out beforehand.
1.2	Survey and peg the centre line of the site access road.	V	The site access road has been completed, therefore it is not possible to verify if the centreline was pegged.	
2.1	Undertake vegetation clearing/soil removal within the hours of 7.00am to 6.00pm/7 days.	V	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.2	Undertake box cut excavation and rail loop construction of Surface Infrastructure and Pit Top Area within the hours of 7.00am to 10.00pm/7 days.	V	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.3	Undertake raw materials/supply delivery within the hours 7.00am to 10.00pm/7 days.	V	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.4	Undertake construction of drifts from box cut during the hours of 7.00am to 10.00pm/7 days.	N	Drift construction undertaken 24 hours 7 days a week as indicated in EA and in various management plans	This commitment is inconsistent with the EA and the various management plans that have been approved, all of which permit drift construction 24/7. Refer to Section 3.3.3 of the Audit Report for further details.
2.5	Undertake all blasts for the box cut and rail loop when necessary between 10.00am and 4.00pm, Monday to Friday.	Y	Sighted blast monitoring data which indicates compliance	
3.1	Undertake underground coal extraction within the hours 24 hours/7days.	Y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
3.2	Undertake crushing and stockpiling within the hours 24 hours/7days.	Y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
3.3	Undertake rail loading and transportation within the hours 24 hours/7 days.	Y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	

Statement of Commitments - Stage 1 Approval



	Requirement	Compliance Y/N/NT	Evidence	Comments
3.4	Undertake surface maintenance within the hours 24 hours/7 days.	Y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
3.5	Undertake raw materials/supply delivery within the hours 7.00am to 10.00pm/7 days.	Y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
4.1	Dispose all paper and general waste in 205L drums and 240L mobile bins.	Y	Paper and general waste are collected in 240L mobile bins and emptied into skip bins for disposal.	
4.2	Collect general waste bins daily and place contents in large, lidded waste storage receptacles or dumpsters to await removal by licensed contractor.	Y	Waste removal records sighted.	
4.3	Collect industrial waste fortnightly, or more frequently if required.	Y	Waste removal records sighted.	
4.4	Install separate containers for the collection of recyclable items and despatch off site at appropriate intervals.	Y	Skip bins for metals and skip bins for paper and cardboard were observed at various places around the site and were utilised for appropriate recyclables.	
4.5	Employ a licensed waste collection contractor for all general waste/garbage at least on a weekly basis.	Y	Sighted waste collection dockets held in stores office.	
4.6	Collect waste oils and grease and pump to bulk storage tanks.	Y	Sighted facilities during on site inspection.	Waste oils collected in 1000L iso tanks. Could improve waste oil handling arrangements. Temporary waste oil tank was located on a spill pallet adjacent to the workshop vehicular door but there was no protection to the tank from vehicular collision (see Plate 3 in Appendix 8 of the Audit Report)
4.7	Collect all parts/packaging and transfer to the maintenance workshop for disposal or recycling.	Y	Facilities for the storage and disposal of parts and packaging were observed around the workshop area.	
4.8	Install adequate toilet and ablution facilities within the mine facilities area for the site workforce and visitors.	Y	Sighted facilities during on site inspection.	

Statement of Commitments - Stage 1 Approval



	Requirement	Compliance Y/N/NT	Evidence	Comments
4.9	Install a self irrigating septic sewage system approved by Narrabri Shire Council.	Y	Sighted package treatment plant installed on site with irrigation system - system was in need of maintenance at time of inspection. Sighted Local Approval 46/09 for sewerage and drainage works. Building Inspection Report (No. 2413) sighted which identified that the plant was operating satisfactorily.	Clarified water tank was overflowing at the time of inspection.
4.10	Service facilities by a licensed sewage collection/disposal contractor.	Y	Management of temporary facilities undertaken by licenced contractor	
5.1	Stabilise all earthworks, drainage lines and disturbed areas no longer required for mine-related activities in order to minimise erosion and sedimentation, and to reduce the visibility of the activities from adjacent properties and the local road network.	Y	Observed during the on site inspection rehabilitation of work areas being undertaken on an ongoing basis - eg SIS sites 5 & 6.	
5.2	Provide a low maintenance, stable and safe landform that blends with the surrounding topography and which is commensurate with re-established agricultural land uses.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure.	
5.3	Ensure any areas of disturbance that require profiling meet the requirements of the final landform.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure.	
5.4	Replace subsoil and topsoil over areas of disturbance in the same order and approximately same depths as it was removed.	Y	Soil management is addressed in the EMS. Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. SIS sites 5 and 6 were in the process of being rehabilitated. Subsoil had been replaced and stockpiled topsoil was ready for replacement.	
5.5	Undertake consultation with the future landowner/land user to determine the most appropriate crop/pasture species to be replanted.	NT	Future landowner/land user not yet determined.	

Statement of Commitments - Stage 1 Approval

	Requirement	Compliance Y/N/NT	Evidence	Comments
5.6	Conduct ongoing rehabilitation monitoring and maintenance throughout and beyond the operation.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure. Monitoring and maintenance has been programmed but not yet undertaken.	
5.7	Prevent excessive development of weeds within the rehabilitated areas.	Y	No obvious signs of weed infestation within rehabilitation areas.	Stands of scotch thistle were observed during site inspections and it is recommended that NCM undertake the measures as detailed in the rehabilitation management plan.
5.8	Undertake noxious weed control or eradication in consultation with DPI (Agriculture) and/or local Noxious Weeds Inspector.	N	No documented evidence of consultation with DPI or local Noxious Weeds Inspector, however D. Young (Whitehaven) advised that local Noxious Weeds Inspector (John Busby from NSC) had been on site approximately 18 months ago and was satisfied with weed management on site.	
5.9	Implement principles of responsible land ownership and ensure that feral animals and weeds are managed.	Y	Principles are outlined in the site's Land Management Plan	
5.10	Excavate all remaining salt from evaporation/brine ponds and dispose of either off-site or place within the completed underground mine workings.	NT	The water conditioning plant was not in operation at the time of the audit and therefore this commitment has not been triggered.	
5.11	Sample and test soil/sub-soil below and surrounding the ponds for signs of salt contamination.	NT	The water conditioning plant was not in operation at the time of the audit and therefore this commitment has not been triggered. It is noted that the evaporation ponds have been lined to minimise / eliminate seepage.	
5.12	Prepare a Rehabilitation and Landscape Management Plan, including all disturbed area of the Project Site.	Y	Sighted Narrabri Underground Project Rehabilitation Management Plan Dated 10 September 2009 Rev 1.	
5.13	Conduct a post-mine monitoring program.	NT		

Statement of Commitments - Stage 1 Approval



	Requirement	Compliance Y/N/NT	Evidence	Comments
6.1	Retain selected surface water structures such as the farm dams and diversion swales to allow for continued water management across the Pit Top Area.	Y	A number of farm dams have been retained in the pit top area.	
6.2	Construct concrete causeways or pipe culverts at natural drainage lines along the alignment of the Site Access Road.	Y	Pipe culverts observed during on site inspection.	
6.3	Direct runoff collected by the catch drains to the sediment basin and/or storage dams in the Pit Top Area.	Y	All runoff from disturbed areas directed to sediment basin 1.	
6.4	Design and construct sediment basins to allow sufficient settlement time such that any discharged water meets the following quality criteria: Total Suspended Solids \leq 50mg/L Oil and grease \leq 10mg/L pH = 6.5 - 8.5	Y	Dam designed in accordance with "the Blue Book". No water has been discharged off site to date. Monitoring data sighted during the audit indicated that water quality parameters are being measured.	
6.5	Direct all water from wash-down areas and workshops to oil/water separators and containment systems.	Y	Sighted grated drain and Hume separator located to the north (rear) of the workshop during site inspection.	
6.6	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.	N	There are a number of self bunded facilities which are considered adequate however, there are also locations where 1000L isotainers and 20L drums were placed at the edge of the bund facility such that if a leak occurred it may not be captured within the bund (refer to Plate 1 in Appendix 8 of the Audit Report).	
6.7	Securely store all hydrocarbon products.	N	Hydrocarbons including oils and greases were generally observed to be stored in lockable bunded storage containers. However, waste oil was not securely stored.	The location of the temporary waste oil facility adjacent workshop access door is consider to be a high risk area i.e damage due to collision. NCM to consider suitability of the location for a placement waste oil facility.
6.8	Refuel all of the Proponent's mining fleet within designated areas of the project surface facilities.	Y	Refuelling areas were observed on the site inspection.	It was noted that the new refuelling truck (Rego BJ 30 MV) did not have a spill kit on board.
6.9	Maintain sufficient freeboard within evaporation/storage ponds to cater for design 1 in 100 year ARI event.	Y	Each pond has a spillway consisting of a large diameter poly pipe installed at the nominated freeboard height such that they overflow into the next pond to ensure freeboard is maintained.	Guage boards were proposed to be installed in the evaporation ponds to monitor the water level (EA Section 4B.1.4.2.5), however these have yet to be installed.

Statement of Commitments - Stage 1 Approval

	Requirement	Compliance Y/N/NT	Evidence	Comments
6.10	Pumping of groundwater to the evaporation pond system will cease when the approved freeboard is exceeded.	Y	Each pond has a spillway consisting of a large diameter poly pipe installed at the nominated freeboard height such that they overflow into the next pond to ensure freeboard is maintained.	
6.11	Construct a containment bund downstream of the evaporation ponds to retain any spill in the unlikely event of an embankment failure.	Y	Bund observed during site inspection.	
6.12	Monitor the volume of water discharged to, and remaining storage capacity of, the evaporation ponds.	N	The volume of water discharge to the dam is being monitored. The remaining capacity in the dam is however not being monitored at present.	
6.13	Undertake an annual review of the water balance and submit a report demonstrating a nil discharge for the equivalent wettest 10 year cycle of the 116 year rainfall record. Following completion of the transient calibration of the groundwater model and first annual review of the water balance, prepare a Dewatering Plan for the project. The plan will include identification of lead times to implement the proposed management strategies.	N	Some assessment undertaken in AEMR. The water management plan is being revised as part of Stage 2 and assessment will be undertaken once the stage 2 plan has been approved.	
6.14	Provide for the construction and operation of a reverse osmosis water conditioning plant within the Dewatering Plan once dewatering volumes exceed operational requirements sufficiently to warrant the operation of such a plant (approximately 880m ³ /day). The design of the RO water conditioning plant would be based on the design plan provided by Parsons Brinckerhoff (2007) (Appendix 4 of the <i>Environmental Assessment</i>).	Y	Dewatering records show the volume of water extracted from the underground operation is less than 0.88 ML per day. NCM has however commenced construction of the water conditioning plant for the treatment of captured water such that is suitable for use underground thereby minimising dependence on captured surface water and / or extraction from the Namoi River.	
6.15	Maintain a ground cover of vegetation at 70% or better over areas disturbed but no longer required by the project.	Y	Rehabilitation of minor works areas such as gas drainage wells, exploration boreholes undertaken on an ongoing basis e.g. Surface to in seam sites 5 and 6.	
6.16	Construct the Site Access Road with a crowned surface to divert water that falls onto the road into roadside drains either side of the road surface. Immediately grass the roadside drains to provide erosion and sediment control and install sediment fencing within the minor drainage lines, if required.	Y	Site Access Road observed during audit.	

Statement of Commitments - Stage 1 Approval



	Requirement	Compliance Y/N/NT	Evidence	Comments
6.17	Armour the banks of the rail loop with ballast (larger diameter competent rock).	N	Batters of the rail loop are covered in vegetation negating the need for rock armouring.	
6.18	Inspect the banks of the rail loop and remediate erosion damage within Kurrajong Creek Tributary 1.	NT	Kurrajong Creek Tributary 1 has not had elevated water levels to date.	Section 4B.1.4.4 of the EA provides the context for this commitment which relates to periods of elevated water levels within Kurrajong Creek Tributary 1.
6.19	Maintain and/or enhance as much vegetation on the Project Site as possible, particularly trees.	Y	Observed evidence of tree planting at various locations. Approval of all ground disturbance works is required prior to commencement. This process involves confirmation of the extent of works / ground disturbance is consistent with that defined in the EA.	
6.20	Prepare and implement a Surface Water Management Plan (SWMP). The SWMP would include:	Y	Sighted and reviewed Construction Phase Surface Water Management Plan (prepared February 2008). Sighted and reviewed Site Water Management Plan (prepared June 2010) includes S75W modification. Consultation undertaken with DECC on Construction Water Management Plan by emails dated 17/2/2008 and 20/02/08 and with DWE by letter dated 8/2/08 (email and letters sighted). Construction Plan was submitted to and approved by DoP by letter dated 20/2/08 (letter sighted). For the Site Water Management Plan, consultation with DECCW occurred via email dated 8/4/2010 and with NOW by letter dated 4/5/10 (letters sighted). The Site Water Management Plan was submitted to DoP on 3/6/10 and approved by letter dated 13 July 2010 (letters sighted).	
	a site water balance;	Y	Section 5 of Site Water Management Plan	
	design detail of clean and dirty water management structures;	Y	Sections 2 and 5 of Site Water Management Plan	
	an erosion and sediment control plan;	Y	Section 4 of Site Water Management Plan	
	a monitoring program for surface and mine inflows; and	Y	Section 6 of Site Water Management Plan	

Statement of Commitments - Stage 1 Approval



	Requirement	Compliance Y/N/NT	Evidence	Comments
	contingency plans for contamination events or elevated impacts on the availability of water resources.	Y	Section 8 of Site Water Management Plan	
7.1	Complete sampling and analysis of in-situ clay resources to determine if sufficient material of appropriate permeability available for the construction of the ponds.	Y	Sighted Design Report Evaporation and Storage Dams, Narrabri Coal Pit Top Infrastructure, prepared by URS December 2007.	
7.2	Design and construct evaporation/brine ponds with either a 90mm thick clay layer of permeability $\geq 1 \times 10^{-9}$ m/s at 900mm thickness floor and walls OR an FML with a minimum thickness of 1.5mm, effective permeability of 1×10^{-14} m/s and appropriate sub-grade preparation to minimise puncture of materials and long term protection of the liner from UV degradation.	Y	Ponds A1, A2 and A3 have been constructed with liners. Pond B1 was in construction at the time of the audit and was observed to be in the process of being lined with a HDPE liner. Sighted As Built Report Narrabri Coal Evaporation and Storage dams dated September 2010.	
7.3	Submit detailed designs for the ponds to the DECC.	Y	Sighted Design Report Evaporation and Storage Dams, Narrabri Coal Pit Top Infrastructure, prepared by URS December 2007.	
7.4	Complete and submit to the DECC a post-construction verification report which includes works as executed drawings for the completed works; final surveyed dimensions and capacities; and results of QA/QC testing verifying that design clay liner depth and permeability has been achieved.	N	Sighted As Built Report Narrabri Coal Evaporation and Storage dams dated September 2010. NCM state submission pending.	
7.5	Operate two active ponds at any one time.	Y	Pond A is currently in operation (3 cells A1, A2, A3) with Pond B under construction (cell B1).	Commitment relates to a commitment made in the Response to Submissions.
7.6	Update predictions of salt accumulation within the ponds based on measured dewatered mine in-flows and water quality.	N	No evidence sighted to suggest this is being undertaken.	Commitment relates to a commitment made in the Response to Submissions.
7.7	Excavate the accumulated salt from the ponds (initial excavation would be annual, with the internal revised over time depending on the deposition rate of the salt) and disposed of either off-site (through commercial arrangement) or placed within the completed underground mine workings.	NT	Mining has not been undertaken for more than 12 months.	
7.8	Monitor mine in-flows and advise DECC and DWE when the mine water inflow exceeds trigger level for construction of reverse osmosis water conditioning plant (880m ³ /day).	Y	Trigger level has not been exceeded to date.	

Statement of Commitments - Stage 1 Approval

	Requirement	Compliance Y/N/NT	Evidence	Comments
7.9	Construct shallow piezometers or soil lysimeters around the evaporation ponds and monitor soil and/or water quality within these (for salinity).	N	Piezometers constructed however no monitoring has occurred to date.	
7.10	Prepare a Salinity Contamination Contingency Plan, in consultation with the DWE and DECC, presenting details of monitoring and remedial measures to identify and mitigate any salinity contamination.	N	No evidence sighted that this has been undertaken although some information on salinity contamination contingencies is contained in Site Water Management Plan.	Commitment relates to a commitment made in the Response to Submissions.
8.1	Seal the mine drifts where localised elevated in-flows are identified using in-strata grouting or hydrophobic sealant.	NT	Mine is generating very little water at the time of the audit.	
8.2	Monitor mine in-flows and groundwater quality to allow for comparison against the predictions made by GHD (2007).	Y	Minewater inflows and groundwater quality are being monitored. Monitoring results sighted.	
8.3	Prepare quarterly summary reports of monitoring that include average and maximum daily mine water inflow, average water quality (salinity), stored volume of water within the evaporation/storage dam system and remaining capacity within the evaporation/storage dam system.	N	No evidence sighted to indicate that summary reports are being prepared.	
8.4	Complete a transient calibration of the predictions made by GHD (2007) (based on the measured mine in-flows) and compare against impacts on mine in-flows and local drawdown.	NT	A sufficient duration of mining has not occurred to permit a meaningful transient calibration to be undertaken.	
8.5	Undertake a review of the transient calibration of the groundwater model after 12 months of mining and update predictions of groundwater inflow rates and drawdown impacts.	NT	12 months of mining has not been undertaken at the time of audit.	
8.6	Commission an annual review of the results and frequency of monitoring by a qualified hydrogeologist to determine the adequacy of monitoring program and to provide interim assessment of operational impacts on groundwater levels.	NT	A sufficient duration of mining has not occurred to permit a meaningful transient calibration to be undertaken.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
8.7	Undertake remedial action if the available drawdown attributable to the mine for the existing groundwater users is reduced by over 15%. The remedial actions that may be appropriate for the deeper bores includes lowering of the pump sets, installation of pumps with higher lift if casing diameter allow or possibly replacement of bores to accommodate deeper, higher lift pumps. For the shallower alluvium bores, deepening of the bores to provide a greater saturated thickness may be required.	NT	A sufficient duration of mining has not occurred to permit a meaningful transient calibration to be undertaken.	
8.8	Acquire water access licence(s) for the predicted in-flow from the Pilliga Sandstone prior to drawdown impacts in this strata.	Y	Sighted Water Licence 90BL254679 - 818ML aquifer interference licence.	
9.1	Clearly identify the boundaries of the Pit Top construction areas. Ensure no clearing occurs outside these boundaries.	V	Construction of the Stage 1 pit top area has been completed, therefore this commitment cannot be verified at this time. However, it was observed that the pit top area appears to have been constructed as outlined in the EA.	A review of the approved plans and comparison to the actual facilities constructed shows that construction has been undertaken within the approved boundary - this would indicate that areas were most likely marked out beforehand.
9.2	Minimise clearing as much as practicable within the Pit Top Area.	Y	Approval of all ground disturbance works is required prior to commencement. This process involves confirmation of the extent of works / ground disturbance is consistent with that defined in the EA.	
9.3	Locate the facilities within the Pit Top Area so as to avoid or minimise removal of hollow-bearing trees that are potential nest and/or roost sites.	Y	Approval of all ground disturbance works is required prior to commencement. This process involves confirmation of the extent of works / ground disturbance is consistent with that defined in the EA.	
9.4	Re-site all hollow-bearing trees removed where practicable or provide replacement hollows in the form of an equivalent number of nest boxes on suitable trees to be retained (within the Pit Top Area).	NT	Hollow bearing trees have not been removed during the construction of Stage 1, hence nest boxes have not been required.	
9.5	Conduct a pre-clearance survey by a qualified ecologist to identify and relocate any fauna species residing in any of the individual trees to be cleared.	Y	Sighted Water pipeline and powerline Pre-clearing Survey Ecological 2 November 2010.	
9.6	Break up the trees cleared (excluding those found to be hollow-bearing) into small sections and used as mulch.	Y	Requirements identified in Landscape Management Plan. Sighted mulched areas during site inspection.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
9.7	Strip all groundcover vegetation with the topsoil to ensure maximum retention of nutrients and native seeds to facilitate rapid vegetation of the soil stockpiles.	Y	Topsoil stockpiles sighted during site inspection. Stockpiles were revegetating with native species.	
9.8	Ensure that all weeds are managed and excessive weed development is prevented.	Y	Weed management is documented in the Landscape Management Plan and also in the Environmental Management Strategy.	Although not excessive, stands of scotch thistle were observed during site inspections and it is recommended that NCM undertake the measures as detailed in the rehabilitation management plan.
9.9	Undertake noxious weed control or eradication in consultation with DPI (Agriculture), Rural Lands Protection office and/or local Noxious Weeds Inspector (Narrabri Council weeds officer).	N	No evidence that consultation has been undertaken with DPI or Rural Lands Protection Office. D. Young (Whitehaven) advised that local Noxious Weeds Inspector (John Busby from NSC) had been on site approximately 18 months ago and was satisfied with weed management on site.	
9.10	Undertake regular inspections of all Pit Top Area water storages for fauna and instigate appropriate measures if fauna identified.	V	Reported to be undertaken however no documented evidence provided to support this statement.	
9.11	Undertake regular reviews of the revegetation program to ensure it remains relevant.	N	No evidence sighted during the audit to indicate that this has been undertaken.	
9.12	Time clearing within woodland communities, where practicable, to avoid fauna breeding seasons.	Y	Sighted Water pipeline and powerline Pre-clearing Survey Ecological 2 November 2010. Works undertaken to avoid impacts on Grey Crowned Babbler.	
9.13	Implement a feral baiting and/or trapping program, consistent with the existing feral animal control strategy.	Y	Feral animals have not been an issue since operations commenced. A control program is documented in the LMP, however there has been no need to implement it.	
9.14	Undertake progressive and final rehabilitation across the Project Site to recreate a final land use of agriculture and native vegetation.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
9.15	Prepare a Flora and Fauna Management Plan.	N	No specific Flora and Fauna Management Plan has been prepared, however, components included in the Landscape Management Plan.	
10.1	Involve all site employees and contractors in an awareness program re: Aboriginal heritage issues. This will involve trained assessors and Indigenous representatives.	Y	Sighted Whitehaven generic induction manual Rev 1 dated 30/3/2010. Induction training is provided by trained assessors. Whilst indigenous representatives are not specifically involved in the induction program, they are utilised on site during activities such as topsoil stripping and contribute to training and awareness of employees through these activities.	
10.2	Identify and mark the location of Aboriginal Sites 3 to 6 for long term protection.	Y	Aboriginal sites identified and marked were sighted during the site inspection - for example the site located along the access road to the ventilation shaft.	
10.3	Conduct all Pit Top Area activities outside Zone 1 (watercourses) with the exception of a minor section of the rail loop.	Y	Stage 1 Pit Top activities are being conducted outside of Zone 1.	
10.4	Undertake further detailed survey work and possibly test pitting and seek advice from the consulting archaeologist and Narrabri LALC, should be for any reason, disturbance be required within Zone 1.	NT	No disturbance has been proposed or undertaken in Zone 1.	
10.5	Invite a representative of the Narrabri Local Aboriginal Land Council to monitor topsoil stripping activities.	Y	Sighted soil stripping records for the ventilation shaft area.	
10.6	Ensure that if any further Aboriginal objects are uncovered at any time during the course of the project, work at the area ceases and the Proponent contacts the NSW DECC for advice.	Y	Potential artefacts identified during stripping operations at Vent Shaft site. Works ceased and DECC notified (letters sighted).	
10.7	Ensure that, if a tree to be felled is identified as having culturally made scars it is retained <i>in situ</i> and protected.	NT		
10.8	Ensure that, where it is not possible to retain the scarred trees <i>in-situ</i> , they are cut to preserve the scar, and relocated into a designated protected area. Salvage any sites prior to disturbance of this area.	NT		
10.9	Prepare a Cultural Heritage Management Plan (CHMP), to the satisfaction of the DECC and other stakeholders.	Y	ACHMP dated 3/12/2007. DECC approval provide 30/1/2008.	
11.1	Avoid stripping subsoils in SMU1 below 40cm in depth.	Y	Rail loop is in fill where it is within SMU1.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
11.2	Carefully select soil stockpile locations to avoid subsequent movement, to ensure that the soil structure is not degraded.	Y	Stockpile location observed during site inspection were satisfactory.	
11.3	Avoid stripping or replacing under wet conditions.	V	Reported to be undertaken but no evidence provided at the time of the audit.	
11.4	Position soil stockpiles inside the Pit Top Area perimeter bund to prevent surface water runoff coming into contact with the soil stockpiles.	Y	Soil stockpiles were sighted during the site inspection and were observed to be within the pit top perimeter bund.	
11.5	Install protective earthworks such as straw bale or contour bank protection to protect the soil stockpile from overland flow as required.	Y	Requirements identified in Section 4.4 of the Construction Phase Surface Water Management Plan. Soil stockpiles observed during the site inspection were generally well vegetated and showed no obvious signs of erosion.	
11.6	Install silt-stop fencing or similar protection immediately downslope of stockpiles and retain until such time as they develop a stable cover of vegetation.	V	No evidence of control sighted at the time of inspection, although it was noted that the soil stockpiles were generally well vegetated.	
11.7	Strip topsoil to a depth of 15cm and strip subsoil to a depth of 25cm (where sufficient soil depths are available).	V	Requirements identified in EMS but no documented evidence provided at the time of the audit.	
11.8	Stockpile topsoil and subsoil separately with topsoil stockpiles not exceeding 2m in height and subsoil stockpiles not exceeding 3m in height.	Y	Stockpile heights observed during site inspection were satisfactory.	
11.9	Remove and re-install/redesign soil conservation banking systems on farmland if it is to be re-used for cropping or in areas where water flow has been concentrated following subsidence.	Y	Soil conservation banking systems were installed on area of Pit Top not required for mine facilities. These were observed during the site inspection.	
11.10	Prevent mobile equipment, including light vehicles from accessing soil stockpiles once created.	Y	No obvious signs observed at the time of the inspection.	
11.11	Install well maintained upslope water diversion banks or swales where overland surface water flow has the potential to impact on the soil stockpiles.	Y	Diversion banks sighted during site inspection.	
11.12	Implement downslope sedimentation controls as required.	N	Controls were either absent or consisted of a sediment basin (larger disturbance areas only) at the time of the inspection (eg ventilation shaft site). Further measures to be implement such as diversion bunds and silt fences to be considered.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
11.13	Ensure soil stockpile surfaces have a generally even surface that is as 'rough' as possible, in a micro-sense, to assist in runoff control and seed retention and germination.	Y	Stockpile surface adequate observed during site inspection were satisfactory.	
11.14	Sow surfaces of soil stockpiles with appropriate groundcover species.	Y	Soil stockpiles were generally vegetated at the time of the audit.	
12.1	Use soft lighting strategically placed on the Pit Top Area to minimise impact on surrounding residents while allowing for evening maintenance and deliveries and night train loading activities.	Y	Lighting poles observed during the audit had lighting which was directed downwards.	
12.2	Construct the perimeter amenity bund and vegetate with native grasses, shrubs and trees.	Y	Amenity bund observed during site inspection to have been constructed and vegetated. Tree planting on the bund was observed to have been commenced.	
13.1	Avoid disturbing area outside approved areas.	Y	Ground disturbance permitting process in operation - example of permitting process for ventilation shaft area was sighted during the audit.	
13.2	Apply water for dust suppression at critical locations such as at all surface conveyor transfer and discharge points, feed hopper, crusher, stockpiles, hardstand areas, the rail load-out facility and unsealed roads, etc.	Y	At the time of the inspection a large number of components were not constructed. A water cart was observed in operation at the time of the inspection. Water sprays have been installed on the ROM and product coal conveyors.	
13.3	Fit all conveyors with appropriate cleaning and collection devices to minimise the amount of material falling from the return conveyor belts.	Y	At the time of the inspection a large number of components were not constructed. Areas beneath drift conveyor and product conveyor were observed to be reasonably clean, indicating return belts are not dropping coal material.	
13.4	Partly enclose all surface conveyors to minimise dust lift off.	Y	At the time of the inspection a large number of components were not constructed. However, drift conveyor and product stockpile conveyor were observed to be partly enclosed.	
13.5	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).	V	Requirements identified in EMS but no documented evidence provided at the time of the audit.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
13.6	Prepare a Greenhouse Gas Report to the DECC including commitments and procedures to monitor and report annually on greenhouse gas emissions.	Y	Plan submitted to DoP and DECC. Plan yet to be approved	
13.7	Progressively rehabilitate areas of disturbance including topsoil and subsoil stockpiles.	Y	Topsoil and subsoil stockpiles observed during the site inspection were generally revegetated - with the exception of the temporary stockpiles at the ventilation shaft area.	
13.8	Construct the perimeter amenity bund and windbreaks.	Y	Amenity bund sighted during site inspection. Bund was grassed and tree planting had commenced.	
13.9	Progressively rehabilitate areas no longer required for operational purposes.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to be undertaken as part of mine closure.	
13.10	Minimise the length of time coal is held in stockpiles.	Y	Stockpile and Spontaneous Combustion Management Plans in place which provide adequate mitigation measures including but not limited to residence times in stockpiles "First in, First Out" process outlined in Section 3.17 of the Stockpile Management Plan dated 29/4/10.	
13.11	Monitor coal stockpiles for signs of spontaneous combustion.	Y	Spontaneous Combustion Management Plan in place (Rev 0, dated 3/12/07). Stockpiles monitored.	
13.12	Immediately report incidents.	Y	One incident reported - spontaneous combustion of a coal pile around a conveyor support. The incident was only reported internally as the size and nature of the incident was not reportable to DII.	
13.13	Extinguish fire by removal from stockpile, spreading and saturation with water.	Y	Requirements identified in Section 6.1.3 of the Spontaneous Combustion Management Plan.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
14.1	Transport coal entirely by rail.	Y	Rail loop constructed and operational. No trains at the time of the audit.	
14.2	Construct the Site Access Road as a two lane, sealed road of 8m pavement width with 1m wide unsealed shoulders.	Y	Site access road constructed and inspected during site inspection.	
14.3	Construct the Kurrajong Creek Road Level Crossing with boom gates, flashing lights and warning bells.	Y	Rail crossing constructed - boom gates, lights and warning bells installed.	
14.4	Construct the Kurrajong Creek Road - Site Access Road intersection as a "T" intersection to emphasize the changed priority on Kurrajong Creek Road. Erect a "Stop" sign on Kurrajong Creek Road at the intersection to control the movement of traffic into the intersection.	Y	Observed Kurrajong Creek Road intersection constructed as T intersection with stop sign installed.	
14.5	Construct a channelised right turn lane, including lane development, storage for worst-case rail crossing closure and deceleration distance of 198m for southbound traffic at the intersection of the Kamilaroi Highway with Kurrajong Creek Road. Similarly, construct a 165m channelised left turn lane with a deceleration lane taper for northbound traffic.	Y	Observed channelised left and right turn lanes on Kamilaroi Highway.	
14.6	Construct a purpose-built intersection with the Kamilaroi Highway for project related traffic from the "Bows Hills" gravel quarry. This intersection will be immediately opposite the railway level crossing, removing the requirement for these vehicles to enter into the Kamilaroi Highway and increase the number of vehicles that might be required to wait in the right turn lane during level crossing closure.	Y	Observed Bow Hills access road constructed immediately opposite Site Access Road/Kurrajong Creek Road intersection.	
14.7	Construct a sealed 7km section of Kurrajong Creek Road in consultation with Narrabri Shire Council.	Y	Observed Kurrajong Creek Road sealed, letter from Narrabri Council 28/5/10 indicating works were satisfactory	
14.8	Erect appropriate road signage.	V	Road signage has been installed along Site Access Road and at Kurrajong Road/Site Access and Kamilaroi Highway intersection. It is assumed that as both RTA and Council have signed off on the works, the signage is appropriate.	This commitment does not specify what is appropriate road signage or who is responsible for assessing whether the signage is appropriate or not. Whilst signage has been provided as part of the site access road construction and intersection upgrade works, this condition cannot be verified at this time, although in the auditors opinion, the road signage that has been erected is appropriate for the area.

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	Requirement	Compliance Y/N/NT	Evidence	Comments
14.9	Ensure all employees and contractors are regularly informed about the safe driving requirements to and from the Project Site.	Y	Part of site induction process, also included in daily startup meetings.	
14.10	Transport all oversize loads with all necessary permits.	V	Requirements identified in management plans but no documented evidence available at the time of the audit.	
14.11	Prepare a Traffic Management Plan to RTA and Narrabri Shire Council standards to ensure appropriate procedures are in place for the management of both mine-related and public traffic during the road upgrade activities.	Y	Sighted Traffic Management prepared by Country West Road Services (November 2007). Road upgrade activities have now been completed for Stage 1.	
15.1	Use equipment with lower sound power levels in preference to more noisy equipment.	Y	The sound power level for all major noise sources is validated prior to commencement of operation on site.	
15.2	Regularly service all equipment used onsite 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.	Y	The sound power level for all major noise sources is validated prior to commencement of operation on site. Routine maintenance and inspection of plant is undertaken in accordance with the PULSE schedules. Sighted weekly inspection checksheet for Plant No LHD806 dated 26/1/11. Also sighted mechanical preventative maintenance schedule.	
15.3	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.	Y	Surrounding neighbours are part of CCC, have complaints line for community enquiries, have run Open Day and Information Session.	
15.4	Ensure construction of the eastern end of the rail loop does not occur at times when temperature inversions exist.	V	Noted in Section 3 of the NMP. Rail loop has now been completed.	
15.5	Ensure that excavation of the box cut does not occur under temperature inversion conditions or when winds from the south and east (bearing 90°- 225°) exceed 3m/s until the excavator can be operated below natural surface topography.	V	Noted in Section 3 of the NMP. Box cut has now been completed.	
15.6	Ensure that the approved hours of operation are adhered to.	V	Commitment noted but no specific hours documented	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
15.7	Prepare a Noise Management Protocol. Incorporate within the Protocol the specific details of all noise controls and the measures to address noise criteria exceedances and/or complaints.	Y	Noted in Section 3 and 4 of the NMP.	
15.8	Maintain the on-site road network to limit body noise from empty trucks travelling on internal roads.	Y	Roads in good condition at the time of the inspection.	
15.9	Seal and regularly maintain the Site Access Road.	Y	Sealed and in good condition at the time of the inspection.	
15.10	Restrict the travel speed of all vehicles whilst on site to 40kph or otherwise signposted.	Y	Signposted and noted in the induction.	
15.11	Ensure strict adherence to hours of operation, including transport activities through enforcement by Mine Management.	V	Not specifically included in the site induction	
15.12	Instruct project employees and contractors to enter and exit the Project Site in a courteous manner and without causing undue traffic noise.	V	Not specifically included in the site induction	
15.13	Vehicle movement between the "Bow Hills" gravel quarry and the Project Site is limited to day-time hours and heavy vehicle movements do not exceed 50 per day.	Y	Movement between the quarry and the mine site was predominantly during the construction phase as gravel was required for roadbase and pad establishment. The quarry has not been used to any significant extent since Stage 1 construction was completed. However it may be required again during construction for Stage 2.	
16.1	Establish a Community Consultative Committee or similar and include local community representatives.	Y	CCC established and meets regularly. CCC minutes sighted.	
16.2	Provide regular newsletters regarding project progress and operations.	N	NCM reports that regular newsletters have not been provided in the last 12 months but is scheduled to restart in the coming months.	
17.1	Monitor surface water quality for: pH, EC, TDS, TSS, Total Organic Carbon.	Y	Monitoring results sighted	
17.2	Monitor surface water quality for: pH, EC, TDS, TSS, Total Organic Carbon.	Y	Monitoring results sighted	
17.3	Complete a survey to determine the current status, depth, standing water levels and location of all licenced extraction.	NT	No licenced groundwater extraction points within the Project area. Current status, depth, standing water levels and location of all monitoring bores is maintained.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
17.4	Record the volume of water discharged (dewatered) to the evaporation ponds.	Y	Flow meters installed.	
17.5	Record the volume of water discharged from the retention pond and evaporation pond systems.	NT	No discharges to date	
17.6	Record the volume of water pumped from the retention pond to the evaporation ponds.	Y	Flow meters installed.	
17.7	Monitor the water quality with the evaporation/brine ponds. The analysis will include EC, TDS, pH, TSS, TOC, heavy metals, Sodium Adsorption Ratio (SAR).	N	Water quality monitoring of the evap ponds has only included EC, TDS, pH, TSS, TOC and heavy metals. No results to date for SAR.	
17.8	Measure the standing water levels in the existing monitoring bores on a monthly basis for up to 12 months prior to commencement of mining to establish baseline data and seasonal trends in groundwater levels. Suitable bores would be located in areas above and adjacent to the planned underground workings and may include bores NC98D, NC98S in the drift area and NC122, NC123R and NC127 depending on the monitoring period available and mining rates.	Y	Monitoring results sighted	
17.9	Undertake groundwater monitoring beyond initial 12 months of monitoring.	Y	Groundwater monitoring program is ongoing. Results sighted.	
17.10	Include the following registered bores in the groundwater monitoring program: GW0225995, GW966836, GW0000013, GW0000014, GW0000018 and GW005023. Use data obtained to review impact predictions and trigger remedial action if reductions in available drawdown exceeds 15%.	Y	Registered bores are included in the groundwater monitoring program. Monitoring data is being collected, however a sufficient duration of mining has not occurred to permit a meaningful review to be undertaken.	
17.12	Undertake groundwater quality sampling from all bores in the Project Site in the first year to establish seasonal variations in groundwater quality. The sample analysis will include pH, TDS, EC, major ions and heavy metals.	Y	Monitoring results sighted	
17.13	Develop the groundwater monitoring program in consultation with the Proponent's consultant hydrogeologist, the Department of Natural Resources and those groundwater users potentially affected by the project.	N	No evidence to indicate that development of the groundwater monitoring program has included consultation with DNR and affected groundwater users.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
17.14	Commission a review by a qualified hydrogeologist of the results and frequency of monitoring to determine the adequacy of the monitoring program and to provide interim assessment of operational impacts on groundwater levels and identify data gaps in monitoring or impact assessment needs.	V	Some assessment undertaken in AEMR. NCM advised that a complete review has not been undertaken to date as a sufficient time period has not elapsed since the commencement of mining to enable a meaningful assessment of data to be undertaken. NCM are proposing to undertake this assessment in conjunction with the review of the Site Water Management Plan requires as part of the Stage 2 approval.	
17.15	Install shallow piezometers and/or lysimeters (depending upon depth to groundwater) progressively above and below any constructed evaporation dams.	Y	Shallow piezometers have been installed but monitoring has not yet commenced.	
17.16	Monitor potential leakage of salts from the ponds.	N	Monitoring has not yet commenced.	
17.17	Undertake soil profile testing down-gradient of the evaporation pond system to assess whether seepage of salts into the soils is occurring.	N	Monitoring has not yet commenced.	
17.18	Monitor deposited dust levels at 8 sites.	Y	Eight depositional monitoring location noted in AQMP and results presented in the 2009/2010 AEMR.	
17.19	Review and submit dust monitoring result to DECC.	Y	AEMR provided to DECC provides a summary of the monitoring data. Monitoring data summary is also provided to DECCW with EPL Annual Return.	
17.20	Undertake noise monitoring at the residences most likely to be affected by construction noise.	Y	Noise monitoring undertaken at nearest residences. Results sighted.	
17.21	Review and submit noise monitoring results to the DECC.	Y	AEMR provided to DECC provides a summary of the monitoring data. Monitoring data summary is also provided to DECCW with EPL Annual Return.	
17.22	Undertake operational noise monitoring at the following residences: "Bow Hills" "Westhaven" "Naroo" "Greylands"	Y	Noted in NMP and results sighted. A summary of the results is also provided in the AEMR.	
18.1	Incorporate the environmental procedures in an on-site management system.	Y	Environmental Management Strategy prepared and implemented.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
18.2	Update the Mining Operations Plan for the mine site.	Y	MOP is current	
18.3	Incorporate relevant environmental data/information in Annual Environmental Management Reports.	Y	AEMR prepared which contain information on environmental issues and monitoring data. Sighted AEMRs for 2008/2009 and 2009/2010.	
18.4	Prepare the following environmental plans for the project:			
	Air Quality Monitoring Program	Y	Sighted AQMP Rev 0 dated 3/12/2007.	
	Noise Monitoring Program	Y	Sighted NMP Rev 0 dated 3/12/2007.	
	Blast Management Program	Y	Sighted BMP Rev 0 dated 3/12/2007.	
	Cultural Heritage Management Plan	Y	Sighted ACHMP Rev 0 dated 3/12/2007.	
	Flora and Fauna Management Plan	N	Not specifically prepared but components included in Rehabilitation Management Plan Dated September 2009	
	Greenhouse Gas Plan	Y	Draft prepared and submitted to DoP Nov 09. Sighted Narrabri Coal Project Stage 1 Operations - Greenhouse Gas Management Plan (Report 10-8284-R1 Draft 3, 3 November 2009)	
	Site Water Management Plan	Y	Sighted Construction SWMP dated Feb 2008 and SWMP dated 3/6/2010.	
	Salinity Contamination Contingency Plan	N	Not yet prepared - water conditioning plant not yet commissioned	
	Groundwater Contingency Plan	Y	Sighted Section 8.0 SWMP dated 3/6/2010	
	Rehabilitation and Landscape Management Plan	Y	Sighted Rehabilitation Management pLan Dated September 2009	
19.1	Construct all buildings with certification by Narrabri Shire Council.	Y	Sighted Construction Certificate CC 7/2009 - approved 17 October 2008. Inspection Report/Permit to Occupy No 2413 - approved 6 August 2009.	
19.2	Implement a policy encouraging employment of local district personnel, with arrangements for training and certification.	N	Staff reported no official policy but generally try to recruit locals where possible.	
19.3	Include environmental issues in the site induction process for new employees and/or contractors.	Y	Whitehaven Generic Induction Manual	
19.4	Develop and incorporate an environmental training program to ensure all employees and contractors are environmentally responsible and follow all relevant site-specific procedures.	N	No specific training program in place and training not necessarily formally recorded. However, environmental training is undertaken Eg enviro staff have undertaken Mine Closure training	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
19.5	Include environmental issues in the agenda for toolbox meetings with employees and/or contractors.	Y	Environmental issues are included in daily start up meetings as required.	

APPENDIX 5

Compliance Assessment Statement of Commitments Stage 2

Statement of Commitments - Stage 2 Approval

	Requirement	Compliance Y/N/NT	Evidence	Comments
1.1	Survey and mark the boundaries of the areas of disturbance on the ground.	V	A review of the approved plans and comparison to the actual facilities constructed shows that construction has been undertaken within the approved boundary - this would indicate that areas were most likely marked out beforehand.	
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.	Y	For example, Water Pipeline and Powerline Pre-Clearing Survey (prepared by Eco Logical 2 November 2010).	
1.3	Relocate or redesign the area of disturbance (if mine safety is not compromised) to avoid sites of ecological or heritage significance.	NT		
1.4	Align access to sites of surface disturbance following advice from ecologist and/or archaeologist.	NT		
1.5	Advise relevant personnel on restrictions placed on activities by identification of sites of ecological or heritage significance and management requirements.	Y	For example, grey crowned babbler nests were identified to contractors and barriers to avoid the clearing of these trees were installed.	As described in the November 2010 Pre-Clearing Report.
2.1	Undertake vegetation clearing/soil removal within the hours of 7.00am to 10.00pm/7 days.	V	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.2	Undertake construction within the Pit Top Area within the hours of 7.00am to 10.00pm/7 days.	V	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.3	Undertake construction of the Reject Emplacement Area and Brine Storage Ponds within the hours of 7.00am to 10.00pm/7 days.	V	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.4	Undertake ventilation shaft construction and gas drainage installation within the hours of 24 hours/7 days.	y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.5	Undertake ventilation and gas drainage operations within the hours of 24 hours/7 days.	y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
2.6	Undertake mining operations within the hours of 24 hours/7 days.	y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.7	Undertake coal crushing screening and processing operations within the hours of 24 hours/7 days.	y	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
2.8	Undertake CPP reject disposal within the hours of 7.00am to 10.00pm/7 days. Contingent hours of operation will be 24 hours/7 days to account for those periods of elevated reject production.	NT	No reject is currently being produced. CPP still under construction.	
2.9	Undertake raw materials/supply delivery within the hours 7.00am to 10.00pm/7 days.	V	Hours of operation identified in Environmental Management Strategy for the site. Interviews with site personnel also identified correct operating hours.	
3.1	Dispose all paper and general waste in suitable waste receptacles.	Y	Paper and general waste is collected in skip bins located at various facilities around the site.	
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 licensed contractor.	Y	Waste removal records sighted.	
3.3	Collect industrial waste fortnightly, or more frequently if required.	Y	Waste removal records sighted.	
3.4	Install separate containers for the collection of recyclable items and despatch off site at appropriate intervals.	Y	Skip bins for metals and skip bins for paper and cardboard were observed at various places around the site and were utilised for appropriate recyclables.	
3.5	Employ a licensed waste collection contractor for all general waste/garbage at least on a weekly basis.	Y	Sighted waste collection dockets held in stores office.	
3.6	Collect waste oils and grease and pump to bulk storage tanks.	Y	Sighted facilities during on site inspection.	Waste oils collected in 1000L iso tanks. Could improve waste oil handling arrangements. Temporary waste oil tank was located on a spill pallet adjacent to the workshop vehicular door but there was no protection to the tank from vehicular collision (see Plate xx)
3.7	Collect all parts/packaging and transfer to the site workshop for disposal or recycling.	Y	Facilities for the storage and disposal of parts and packaging were observed around the workshop area.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
3.8	Install adequate toilet and ablution facilities within the mine facilities area for the site workforce and visitors.	Y	Sighted facilities during on site inspection.	
3.9	Install a self irrigating septic sewage system approved by Narrabri Shire Council.	Y	No separate system is being installed for Stage 2 works. As discussed in Stage 1 Compliance Assessment, sighted package treatment plant installed on site with irrigation system - system was in need of maintenance at time of inspection. Sighted Local Approval 46/09 for sewerage and drainage works. Building Inspection Report (No. 2413) sighted which identified that the plant was operating satisfactorily.	Clarified water tank was overflowing at the time of inspection.
3.10	Service facilities by a licensed sewage collection/disposal contractor.	Y	Management of temporary facilities undertaken by licenced contractor	
3.11	Characterise coal rejects to establish whether any deleterious products would be produced by leachate during emplacement.	NT	Coal reject has not been produced to date. CPP still under construction.	
3.12	Dispose of coal rejects within the nominated Reject Emplacement Area, constructed immediately to the west of the Pit Top Area.	NT	Coal reject has not been produced to date. CPP still under construction. Reject emplacement area was observed to be under construction at time of audit.	
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).	Y	Reject emplacement area was observed to be under construction at the time of the audit.	
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.	Y	Reject emplacement area was observed to be under construction at the time of the audit. Drainage features including clean water diversion drains and dirty water capture drains were in under construction.	
3.15	Strip and store topsoil from each cell for future re-spreading over the final landform or re-spread immediately following stripping.	Y	Topsoil stockpiles from cells under construction were observed during the audit.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
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°.	NT	Coal reject dumping has not yet commenced. Coal reject has not been produced to date.	
3.17	Install up to four lysimeters on the downslope side of the Reject Emplacement Area. (If saline leachate is generated by CPP reject).	NT	Reject emplacement area is still undergoing construction. Lysimeters have yet to be installed.	
3.18	Line each dam or pond designed to hold either raw groundwater or processed brine with a HDPE liner with a permeability of 1×10^{-14} m/sec.	Y	Ponds A1, A2, and A3 were in use to store groundwater pumped from underground. All three ponds were observed to be lined.	
3.19	Confirm by QA inspection of the liner that the nominated permeability is achieved.	Y	Sighted "As Constructed" report prepared by URS (September 2010)	
3.20	Prohibit vehicular access to the walls of the lined dam or pond.	Y	Vehicular access is generally not permitted along the pond walls, however an access road is provided along the western side of the ponds.	
3.21	Remove impermeable liner at completion of mining and dispose of to a facility licenced to accept saline waste.	NT	Mining has not been completed.	
3.22	Inspect, sample and analyse ground beneath each dam or pond to confirm no leakage has occurred over the life of the pond.	NT	To be undertaken at decommissioning of ponds.	
3.23	(should saline contamination be identified), Remove and dispose of saline contaminated material (within the backfilled box cut).	NT	No saline contamination has been identified to date.	
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.	NT	To be confirmed closer to mine closure.	
4.2	Demolish or deconstruct and remove infrastructure and services not required by the confirmed future land use.	NT	To be confirmed closer to mine closure.	
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 reduce the visibility of the activities from adjacent properties and the local road network.	Y	Observed during the on site inspection rehabilitation of work areas being undertaken on an ongoing basis - eg SIS sites 5 & 6.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure.	
4.5	Ensure any areas of disturbance that require profiling meet the requirements of the final landform.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure.	
4.6	Replace subsoil and topsoil over areas of disturbance in the same order and approximately same depths as it was removed.	Y	Soil management is addressed in the EMS. Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. SIS sites 5 and 6 were in the process of being rehabilitated. Subsoil had been replaced and stockpiled topsoil was ready for replacement.	
4.7	Ensure the most appropriate crop/pasture species are planted in areas returned for agricultural use.	NT	No areas have been returned to agricultural use.	
4.8	Conduct ongoing rehabilitation monitoring and maintenance throughout and beyond the operation.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure.	
4.9	Restrict areas of disturbance to the areas identified and marked in accordance with Commitments 1.1 to 1.5.	Y	During the site inspection, it was observed that areas of disturbance were generally confined to those areas outlined in the EA.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
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".	NT	Pre-mining gas drainage is currently in progress on the site. Operations have not reached a point where gas drainage equipment can be removed.	
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.	Y	SIS borehole sites 5 and 6 were inspected during the audit. At these sites, the sumps had been emptied, liners removed and the sumps backfilled.	
4.12	Respread previously stripped and stockpiled topsoil and vegetation over the backfilled sumps and other cleared areas.	Y	Topsoil stockpiles were observed at SIS borehole sites 5 & 6 where final shaping was being undertaken prior to topsoil resspreading.	
4.13	Complete periodic inspections of the rehabilitated sites to confirm a return to the vegetation of the surrounding landform.	Y	Inspections are undertaken on a regular basis by the environmental staff and also the Tech Services Manager.	
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.	NT	Operations have not progressed to that point.	
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.	N	Not included in Introduction to Site Surface Mobile Plant Checklist.	
4.16	Undertake campaign weed spraying over the Pit Top Area and areas of surface disturbance of the Mining Area in consultation with I&I NSW-Agriculture and/or the local Noxious Weeds Inspector.	N	Weed spraying is undertaken on an ad hoc basis. No evidence of consultation with NSW Agriculture. D. Young (Whitehaven) advised that local Noxious Weeds Inspector (John Busby from NSC) had been on site approximately 18 months ago and was satisfied with weed management on site.	During the site inspection, it was noted that weeds are not a significant issue for the mine. Some patches of weeds were observed but many of these were dying off after being sprayed.
5.1	Inspect the identified 'cracking zones' above each longwall panel to identify occurrence of cracks.	NT	Longwall mining has not yet commenced.	Longwall mining is expected to commence early in 2012.
5.2	Rip the surface over cracks not filled in by natural processes.	NT	Longwall mining has not yet commenced.	
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 site, or within the footprint of the Reject Emplacement Area.	NT	Longwall mining has not yet commenced.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
5.4	Undertake a detailed condition assessment of the 3rd order waterways within the predicted subsidence zone to enable assessment of changes post mining.	NT	Longwall mining has not yet commenced.	
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.	NT	Longwall mining has not yet commenced.	
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.	NT	Longwall mining has not yet commenced.	
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.	NT	Longwall mining has not yet commenced.	
5.8	Inspect areas of the Mine Site susceptible to landslip or accelerated erosion, eg. drainage lines and steeply sloped areas of exposed Purlawaugh Formation derived subsoils.	NT	Longwall mining has not yet commenced.	
5.9	(In the event of large-scale slope instability), undertake appropriate stabilisation works, eg. installation of deep sub-surface drainage trenches or construction of strategic catch drains along slope crests.	NT	Longwall mining has not yet commenced.	
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).	NT	Longwall mining has not yet commenced.	
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'.	NT	Longwall mining has not yet commenced.	
5.12	Review predictions of 'upsidence' and valley crest movements after each longwall is completed.	NT	Longwall mining has not yet commenced.	
5.13	(In the event that 'upsidence' results in surface cracking or erosion), undertake remedial works identified by Commitments 5.1 to 5.7.	NT	Longwall mining has not yet commenced.	
5.14	Sample ponded water to determine if there is any increase in salinity.	NT	Longwall mining has not yet commenced.	
5.15	Inspect the watercourses over the subsidence zone to identify the location and extent of ponding.	NT	Longwall mining has not yet commenced.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
5.16	For ponding where there is little or not 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 ABooriginal Cultural Heritage Management PPlan and vegetation clearing permits.	NT	Longwall mining has not yet commenced.	
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.	NT	Longwall mining has not yet commenced.	
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.	NT	Longwall mining has not yet commenced.	
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.	NT	Longwall mining has not yet commenced.	
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).	NT	Longwall mining has not yet commenced.	
5.21	Each IPSMP will address the following issues.	NT	Longwall mining has not yet commenced.	
	Timing and scale of predicted impacts.			
	Monitoring on the affected property during mining.			
	Timing for any remaining disconnection of services.			
	Post-mining inspection and reporting.			
5.22	Prepare a Subsidence Monitoring Program (or similar as required under any Extraction Plan requirements) which includes the following elements.	NT	Longwall mining has not yet commenced.	
	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.	NT	Longwall mining has not yet commenced.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
	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.	NT	Longwall mining has not yet commenced.	
	A survey line along the riparian management zone of Kurrajong and Pine Creeks and their tributaries over the Mine Site.	NT	Longwall mining has not yet commenced.	
	A minimum of three monitoring pegs spaced 10m apart in a line or triangle at any feature of interest, eg. dam walls, archaeological sites, to measure subsidence, tilt and strain.	NT	Longwall mining has not yet commenced.	
	Visual inspections and mapping of damage before, during and after mining.	NT	Longwall mining has not yet commenced.	
5.23	Place monitoring survey pegs between 10m and 20m apart with a minimum of two baseline surveys of subsidence and strain completed before mine subsidence effects occur.	NT	Longwall mining has not yet commenced.	
5.24	Prepare and implement an Extraction Management Plan to manage subsidence impact(s) to the satisfaction of I&I NSW and DoP.	NT	Longwall mining has not yet commenced.	
6.1	Seal the mine drifts and ventilation shaft using in-strata grouting or hydrophobic sealant.	NT	Mine is generating very little water at the time of the audit.	
6.2	Divert groundwater accumulating in the underground workings to designated sumps for pumping to surface.	Y	Sump at bottom of box cut observed during audit site inspection. Sump pumps groundwater back to Pond A1.	
6.3	Discharge groundwater pumped from the underground sumps into Dam A1 only.	Y	Box cut sump pumps water to Pond A1. Pond observed in operation during site inspection.	
6.4	Record extraction volumes including weekly totals from all pumping bores, and weekly totals from the underground mine and box cut sump.	Y	Flow meters installed on pumping systems. Records maintained.	
6.5	Record volumes of water introduced to the mine for longwall operation and other requirements.	Y	Flow meters installed on pumping systems. Records maintained.	
6.6	Record the groundwater quality (EC and pH) discharged from the underground workings and water supply bores.	Y	Groundwater monitoring program in operation. Monitoring data reviewed.	
6.7	Sample and analyse water from all pumping bores and underground pumping stations.	Y	Monitoring data reviewed during audit.	
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).	Y	Monitoring data reviewed which showed that standing water levels are being recorded.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
6.9	Monitor the flow rate and water quality of the spring discharge from "Mayfield Spring".	NT	The Mayfield Spring is to the south of the project area. The groundwater monitoring program for the Stage 2 operations is due to be submitted by June 2011.	NCM should ensure that monitoring of the Mayfield Spring is included as part of a revised groundwater monitoring program.
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.	NT	Longwall mining has not yet commenced.	
6.11	Collect data from the vibrating wire piezometers and compare against initial groundwater and subsidence modelling predictions.	NT	Data is being collected, however a sufficient duration of mining has not occurred to to date to permit a meaningful assessment to be undertaken.	
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).	NT	A sufficient duration of mining has not occurred to to date to permit a meaningful assessment to be undertaken.	Mining has only been in operation for six months at the time of the audit.
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).	NT	Although a groundwater monitoring program was developed as part of the Stage 1 Water Management Plan, this Plan is required to be revised and submitted for approval by June 2011.	
6.14	Complete an initial audit of the groundwater model predictions against monitoring data.	NT	A sufficient duration of mining has not occurred to to date to permit a meaningful assessment to be undertaken.	Mining has only been in operation for six months at the time of the audit.
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).	NT	A sufficient duration of mining has not occurred to to date to permit a meaningful assessment to be undertaken.	Mining has only been in operation for six months at the time of the audit.

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	Requirement	Compliance Y/N/NT	Evidence	Comments
6.16	Carry out regular reviews of the groundwater model predictions against monitoring data.	NT	A sufficient duration of mining has not occurred to to date to permit a meaningful assessment to be undertaken.	Mining has only been in operation for six months at the time of the audit.
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.	NT	Recalibration of groundwater model has not yet been undertaken.	
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.	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).	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.	Y	Water licences sighted during audit.	
6.21	Ensure the project is appropriately licensed for all groundwater make and use in accordance with required licensing arrangements through the NOW.	Y	Water licences sighted during audit.	
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.	Y	A number of farm dams have been retained in 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).	Y	All runoff from disturbed areas is currently directed to sediment basin 1. The reject emplacement area is still under construction and is not yet in operation.	
7.3	Dewater storage basins SB1, SB2 and SB3 and discharge the water to Dam A1 (or Dams C or D) to ensure no discharge or overflow.	Y	No discharges off site have occurred to date. The Site Water Management Plan identifies that SB1 & SB2 discharge to the evaporation ponds.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
7.4	Design and construct the storage basins to provide the capacity nominated by WRM (2009).	Y	Sighted As Built Report Narrabri Coal Evaporation and Storage dams dated September 2010.	
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.	Y	Site Water Management Plan (Section 3.4) identifies that dams are designed to contain 5 day 95 percentile dtorm event.	
7.6	Dewater sediment dams within 5 days of significant rainfall event.	Y	Requirements identified in site water management plan.	
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.	Y	Sighted grated drain and Hume separator located to the north (rear) of the workshop during site inspection.	
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.	N	There are a number of self bunded facilities which are considered adequate however, there are also locations where 1000L isotainers and 20L drums were placed at the edge of the bund facility such that if a leak occurred it may not be captured within the bund (refer to Plate 1 in Appendix 8).	
7.9	Restrict refuelling, oiling and greasing to designated areas, away from drainage and where spill kits are readily available.	Y	Refuelling areas were observed on the site inspection.	It was noted that the new refuelling truck (Rego BJ 30 MV) did not have a spill kit on board.
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.	Y	Box cut sump pumps to Pond A1. Water Management Plan (Section 3.2.2) identifies that this pond will be the primary feed for the water conditioning plant when it comes on line.	
7.11	Construct storages for saline groundwater (Dam A1) 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).	Y	Ponds A1, A2, A3 have been constructed - As Built report sighted to confirm constructed as desfgned. Pond B1 under construction at time of audit. BR1 to BR5 not constructed yet.	
7.12	Line all dams to be used to store groundwater or brine with HDPE liner (permeability ,1 x 10 ⁻¹⁴ m/sec).	Y	Ponds A1, A2, and A3 have been lined with HDPE. Pond B1 was in the process of being lined at the time of the audit.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
7.13	Maintain at least 0.5m freeboard in each brine storage (sufficient to cater for design 1 in 100 year ARI event).	Y	The brine storage ponds in the north of the site have not yet been constructed. Each evaporation pond has a spillway consisting of a large diameter poly pipe installed at the nominated freeboard height such that they overflow into the next pond to ensure freeboard is maintained.	
7.14	Commence construction of brine storage ponds from 12 months prior to the anticipated requirement to accept brine discharge.	NT	Water conditioning plant has not yet been constructed, therefore no brine is being produced.	
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).	NT	Water conditioning plant has not yet been constructed, therefore no brine is being produced.	
7.16	Maintain discharge water quality from the Water Conditioning Plant at the 100%ile limit of 350mg/L TDS.	NT	Water conditioning plant has not yet been constructed, therefore no brine is being produced.	
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.	NT	Revised Water Management plan is not due for submission until June 2011.	
7.18	Maintain the pH level of water discharged beyond ML1609 within the range 6.5-8.0.	NT	Water has not been discharged off site to date.	
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> <p>Prior to disturbance, the area will be marked out and 'no-go' zones identified.</p> <p>If located on or adjacent to a natural drainage line, a diversion bank will be constructed up-slope of the area to be disturbed.</p> <p>the requirement for a sediment basin will be determined, using the Revised Universal Soil Loss Equation (RUSLE).</p>	V	Whilst some information on erosion and sediment control was noted to be included in the Site Water Management Plan (Stage 1), it does not specifically address the requirements outlined in this commitment. The Stage 1 plan is required to be revised in accordance with the Stage 2 approval with the revised plan due to be submitted by June 2011.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
	if a sediment basin is required, ie. soil loss >200t/ha/year, the sediment basin design capacity will be calculated. Soil will stockpiled away from natural drainage lines. Sediment fencing will be installed along the down-slope boundaries of the disturbed areas. All sediment control structures will be regularly inspected and repaired.			
7.20	Store potential contaminants, eg. drilling fluid, hydrocarbons, within bunded areas away from natural drainage lines.	Y	Hydrocarbons including oils and greases were generally observed to be stored in lockable bunded storage containers.	
7.21	Ensure all contaminated liquids are contained in lined sumps at each drill site.	Y	Two sumps are used at each site. Sighted rehabilitation of sumps in progress during site inspection.	
7.22	Discharge any groundwater to a lined sump, with this water immediately directed to Dam A1 within the Pit Top Area.	Y	Water from box cut sump is pumped to Pond A1 as documented in Site Water Management Plan.	
7.23	Sample water discharging from licensed discharge points and analyse the water for suspended solids, turbidity, electrical conductivity, oil and grease, and pH.	NT	No discharges from the site have occurred to date.	It was noted that the monitoring data shows that sampling and analysis of the water in the discharge dams has been undertaken as a precautionary measure but no discharges have been required.
7.24	In the event monitoring confirms pollution has occurred, one or more of the following measures will be adopted. The DECCW will be advised. Salient preceding weather information will also be provided. Additional flocculants will be used to expedite settlement of sediments. 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.	NT	No discharges from the site have occurred to date.	
7.25	Undertake the following actions (in the event of a major hydrocarbon spill). 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. Construct pits around the spill with sufficient hydraulic gradient to capture seepage water and contaminated material.	NT	No major hydrocarbon spills have occurred on the site to date.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
	<p>Pump out water captured in pits.</p> <p>Monitor the local groundwater for signs of contamination.</p>			
7.26	<p>Prepare a formal contingency plan for a saline contamination event. The plan may include one or a combination of the following measures.</p> <p>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.</p> <p>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.</p> <p>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 volume of spilled water will be used to flush the downstream environment.</p> <p>Downstream vegetation will be monitored for any impacts of increased salinity and treated appropriately.</p>	NT	Not yet prepared but water conditioning plant not yet constructed so no brine produced.	
7.27	Maintain a ground cover of vegetation at 70% or better over areas disturbed but no longer required by the project.	Y	Rehabilitation of minor works areas such as gas drainage wells, exploration boreholes undertaken on an ongoing basis e.g. Surface to in seam sites 5 and 6.	
7.28	Armour the banks of the rail loop with ballast in flood zone (larger diameter competent rock).	N	Batters of the rail loop are covered in vegetation negating the need for rock armouring.	
7.29	Inspect the banks of the rail loop and remediate erosion damage within Kurrajong Creek Tributary 1.	NT	Kurrajong Creek Tributary 1 has not had elevated water levels to date. Rail loop banks were observed to be well vegetated.	Section 4B.1.4.4 of the Stage 1 EA provides the context for this commitment which relates to periods of elevated water levels within Kurrajong Creek Tributary 1.

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	Requirement	Compliance Y/N/NT	Evidence	Comments
7.30	Participate in, as required, the development of a salt accounting protocol with the DoP, DECCW and NOW.	V	This has not yet been undertaken as the water conditioning plant has yet to be constructed. Given that Whitehaven personnel advised during the audit that the water conditioning plant is expected to be completed by June 2011, it is considered appropriate that Whitehaven commence consultation with DoP, DECCW and NOW, to determine the requirements for the development of a salt accounting protocol.	
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).	V	This has not yet been undertaken as the water conditioning plant has yet to be constructed. As discussed for Commitment 7.30 above, given that Whitehaven personnel advised during the audit that the water conditioning plant is expected to be completed by June 2011, it is considered appropriate that Whitehaven commence negotiations with NOW in relation to the Cap and Pipe the Bores Program, such that an agreement is in place prior to the commissioning of the water conditioning plant.	
7.32	Should the Cap and Pipe Bores Program prove not be viable, develop an alternate Green Offset program in consultation with NOW and DECCW.	NT		
7.33	Initiate a study by a recognised 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.	NT	Water conditioning plant has not yet been constructed, therefore no brine is being produced.	
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.	Y	Sighted monitoring data - monitoring points include locations upstream and downstream of Kurrajong Creek and Pine Creek.	
7.35	Record the volume and quality (pH, EC, TDS, TSS, Total Organic Carbon) of water extracted and discharged to the Namoi River.	NT	No discharges offsite have occurred to date.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
7.36	Monitor the quality of water within of the Brine Storage Ponds.	NT	Water conditioning plant has not yet been constructed, therefore no brine is being produced.	
7.37	Prepare and implement contingency plans in the event elevated levels of heavy metals are recorded.	NT	No elevated levels of heavy metals detected to date.	
7.38	Construction of drainage line crossings will be undertaken in accordance with the policy and guideline document of I&I NSW "Why do fish need to cross the road?"	N	No evidence sighted to indicate that this has been undertaken.	
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.	Y	Pit top area has been defined as part of Stage 1 works. NCM has a site clearing procedure which is used to approve ground disturbance works prior to them being undertaken.	
8.2	Avoid disturbance to the vegetation of Community 3 along Kurrajong Creek Tributary 1.	Y	Disturbance to Community 3 along Kurrajong Creek has been avoided to date.	
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.	Y	Sighted rehabilitation on amenity bund during the site inspection.	
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.	Y	Stockpiles were observed to be generally well vegetated.	
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.	Y	Disturbance to Community 3 along Kurrajong Creek has been avoided to date.	
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).	Y	Sighted Water pipeline and powerline Pre-clearing Survey Ecological 2 November 2010.	
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.	N	No evidence to suggest this has been undertaken. Assessment was not included in the EcoLogical report Water Pipeline and Powerline Pre-Clearing Survey (November 2010).	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
8.8	(In the event that an EEC or threatened species or population is identified), relocate or reorientate proposed disturbance, if practicable.	NT		
8.9	If the relocation or re-orientation of the area to be disturbed is not practicable (for reasons of mine/operational safety), the consultant ecologist will relocate any fauna species residing within the area to be cleared.	NT		
8.10	Retain all substantial habitat trees, wherever possible.	Y	Habitat trees retained - for example along water pipeline route.	
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: the best time of year for felling; pre-felling mapping of habitat trees; inspections of trees on the day of felling; procedures for the safe removal of fauna species; a relocation/release protocol; and a protocol for the assessment and salvaging of tree hollows.	Y	A tree felling protocol has been described in Section 4 of the EcoLogical Water Pipeline and Powerline Pre-Clearing Survey Report.	
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.	Y	Sighted rehabilitation on amenity bund during the site inspection.	
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.	Y	Stockpiles were observed to be generally well vegetated.	
8.14	Re-site all hollows from hollow-bearing trees removed where practicable.	Y	Section 4 of the Pre-Clearing Survey identifies the requirements for relocation of hollows.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
8.15	Implement a weed management strategy, in consultation with the Livestock Health and Pest Authority and the Narrabri Shire Council weeds officer, for the retained or rehabilitated natural vegetation within the Mine Site.	N	Weed management is included in the Landscape Management Plan but there is no evidence that consultation with Livestock Pest and Health Authority has occurred as required by this commitment. D. Young (Whitehaven) advised that local Noxious Weeds Inspector (John Busby from NSC) had been on site approximately 18 months ago and was satisfied with weed management on site.	
8.16	Implement a feral animal management program to lower the predator impact upon small terrestrial native species.	NT	Feral animal control has not been required to date.	
8.17	Inspect the sediment dams, evaporation ponds and brine storage ponds for fauna during the course of regular maintenance and operational inspections.	N	Reported to be undertaken however no documented evidence provided to support this statement.	
8.18	Undertake regular reviews of the revegetation program to ensure it remains relevant.	N	No evidence to indicate that this is being undertaken.	
8.19	Time clearing within woodland communities, where practicable, to avoid fauna breeding seasons.	Y	Sighted Water pipeline and powerline Pre-clearing Survey Ecological 2 November 2010. Works undertaken to avoid impacts on Grey Crowned Babbler.	
8.20	Undertake progressive and final rehabilitation across the Project Site to recreate a final land use of agriculture and native vegetation.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to to be undertaken as part of mine closure.	
8.21	Establish and implement a Biodiversity Offset Management Plan to the satisfaction of DoP (and in consultation with DECCW), to account for that area disturbed by the Longwall Project and in particular regard for Bertya Opponens, the Superb Parrot and Inland Grey Box EEC.	Y	Biodiversity Offset Management Plan has been prepared and is currently with DoP awaiting approval.	It is noted that the Plan has not yet been implemented but longwall mining has not yet commenced.
9.1	Involve all site employees and contractors in an awareness program re: Aboriginal heritage issues.	Y	Sighted Whitehaven generic induction manual Rev 1 dated 30/3/2010.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
9.2	Identify the boundaries of Aboriginal Sites 10, 19, 38 and 39 in conjunction with the Aboriginal stakeholders and the archaeologist and fence off (with fluorescent para-webbing (or similar material)).	NT	Works have not yet occurred in those areas.	
9.3	Erect a sign on the fencing identifying an "Environmental Protection Zone".	NT	Works have not yet occurred in those areas.	
9.4	Prohibit access to these sites by locating all surface disturbance (including roads) at least 10m from these fenced off areas.	NT	Works have not yet occurred in those areas.	
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.	NT	Works have not yet occurred in those areas.	
9.6	For 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.	NT	Works have not yet occurred in those areas.	
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.	NT	Works have not yet commenced in these areas.	
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 stakeholders (Gomerioi and Narrabri LALC) to salvage the artefacts identified at the affected site ("the Salvage Area").	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.	NT		
9.10	Return the salvaged artefacts to the authorised Aboriginal organisation.	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 within the Pit Top Area until such time as a suitable location is identified and agreed to by Narrabri LALC and Gomerioi).	NT		

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	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	NT		
9.13	Provide copies of the Salvage Report to Narrabri LALC, Gomeroi and the DECCW.	NT		
9.14	As mining approaches the completion of Panels 1 to 7, undertake a further detailed field survey, involving representatives of the Aboriginal stakeholders, above the Mining Area to be disturbed over the ensuing 7 years.	NT	Longwall mining has not yet commenced.	
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.	NT	Works have not yet commenced in the Stage 2 longwall mining area.	
9.16	In the event that an identified site cannot be avoided, commission an archaeologist and invite representatives of registered Aboriginal stakeholders (Gomeroi and Narrabri LALC) to salvage the identified artefacts. All salvage is to be undertaken as per Commitments 9.9 to 9.13 above.	NT		
9.17	<p>Prepare, in consultation with the registered Aboriginal stakeholders and the DECCW, an updated Aboriginal Heritage Cultural Management Plan (AHCMP). The AHCMP will include:</p> <p>protocols and procedures to ensure that all commitments (see Commitments 9.1 to 9.20) are implemented in full;</p> <p>consultation and communication framework between the Proponent, registered Aboriginal stakeholders and the DECCW;</p> <p>the accountabilities and responsibilities of the Proponent and registered Aboriginal stakeholders; and</p> <p>all legal reporting requirements nominated by the DECCW.</p>	Y	<p>Aboriginal Cultural Heritage Management Plan prepared for Stage 1 and is still operational.</p> <p>The Plan is required to be revised as part of the Stage 2 Project Approval, with the revised plan required to be submitted by June 2011.</p>	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	Y	Potential artefacts identified during soil stripping operations for the Ventilation Shaft. Works ceased, advice sought from an archaeologist and DECCW and a report prepared.	
9.19	Wherever possible, if a tree is identified as having culturally made scars, it is retained <i>in situ</i> and protected.	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.	NT		
10.1	Ensure that the approved hours of operation are adhered to.	V	Commitment noted but no specific hours documented	
10.2	Use equipment with lower sound power levels in preference to more noisy equipment.	Y	The sound power level for all major noise sources is validated prior to commencement of operation on site.	
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.	Y	The sound power level for all major noise sources is validated prior to commencement of operation on site. Routine maintenance and inspection of plant is undertaken in accordance with the the PULSE schedules. Sighted weekly inspection checksheet for PLant No LHD806 dated 26/1/11. Also sighted mechanical preventative maintenance schedule.	
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.	Y	Surrounding neighbours are part of CCC, have complaints line for community enquiries, have run Open Day and Information Session.	
10.5	Ensure that all equipment emits sound power levels consistent with the schedules in Appendix A of Spectrum Acoustics (2009).	Y	Monitoring undertaken in accordance with approved Noise Monitoring Program.	
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: the longwall unit assembly area;	Y	Construction completed.	

Statement of Commitments - Stage 2 Approval

	Requirement	Compliance Y/N/NT	Evidence	Comments
	the ROM coal pad area;	Y	Under construction during summer when inversions unlikely.	
	the Reject Emplacement Area; or	Y	Under construction during summer when inversions unlikely.	
	the Brine Storage Area.	NT	Construction not yet commenced	
10.7	Undertake noise monitoring at the private residences most likely to be affected by construction noise.	Y	Noise monitoring program ongoing. Sighted monitoring results.	
10.8	In the event that noise monitoring confirms exceedances 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.	NT	No noise exceedances associated with Stage 2 works.	Exceedances were identified for Stage 1 construction works as discussed in the Stage 1 compliance assessment.
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.	NT	Revised Noise Management Plan is due to be submitted in June 2011.	Requirements for monitoring of inversion conditions are identified in the Noise Management Plan (May 2010), however, this does not identify any operational controls for when inversions are present.
10.10	Fully enclose the rotary breaker within a shed (or similar) clad with tilt-up aerated concrete panels, or similar.	NT	Rotary breaker unit was under construction at the time of the audit.	
10.11	Enclose the coal processing plant with clad steel sheeting and line 50% of the internal surface with acoustic insulation.	NT	Coal processing plant was under construction at the time of the audit.	
10.12	Refrain from using the bulldozer on the Reject Emplacement Area in both the morning and evening periods.	NT	The reject emplacement area is not currently in operation.	
10.13	Limit the number of truck movements to the Reject Emplacement Area to 1 load per 15 minute period.	NT	The Reject emplacement area is currently under construction and is not yet in use.	
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).	NT	Longwall mining has not yet commenced.	
10.15	Update the existing Noise Management Plan.	NT	Under the terms of the Project Approval, the revised Noise Management Plan is due to be submitted by June 2011.	
10.16	Ensure strict adherence to hours of operation, including transport activities.	V	Not specifically included in the site induction but reported to be reinforced at Daily Startup meetings.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	V	Not specifically included in the site induction but reported to be reinforced at Daily Startup meetings.	
10.18	Maintain the on-site road network to limit body noise from empty trucks travelling on internal roads.	Y	Roads in good condition at the time of the inspection.	
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.	NT	No blasts have been undertaken to date for Stage 2 operations.	Blasts were undertaken during the construction of the box cut as part of Stage 1 operations as discussed in the Stage 1 compliance assessment.
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" "Oakleigh" "Haylin View" "Newhaven" "Merrilong"	NT	Longwall mining has not yet commenced.	Noise monitoring is ongoing from Stage 1. As at December 2010, noise was only being monitored at Bow Hills, Naroo, Claremont, Westhaven and Greylands.
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.	NT	First winter of longwall mining operations is not expected to commence until 2012.	
10.22	Review and submit noise monitoring results to the DECCW.	Y	AEMR provided to DECC as part of Stage 1 operations provides a summary of the monitoring data. Monitoring data summary is also provided to DECCW with EPL Annual Return.	The procedures for reporting results to DECCW are already in place as can be seen from the Stage 1 operations. Reporting has not yet been undertaken for Stage 2. EPL Annual Return is due in April and AEMR is due in July 2011.
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.	Y	The reject emplacement area is currently under construction. The brine storage ponds have not yet commenced construction.	
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.	NT		
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.	Y	Requirements noted in Environmental Management Strategy. Works in progress at the time of the site inspection were not observed to be generating dust lift-off.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
11.4	Operate water sprays on all continuous miners, the longwall unit and the breaker feeder to minimise dust creation underground.	Y	Only continuous miners were in operation at the time of the audit. Water is currently pumped underground for use in dust suppression and mining activity.	Longwall operations are not expected to commence until early 2012. The rotary breaker was under construction at the time of the audit.
11.5	Apply water to the coal at the feed hopper, crusher and at all conveyor transfer and discharge points.	Y	Water sprays are provided on existing conveyors.	
11.6	Fit all surface conveyors with appropriate cleaning and collection devices to minimise the amount of material falling from the return conveyor belts.	Y	At the time of the inspection a large number of components were not constructed. Areas beneath drift conveyor and product conveyor were observed to be reasonably clean, indicating return belts are not dropping coal material.	
11.7	Enclose the rotary breaker (see Commitment 10.10).	NT	Rotary breaker was still under construction at the time of the audit.	
11.8	Partially enclose all surface conveyors to minimise dust lift off.	Y	At the time of the inspection a large number of components were not constructed. However, drift conveyor and product stockpile conveyor were observed to be partly enclosed.	
11.9	Cease construction of the brine storage ponds when the prevailing winds are from the northwest quadrant.	NT	Brine ponds have not yet commenced construction.	
11.10	Apply water onto stockpiles and hardstand areas.	Y	Water tanker was observed to be in operation at the time of the audit.	
11.11	Progressively rehabilitate areas of disturbance including gas drainage areas.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to be undertaken as part of mine closure.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
11.12	Progressively rehabilitate areas no longer required for operational purposes.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to be undertaken as part of mine closure.	
11.13	Minimise the length of time coal is held in stockpiles.	Y	Stockpile and Spontaneous Combustion Management Plans in place which provide adequate mitigation measures including but not limited to residence times in stockpiles "First in, First Out" process outlined in Section 3.17 of the Stockpile Management Plan dated 29/4/10.	
11.14	Monitor coal stockpiles for signs of spontaneous combustion.	Y	Spontaneous Combustion Management Plan in place (Rev 0, dated 3/12/07). Stockpiles monitored.	
11.15	Immediately report incidents to the appropriate authorities.	Y	One incident reported - spontaneous combustion of a coal pile around a staunchion.	
11.16	Extinguish fire by removal from stockpile, spreading and saturation with water.	Y	Requirements identified in Section 6.1.3 of the Spontaneous Combustion Management Plan.	
11.17	Install underground ventilation system to provide fresh air to employees.	Y	Temporary ventilation is provided by the fan in the third drift at the bottom of the box cut. A permanent ventilation shaft is currently under construction.	
11.18	Optimise and schedule vehicle operations to minimise vehicle movements.	V	Reported to be undertaken but no documented evidence available at the time of the audit.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
11.19	Maintain engines according to manufacturer's guidelines and keep tyres at optimum pressure.	Y	PULSE system generates inspection and maintenance schedules / checklists. Sighted Weekly Inspection Checksheet for Plant No 806 printed 26/1/11, Mechanical Preventative Maintenance Schedule for Plant No DMT007 dated 31/1/2011 and Mechanical Daily 103 Inspection for Plant No LHD003 dated 13/1/2011.	
11.20	Minimise vehicle idling time.	Y	During the site inspection, no vehicles were observed idling unnecessarily.	
11.21	Prepare an updated Energy Savings Action Plan (ESAP).	NT	Under the terms of the Project Approval, the revised Energy Savings Action Plan is required to be submitted by June 2011.	
11.22	Monitor deposited dust levels at 8 sites (ND1 to ND8).	Y	Eight depositional monitoring location noted in AQMP and results presented in the 2009/2010 AEMR. Monitoring data reviewed during the audit.	Air quality monitoring program has been ongoing from Stage 1.
11.23	Monitor PM ₁₀ levels at 2 sites (ND9 to ND10).	Y	Two PM10 monitoring location noted in AQMP and results presented in the 2009/2010 AEMR. Monitoring data reviewed during the audit.	
11.24	Review and submit dust monitoring results to relevant government agency.	Y	AEMR provided to DECC as part of Stage 1 operations provides a summary of the monitoring data. Monitoring data summary is also provided to DECCW with EPL Annual Return.	The procedures for reporting results to DECCW are already in place as can be seen from the Stage 1 operations. Reporting has not yet been undertaken for Stage 2. EPL Annual Return is due in April and AEMR is due in July 2011.
12.1	Strip topsoil to a depth of 15cm and strip subsoil to a depth of 25cm (where sufficient soil depths are available).	V	Requirements identified in EMS but no documented evidence provided at the time of the audit.	
12.2	Avoid stripping or replacing under wet conditions.	V	Requirements identified in EMS but no documented evidence provided at the time of the audit.	
12.3	Stockpile topsoil and subsoil separately with topsoil stockpiles not exceeding 2m in height and subsoil stockpiles not exceeding 3m in height.	Y	Stockpile heights observed during site inspection were satisfactory.	
12.4	Carefully select soil stockpile locations to avoid subsequent movement, to ensure that the soil structure is not degraded.	Y	Stockpile location observed during site inspection were satisfactory.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
12.5	Position soil stockpiles to prevent surface water runoff coming into contact with the soil stockpiles.	Y	Soil stockpiles were sighted during the site inspection and were observed to be in appropriate locations and protected from surface water runoff.	
12.6	Construct soil stockpiles with a 'rough' surface to assist in runoff control and seed retention and germination.	Y	Stockpile surface observed during site inspection were satisfactory.	
12.7	Construct up slope water diversion banks to direct overland surface water flow away from soil stockpiles.	Y	Soil stockpiles were sighted during the site inspection and were observed to be within the pit top perimeter bund.	
12.8	Install protective earthworks such as straw bale or contour bank protection to protect the soil stockpile from overland flow as required.	Y	Requirements identified in Section 4.4 of the Construction Phase Surface Water Management Plan. Soil stockpiles observed during the site inspection were generally well vegetated and showed no obvious signs of erosion.	
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.	V	No evidence of control sighted at the time of inspection, although it was noted that the soil stockpiles were generally well vegetated.	
12.10	Sow soil stockpiles with stabilising groundcover species.	Y	Soil stockpiles were generally vegetated at the time of the audit.	
12.11	Retain soil conservation structures, or if disturbed, reinstate these structures to maintain pre-mining soil and water management on the Mine Site.	Y	Existing water management structures have been retained within areas of the Pi Top.	
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°.	NT	Commitment relates to subsidence areas. Longwall mining has not yet commenced.	
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.	NT		
12.14	Replace soil material in the reverse order to that removed, ie. lower subsoil layers, upper subsoil layers then topsoil.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being	
12.15	Excavate and remove soils contaminated with hydrocarbons or saline water.	NT	No incidents recorded to date which would require this.	
12.16	(If the contamination is widespread) Remove contaminated material to facility licensed to accept the nominated contamination.	NT		

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	Requirement	Compliance Y/N/NT	Evidence	Comments
12.17	(If the hydrocarbon contamination is limited in area) Remove to a designated 'land farming' location (away from natural drainage) for bioremediation of hydrocarbon contaminated material.	NT		
13.1	Transport coal entirely by rail.	Y	Rail loop constructed and operational	
13.2	Erect appropriate road signage.	V	Road signage has been installed along Site Access Road and at Kurrajong Road/Site Access and Kamilaroi Highway intersection. It is assumed that as both RTA and Council have signed off on the works, the signage is appropriate.	This commitment does not specify what is appropriate road signage or who is responsible for assessing whether the signage is appropriate or not. Whilst signage has been provided as part of the site access road construction and intersection upgrade works, this condition cannot be verified at this time, although in the auditors opinion, the road signage that has been erected is appropriate for the area.
13.3	Ensure all employees and contractors are regularly informed about the safe driving requirements to and from the Mine Site.	Y	Part of site induction process, also included in daily startup meetings.	
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.	Y	Communicated during Daily Communication Meeting (example Minutes for meeting dated 2/2/11).	
13.5	Transport all oversize loads with all necessary permits.	V	Requirements identified in management plans.	
13.6	Manage the maintenance of the Mine Access Road, Kurrajong Creek Road, North Western Branch Railway Crossing.	V	Sighted letter from Narrabri Council in relation to roadworks. Intersection was observed to be well maintained at the time of the audit.	It is recommended that NCM continue to liaise with NSC and RTA in relation to maintenance of the intersection.
13.7	Work co-operatively with the relevant authorities, and as required by 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.	V	Narrabri Coal has been involved in the study but have not been asked to make a monetary contribution to date. NCM contribution to the study is based on impacts of additional rail movements on traffic in Gunnedah.	Continue to liaise with ARTC in relation to the study.
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 users) in an Integrated Traffic Management Study to be commissioned by Gunnedah Shire Council.	V	Narrabri Coal has been involved in the study but have not been asked to make a monetary contribution to date. NCM contribution to the study is based on impacts of additional rail movements on traffic in Gunnedah.	Continue to liaise with GSC in relation to the study.
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.	Y	Lighting poles observed during the audit had lighting which was directed downwards.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
14.2	Maintain the perimeter amenity bund and vegetate with native grasses, shrubs and trees.	Y	Amenity bund observed during site inspection to have been constructed and vegetated. Tree planting on the bund was observed to have been commenced.	
14.3	Construct and vegetate a bund wall around the ventilation shaft areas to restrict the visibility of the activities from neighbouring residences.	V	The bund wall around the ventilation shaft area has not yet been constructed, although construction of the ventilation shaft is in progress. It is understood that this control was associated with the Kurrajong property which has since been acquired by NCM and is therefore considered no longer relevant.	
14.4	Rehabilitate and revegetate all areas no longer required for site operations to ensure the maximum area of grassed paddock is present.	Y	Observed during the on site inspection rehabilitation of exploration boreholes and surface to in seam gas drainage wells being undertaken on an ongoing basis. Inspection of surface to in seam gas drainage well sites 5 and 6 was satisfactory. Rehabilitation of the majority of the surface disturbance areas i.e. pit to be undertaken as part of mine closure.	
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.	Y	Load out bin observed during the audit to be painted or constructed in a green hue.	
15.1	Maintain the Community Consultative Committee or similar and include local community representatives.	Y	CCC established and meets regularly. CCC minutes sighted.	
15.2	Provide regular newsletters regarding project progress and operations.	N	NCM reports that this hasn't been happening but is scheduled to restart in the coming months.	
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.	Y	First instalment paid.	
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.	Y	First instalment paid.	
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 Commitment 7.27).	Y	Monitoring results sighted	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
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 Commitment 7.28).	NT	No extraction from Namoi River to date. Water has not been discharged off site to date.	
16.3	Record extraction volumes including weekly totals from all pumping bores, and weekly totals from underground and open cut sump. (See also Commitment 6.4).	Y	Flow meters installed on pumping systems. Records maintained.	
16.4	Record volumes of water introduced to the mine for longwall operation and other requirements. (See also Commitment 6.5).	Y	Flow meters installed on pumping systems. Records maintained.	
16.5	Record the groundwater quality (EC and pH) discharged from the underground workings and water supply bores. (See also Commitment 6.6).	Y	Groundwater monitoring program in operation. Monitoring data reviewed.	
16.6	Sample and analyse water from all pumping bores and underground for the following parameters.	Y	Monitoring data reviewed during audit.	
	EC, TDS, TSS and pH			
	Calcium, magnesium, sodium and potassium			
	Carbonate, bicarbonate, sulphate and chloride			
	Aluminium, arsenic, boron, cobalt, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, silver, selenium, zinc			
	Ammonia, nitrate, phosphorus, reactive phosphorus (see also Commitment 6.7).			
16.7	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). (See also Commitment 6.8)	Y	Monitoring data reviewed which showed that standing water levels are being recorded.	
16.8	Monitor the flow rate and water quality of the spring discharge from "Mayfield Spring". (See also Commitment 6.9).	NT	The Mayfield Spring is to the south of the project area. The groundwater monitoring program for the Stage 2 operations is due to be submitted by June 2011.	NCM should ensure that monitoring of the Mayfield Spring is included as part of a revised groundwater monitoring program.
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 Commitment 6.10).	NT	Longwall mining has not yet commenced.	

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	Requirement	Compliance Y/N/NT	Evidence	Comments
16.10	Collect data from the vibrating wire piezometers and compare against initial groundwater and subsidence modelling predictions. (See also Commitment 6.11).	NT	Data is being collected, however a sufficient duration of mining has not occurred to date to permit a meaningful assessment to be undertaken.	
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 Commitment 6.12).	NT	A sufficient duration of mining has not occurred to date to permit a meaningful assessment to be undertaken.	Mining has only been in operation for six months at the time of the audit.
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 Longwall Project (see also Commitment 6.13).	NT	Although a groundwater monitoring program was developed as part of the Stage 1 Water Management Plan, this Plan is required to be revised and submitted for approval by June 2011.	
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" ² "Oakleigh" "Haylin View" ² "Newhaven" "Merrilong" ² (see also Commitment 10.20).	NT	Longwall mining has not yet commenced.	Noise monitoring is ongoing from Stage 1. As at December 2010, noise was only being monitored at Bow Hills, Naroo, Claremont, Westhaven and Greylands.
16.14	Increase the frequency of monitoring during the first winter (May to September) of construction or mining operations (see also Commitment 10.21). This will also incorporate real time noise monitoring in accordance with the Stage 1 modification approval.	NT	First winter of longwall mining operations is not expected to commence until 2012.	
16.15	Review and submit noise monitoring results to the DECCW. (See also Commitment 10.22).	Y	AEMR provided to DECC as part of Stage 1 operations provides a summary of the monitoring data. Monitoring data summary is also provided to DECCW with EPL Annual Return.	The procedures for reporting results to DECCW are already in place as can be seen from the Stage 1 operations. Reporting has not yet been undertaken for Stage 2. EPL Annual Return is due in April and AEMR is due in July 2011.
16.16	Monitor deposited dust levels at 8 sites (ND1 to ND8). (See also Commitment 11.22).	Y	Eight depositional monitoring location noted in AQMP and results presented in the 2009/2010 AEMR. Monitoring data reviewed during the audit.	Air quality monitoring program has been ongoing from Stage 1.

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	Requirement	Compliance Y/N/NT	Evidence	Comments
16.17	Monitor PM ₁₀ levels at 2 sites (ND9 to ND10). (See also Commitment 11.23).	Y	Two PM ₁₀ monitoring location noted in AQMP and results presented in the 2009/2010 AEMR. Monitoring data reviewed during the audit.	
16.18	Review and submit dust monitoring results to relevant government agency. (See also Commitment 11.24).	Y	AEMR provided to DECC as part of Stage 1 operations provides a summary of the monitoring data. Monitoring data summary is also provided to DECCW with EPL Annual Return.	The procedures for reporting results to DECCW are already in place as can be seen from the Stage 1 operations. Reporting has not yet been undertaken for Stage 2. EPL Annual Return is due in April and AEMR is due in July 2011.
17.1	Incorporate the environmental procedures in an on-site management system.	Y	Environmental Management Strategy prepared and implemented as part of Stage 1 approval. This is to be revised and updated as part of the Stage 2 approval.	
17.2	Prepare or update the following management and monitoring plans: Mining Operations Plan	Y	Mining Operations Plan is current until December 2011.	MOP will be amended late 2011/early 2012 prior to longwall mining commencing.
	Aboriginal Cultural Heritage Management Plan	Y	Prepared as part of Stage 1 approval and in operation until Stage 2 Plan prepared.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.
	Energy Savings Action Plan	Y	Prepared as part of Stage 1 approval and in operation until Stage 2 Plan prepared.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.
	Waste Management Plan	Y	Prepared as part of Stage 1 approval and in operation until Stage 2 Plan prepared.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.
	Water Management Plan	Y	Prepared as part of Stage 1 approval and in operation until Stage 2 Plan prepared.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.
	Landscape Management Plan	Y	Prepared as part of Stage 1 approval and in operation until Stage 2 Plan prepared.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.
	Greenhouse Gas Minimisation Plan	Y	Prepared as part of Stage 1 approval and in operation until Stage 2 Plan prepared.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.
	Gas Drainage and Outburst Management Plan	Y	Prepared as part of Stage 1 and MOP process.	
	Major Hazard Management Plan	Y	Prepared as part of Stage 1 and MOP process.	
	Salinity Contamination Contingency Plan	NT	Water conditioning plant has not yet been constructed, therefore no brine produced to date.	
	Extraction Management Plan	NT	No secondary extraction or longwall mining undertaken to date.	
	Erosion and Sediment Control Plan	Y	Part of Site Water Management Plan prepared for Stage 1.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.

Statement of Commitments - Stage 2 Approval

	Requirement	Compliance Y/N/NT	Evidence	Comments
	Noise Monitoring Program	Y	Prepared as part of Stage 1 approval and in operation until Stage 2 Plan prepared.	Stage 1 Plan to be revised and updated in accordance with Stage 2 approval requirements.
17.3	Incorporate relevant environmental data/information in Annual Environmental Management Reports.	Y	AEMRs prepared which contain information on environmental issues and monitoring data. Sighted AEMRs for 2008/2009 and 2009/2010.	
18.1	Construct all buildings with certification by Narrabri Shire Council.	Y	Construction certificate No. 121/2011 sighted. Stage 2 buildings are currently under construction. Occupancy certificate to be sought when completed.	
18.2	Implement a policy encouraging employment of local district personnel, with arrangements for training and certification.	N	Staff reported no official policy but generally try to recruit locals where possible.	
18.3	Include environmental issues in the site induction process for new employees and/or contractors.	Y	Whitehaven Generic Induction Manual	
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.	N	No specific training program in place and training not necessarily formally recorded. However, environmental training is undertaken Eg enviro staff have undertaken Mine Closure training	
18.5	Include environmental issues in the agenda for toolbox meetings with employees and/or contractors.	Y	Environmental issues are included in daily start up meetings as required.	

APPENDIX 6

Compliance Assessment EPL 12789

Environment Protection Licence No. 12789

Review Due Date: 20/2/2013



Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
A1.1	Not applicable			
A1.2	This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.	Y		
	Unless otherwise further restricted by the condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.			
	Scheduled Activity	Y	Scheduled activities were observed during the site inspection.	
	Mining for Coal			
	Coal works			
	Fee Based Activity	Y	First coal was produced 28 June 2010. As of the end of January 2011, 76,000 T of coal has been extracted.	
	Mining for Coal > 2000000 - 350000 T produced			
	Coal works >2,000,000 - 5,000,000 T loaded			
A1.3	Not applicable			
A1.4	The licensee must not commence scheduled activities (i.e. coal mining or coal works) on the premises referred to in condition A1.2 of this licence without prior approval from DECC. The licensee must submit a variation of licence application to DECC's Armidale Office to seek this approval. The application must include copies of all relevant approvals and documentation for the proposed scheduled activities.	Y	Licence variation submitted 10/02/09 and approved 18/8/09	Licence was originally issued for Scheduled Development Works. Licence variation was to change to Type of Licence being Scheduled Activity - Premises Based prior to commencing coal works activities.
A2.1	The licence applies to the following premises: <div> Premises Details Narrabri Coal Project "Turrabaa" Kurrajong Creek Road BAAN BAA NSW 2390 SEE DETAILS BELOW </div> <div> Premises Details Location of premises is shown on figures titled "Figure 1.1 Project Site Location" and "Figure 2.1 (Preferred) Indicative Project Site Layout" submitted by Licensee with licence application dated 21-09-07. Copy on file 25147A1/03 </div>	Y		
A2.2	The licence applies to the following premises: Lot 1 DP 816020; Lot 152 DP 816020; Lot 60 DP 757124; Part Lot 60 DP 757124; Part Lots 151 & 152 DP 816020; Part Lot 152 DP 816020; Part Lots 57, 58, 63, 64, 65, 81, 82, 83, 83 & 115 DP 757124; Lot 61 DP 757124; Part Lot 1 DP 811171; Lot 2 DP 811171; Part Lots 3, 8, 25, 67 & 68 DP 757104; Lot 7 DP 757104; Part Lot 152 DP 816020; Lot 1 DP 659899; Part Lot 3 DP 1005608; Lots 381 & 382 DP 1028753; Part Lot 1 DP 798487; Part Lots 57,58,60,63,64,65,81,82,83,84 & 115 DP 757124; Part Lots 3, 8, 10, 25, 67 & 68 DP 757104; Part Lots 151 & 152 DP 816020	Y		
A3.1	Not applicable			

Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments																																
A4.1	<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 Environmental 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>	Y	Works and activities were generally observed to be being carried out in accordance with the proposal contained in the licence application.																																	
P1.1	<p>The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or setting of limits for the emission of pollutants to the air from the point.</p> <table><tr><th colspan="4">Air</th></tr><tr><th>EPA Identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Description of Location</th></tr><tr><td>1</td><td>Ambient Air Quality Monitoring</td><td></td><td>Monitoring point located at "Turabaa" and labelled ND1 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.</td></tr><tr><td>2</td><td>Ambient Air Quality Monitoring</td><td></td><td>Monitoring point located at "Claremont" and labelled ND2 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.</td></tr><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 "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.</td></tr><tr><td>4</td><td>Ambient Air Quality Monitoring</td><td></td><td>Monitoring point located at "Matoppo" and labelled ND4 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.</td></tr><tr><td>5</td><td>Ambient Air Quality Monitoring</td><td></td><td>Monitoring point located at "Willarah" and labelled ND5 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.</td></tr><tr><td>6</td><td>Ambient Air Quality Monitoring</td><td></td><td>Monitoring point located at "Willarah" and labelled ND6 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.</td></tr></table>	Air				EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location	1	Ambient Air Quality Monitoring		Monitoring point located at "Turabaa" and labelled ND1 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.	2	Ambient Air Quality Monitoring		Monitoring point located at "Claremont" and labelled ND2 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.	3	Ambient Air Quality Monitoring		Monitoring point located at "Bow Hills" and labelled ND3 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.	4	Ambient Air Quality Monitoring		Monitoring point located at "Matoppo" and labelled ND4 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.	5	Ambient Air Quality Monitoring		Monitoring point located at "Willarah" and labelled ND5 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.	6	Ambient Air Quality Monitoring		Monitoring point located at "Willarah" and labelled ND6 as shown on map titled "Figure 2- Air Quality Monitoring locations" dated 2 January 2008 and on DECC file LIC07/1074-02.	Y	Monitoring data shows that monitoring is being undertaken at the specified points.	
Air																																				
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Environment Protection Licence No. 12789

Review Due Date: 20/2/2013



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P1.2	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or setting of limits for discharges of pollutants to water from the point.	Y	Monitoring results show that monitoring is being undertaken at the specified points.																					
P1.3	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.	Y	Monitoring results show that monitoring is being undertaken at the specified points.																					

Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments																								
	<div>Water and land</div> <table><thead><tr><th>EPA Identification no.</th><th>Type of monitoring point</th><th>Type of discharge point</th><th>Description of location</th></tr></thead><tbody><tr><td>11</td><td>Wet weather discharge</td><td>Wet weather discharge</td><td>Discharge point on northern side of mine boundary labelled as "SD4" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.</td></tr><tr><td>12</td><td>Wet weather discharge</td><td>Wet weather discharge</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</td><td>Wet weather discharge</td><td>Discharge point on south eastern side of mine boundary labelled as "SD2" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.</td></tr><tr><td>14</td><td>Ambient Water Quality Monitoring</td><td></td><td>Upstream of mine discharge point on Kurralong Creek Tributary 1 labelled as "KC1US" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.</td></tr><tr><td>15</td><td>Ambient Water Quality Monitoring</td><td></td><td>Downstream of mine discharge point on Kurralong Creek Tributary 1 labelled as "KC1DS" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.</td></tr></tbody></table>	EPA Identification no.	Type of monitoring point	Type of discharge point	Description of location	11	Wet weather discharge	Wet weather discharge	Discharge point on northern side of mine boundary labelled as "SD4" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.	12	Wet weather discharge	Wet weather discharge	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	Wet weather discharge	Discharge point on south eastern side of mine boundary labelled as "SD2" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.	14	Ambient Water Quality Monitoring		Upstream of mine discharge point on Kurralong Creek Tributary 1 labelled as "KC1US" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.	15	Ambient Water Quality Monitoring		Downstream of mine discharge point on Kurralong Creek Tributary 1 labelled as "KC1DS" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.			
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16	Ambient Water Quality Monitoring		Upstream of mine discharge point on Kurralong Creek Tributary 2 labelled as "KC2US" on Figure titled "Wet Weather Discharge Monitoring Locations" provided with licence variation application dated 10 February 2009.																									
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P2.1	<div>The following point(s) in the table are identified in this licence for the purpose of the monitoring of weather parameters at the point.</div> <table><thead><tr><th>EPA identification number</th><th>Type of Monitoring Point</th><th>Description of Location</th></tr></thead><tbody><tr><td>W1</td><td>Weather analysis</td><td>Weather station identified at "Meteorological station" on map titled "Figure B Environmental Monitoring" submitted with the Final Statement of Commitments, dated June 2007.</td></tr></tbody></table>	EPA identification number	Type of Monitoring Point	Description of Location	W1	Weather analysis	Weather station identified at "Meteorological station" on map titled "Figure B Environmental Monitoring" submitted with the Final Statement of Commitments, dated June 2007.	Y	Weather station was observed in operation during the site inspection.																			
EPA identification number	Type of Monitoring Point	Description of Location																										
W1	Weather analysis	Weather station identified at "Meteorological station" on map titled "Figure B Environmental Monitoring" submitted with the Final Statement of Commitments, dated June 2007.																										

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments																																			
L1.1	Except as may be expressly provided in any other condition of this license, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	Y	No discharges from the site to date.																																				
L2.1	Not applicable																																						
L2.2	Not applicable																																						
L3.1	For each monitoring/discharge point or utilisation area specified in the table\ 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.	Y																																					
L3.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Y																																					
L3.3	<p>To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.</p> <p style="text-align: center;"><i>Water and Land</i></p> <table><tr><th colspan="7">POINTS 11,12,13</th></tr><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>90 percentile concentration limit</th><th>3DGM concentration limit</th><th colspan="2">100 percentile Concentration Limit</th></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td>-</td><td>-</td><td>-</td><td colspan="2">10</td></tr><tr><td>pH</td><td></td><td>-</td><td>-</td><td>-</td><td colspan="2">6.5-8.5</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td>-</td><td>-</td><td>-</td><td colspan="2">50</td></tr></table>	POINTS 11,12,13							Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit		Oil and Grease	milligrams per litre	-	-	-	10		pH		-	-	-	6.5-8.5		Total suspended solids	milligrams per litre	-	-	-	50		Y	Monitoring data shows that on occasions water samples from Points 11, 12 and 13 have exceeded the Total Suspended Solids and pH criteria, however to date no discharge has occurred from the site.	Monitoring of sediment basins has been undertaken as a precautionary measure after rainfall events but to date no water has been discharged from the site.
POINTS 11,12,13																																							
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit																																		
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L3.4	<p>The Total Suspended Solids concentration limits specified for Points 11, 12 and 13 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</p> <p>(b) 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: 38.4mm 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>	Y	Monitoring data shows that on occasions water samples from Points 11, 12 and 13 have exceeded the Total Suspended Solids criteria, however to date no discharge has occurred from the site.	Monitoring of sediment basins has been undertaken as a precautionary measure after rainfall events but to date no water has been discharged from the site.																																			
L4.1	Not applicable																																						
L5.1	Not applicable																																						
L6.1	Noise from the premises must not exceed: (a) 35 dB(A) LAeq(15minute) during the day (7am to 6pm), evening (6pm to 10pm) and night (10pm to 7am) for construction activities. Where LAeq means the equivalent continuous noise level - the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.	N	Monitoring data shows that noise exceedances were recorded during the winter months of 2008.	Exceedances were reported to DECCW, investigations were undertaken, reasons for exceedances identified and mitigative measures put in place.																																			

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
L6.2	Noise from the premises is to be measured at any residence not on the premises to determine compliance with this condition. Note: For the purpose of noise measures required for this condition, the LAeq noise limit must be measured or computed at any point within 30 metres of any residence not on the premises over a period of 15 minutes using "FAST" response on the sound meter.	Y	Generally, noise measurements are undertaken at residences with the exception of the Kurrajong residence where the owner refused access.	Consultation with DECCW and DoP was undertaken in relation to the monitoring point at Kurrajong and alternatives put in place to monitor at the boundary of the Claremont and Kurrajong properties. It is noted that the Kurrajong property has now been acquired.
L6.3	The noise emission limits identified in this licence apply under all meteorological conditions except: (a) during rain and wind speeds (at 10m height) greater than 3m/s; and (b) under "non-significant weather conditions". Note: Field meteorological indicators for non-significant weather conditions are described in the NSW Industrial Noise Policy, Chapter 5 and Appendix E in relation to wind and temperature inversions.	Y	Monitoring reports confirm that meteorological conditions are taken into account in noise monitoring and reporting.	
L6.4	The noise limits set out by condition L6.1 of the licence do not apply where a current legally binding agreement exists between the proponent and the occupant of a residential property that: a) agrees to an alternative noise limit for that property; or b) provides an alternative means of compensation to address noise impacts from the premises. A copy of any agreement must be provided to the EPA before the proponent can take advantage of that agreement.	NT	No negotiated agreements are in place for the mining operations.	
L7.1	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.	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 113.3 dBL	
L7.2	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.	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 113.3 dBL	
L7.3	The airblast overpressure level from blasting operations listed in Conditions L7.1 and L7.2 must not be exceeded at any point within 30 metres of any non-project related residential building or other noise sensitive location.	Y	Monitoring data shows that monitoring occurred within 30 metres of the specified non-project related residences.	
L7.4	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.	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 1.44 m/sec	
L7.5	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.	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 1.44 m/sec	

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
L7.6	The ground vibration peak particle velocity limits listed in Conditions L7.3 and L7.4 must not be exceeded at any point within 3.5 metres of any non-project related residential building or other noise sensitive location.	Y	Monitoring data shows that monitoring occurred within 3.5 metres of the specified non-project related residences.	
L7.7	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).	Y	Blast results includes date and time of blast which shows all blasts were within required timeframes.	
L7.8	Blasting at the premises is limited to: a) A maximum of two (2) blasts per day; b) Five (5) blasts a week, averaged over a twelve month period; on each day on which blasting is permitted.	Y	Blast results show that blasting has only been undertaken once on any one day and blasts have only occurred once per week.	
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	Y	Generally, operations were observed to be carried in a competent manner. Materials such as stone dust, resins and hydrocarbon products were observed to be managed in accordance with the management measures identified in the approved management plans.	
	(b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Y	Wastes resulting from the construction and operation of Stage 1 were observed to be generally well managed. Wastes streams were observed to be separated and disposed of in an appropriate manner.	
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	Y	PULSE system generates inspection and maintenance schedules / checklists. Sighted Weekly Inspection Checksheet for Plant No 806 printed 26/1/11, Mechanical Preventative Maintenance Schedule for Plant No DMT007 dated 31/1/2011 and Mechanical Daily 103 Inspection for Plant No LHD003 dated 13/1/2011.	
	(b) must be operated in a proper and efficient manner.	Y	Sighted training records for Josh Lancaster dated 24/12/2010 for operation of shuttle car, HFX Bolter Unit, underground induction checklist, feeder breaker (dated 7/12/2010), electrical tradesperson (dated 26/11/2010). Operator tickets also sighted.	
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.	Y	Air Quality Management Plan prepared and implemented. A water cart was observed in use on the site during the site inspection to wet down the internal site access roads and disturbed areas.	
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.	Y	Monitoring results are retained and recorded in a series of spreadsheets.	

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments																																																																
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;	Y	Monitoring results are maintained as a series of spreadsheets																																																																	
	(b) kept for at least 4 years after the monitoring or event to which they relate took place; and	Y	Monitoring results from 2008 when construction commenced were available for review during the audit.																																																																	
	(c) produced in a legible form to any authorised officer of the EPA who asks for them.	NT																																																																		
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence:	Y	Field notes are recorded on field sheets for each sample.																																																																	
	(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.																																																																			
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: POINTS 1,2,3,4,5,6,7,8 <table><tr><td>Pollutant</td><td>Units of measure</td><td>Frequency</td><td>Sampling Method</td></tr><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></table> POINTS 9,10 <table><tr><td>Pollutant</td><td>Units of measure</td><td>Frequency</td><td>Sampling Method</td></tr><tr><td>PM10</td><td>micrograms per cubic metre</td><td>Every 5 days</td><td>AM-19</td></tr></table> POINTS 11,12,13 <table><tr><td>Pollutant</td><td>Units of measure</td><td>Frequency</td><td>Sampling Method</td></tr><tr><td>Conductivity</td><td>microsiemens per centimetre</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>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 1</td><td>In situ</td></tr></table> POINTS 14,15,16,17 <table><tr><td>Pollutant</td><td>Units of measure</td><td>Frequency</td><td>Sampling Method</td></tr><tr><td>Conductivity</td><td>microsiemens per centimetre</td><td>Special Frequency 2</td><td>In situ</td></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td>Special Frequency 2</td><td>Grab sample</td></tr><tr><td>Total organic carbon</td><td>milligrams per litre</td><td>Special Frequency 2</td><td>Grab sample</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td>Special Frequency 2</td><td>Grab sample</td></tr><tr><td>pH</td><td>pH</td><td>Special Frequency 2</td><td>In situ</td></tr></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	Pollutant	Units of measure	Frequency	Sampling Method	PM10	micrograms per cubic metre	Every 5 days	AM-19	Pollutant	Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Special Frequency 1	In situ	Oil and Grease	milligrams per litre	Special Frequency 1	Grab sample	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 1	In situ	Pollutant	Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Special Frequency 2	In situ	Oil and Grease	milligrams per litre	Special Frequency 2	Grab sample	Total organic carbon	milligrams per litre	Special Frequency 2	Grab sample	Total suspended solids	milligrams per litre	Special Frequency 2	Grab sample	pH	pH	Special Frequency 2	In situ	Y	Monitoring data shows that the sampling method and frequency of sampling is being undertaken in accordance with the requirements of this condition.	
Pollutant	Units of measure	Frequency	Sampling Method																																																																	
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pH	pH	Special Frequency 2	In situ																																																																	
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:																																																																			
	(a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or	Y	Monitoring data shows that air quality is being measured using approved methods.																																																																	
	(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	NT																																																																		
	(c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology in writing by the EPA for the purposes of that testing prior the testing taking place.	NT																																																																		

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
	Note: The Protection of the Environment Operations (Clean Air) Regulation 2002 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".			
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 Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	Y	Water monitoring is being undertaken in accordance with the approved methods.	
	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.	NT	No discharges have occurred from the site to date.	
	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 or 13 commences and in any case not more than 12 hours after each discharge commences.	NT	No discharges have occurred from the site to date.	
M4.1	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.	Y	Complaints records sighted during the audit and were noted to be available on the Whitehaven Narrabri North website.	
M4.2	The record must include details of the following:			
	(a) the date and time of the complaint;	Y	Complaints records reviewed. Relevant details are being recorded. Records showed that complaints are being investigated and actioned.	
	(b) the method by which the complaint was made;	Y		
	(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;	Y		
	(d) the nature of the complaint;	Y		
	(e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and	Y		
	(f) if no action was taken by the licensee, the reasons why no action was taken.	Y		
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Y	Complaint records were available from 2008 when construction commenced.	
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.	NT	Complaint records are available on the Whitehaven Narrabri North website, however complainant details have been omitted from the website version.	
M5.1	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.	Y	A complaints line is in operation and details are published on a regular basis in the local newspaper eg advertisements in The Courier dated 12/2/08 and 3/11/09 sighted.	It was noted that the complaints line number is not advertised as such on the Whitehaven website.
M5.2	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.	Y	A complaints line is in operation and details are published on a regular basis in the local newspaper eg advertisements in The Courier dated 12/2/08 and 3/11/09 sighted.	
M5.3	Conditions M5.1 and M5.2 do not apply until 3 months after:			
	(a) the date of the issue of this licence or	NT	Licence was issued more than 3 months ago.	

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments																																																		
	(b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.	NT	Licence is not a replacement.																																																			
M6.1	Not applicable.																																																					
M7.1	<p>For each monitoring point specified in the table below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters 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>Point W1</p> <table><tr><th>Parameter</th><th>Units of Measure</th><th>Frequency</th><th>Averaging Period</th><th>Sampling Method</th></tr><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 & AM-4</td></tr><tr><td>Wind direction @ 10 metres</td><td>°</td><td>Continuous</td><td>15 minute</td><td>AM-2 & 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 & 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 & AM-4 AM-2 & AM-4</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></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						Y	Weather station observed in operation during teh site inspection. Weather records reviewed during the audit showed that relevant parameters are being recorded.	
Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method																																																		
Rainfall	mm	Continuous	1 hour	AM-4																																																		
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M8.1	For each monitoring point specified below, the Licensee must monitor the noise 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.	Y	Monitoring data shows that noise monitoring has been undertaken at the nominated residences with the exception of the Kurrajong Residence where the owner refused access. Monitoring was undertaken at the boundary between the Kurrajong and Claremont properties and correction factors applied to estimate the noise levels at the Kurrajong residence.																																																			
	<p>POINTS: N1, N2, N3, N4, N5</p> <table><tr><th>Parameter</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Ambient Noise</td><td>L_{Aeq} (15 minute)</td><td>Quarterly frequency of monitoring as detailed in the document "Noise Monitoring Program for the Narrabri Coal Mine including a Noise Monitoring Protocol" report No. 674/12d dated 3 December 2007 and prepared for Narrabri Coal Mine Pty Ltd.</td><td>Type 1 Noise Meter – Unattended and/or Attended Monitoring as detailed in the document "Noise Monitoring Program for the Narrabri Coal Mine including a Noise Monitoring Protocol" report No. 674/12d dated 3 December 2007 and prepared for Narrabri Coal Mine Pty Ltd.</td></tr><tr><td></td><td>L_{Amax}</td><td></td><td></td></tr><tr><td></td><td>L_{A1}</td><td></td><td></td></tr><tr><td></td><td>L_{A10}</td><td></td><td></td></tr><tr><td></td><td>L_{A90}</td><td></td><td></td></tr><tr><td></td><td>L_{Amin}</td><td></td><td></td></tr></table> <p>For the purpose of this condition, the noise monitoring locations are described as:</p> <table><tr><th>EPA No.</th><th>Identification</th><th>Description of Location</th></tr><tr><td>N1</td><td></td><td>Within 30m of the residence on property "Bow Hills"</td></tr><tr><td>N2</td><td></td><td>Within 30m of the residence on property "Westhaven"</td></tr><tr><td>N3</td><td></td><td>Within 30m of the residence on property "Naroom"</td></tr><tr><td>N4</td><td></td><td>Within 30m of the residence on property "Greylands"</td></tr><tr><td>N5</td><td></td><td>Within 30m of the residence on property "Kurrajong"</td></tr></table> <p>Note: The location, frequency of monitoring and the parameters to be monitored may be varied by the EPA once the variability of the noise impact is established.</p>	Parameter	Units of measure	Frequency	Sampling Method	Ambient Noise	L _{Aeq} (15 minute)	Quarterly frequency of monitoring as detailed in the document "Noise Monitoring Program for the Narrabri Coal Mine including a Noise Monitoring Protocol" report No. 674/12d dated 3 December 2007 and prepared for Narrabri Coal Mine Pty Ltd.	Type 1 Noise Meter – Unattended and/or Attended Monitoring as detailed in the document "Noise Monitoring Program for the Narrabri Coal Mine including a Noise Monitoring Protocol" report No. 674/12d dated 3 December 2007 and prepared for Narrabri Coal Mine Pty Ltd.		L _{Amax}				L _{A1}				L _{A10}				L _{A90}				L _{Amin}			EPA No.	Identification	Description of Location	N1		Within 30m of the residence on property "Bow Hills"	N2		Within 30m of the residence on property "Westhaven"	N3		Within 30m of the residence on property "Naroom"	N4		Within 30m of the residence on property "Greylands"	N5		Within 30m of the residence on property "Kurrajong"							
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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:		Annual Returns for 2008/2009 and 2009/2010 were reviewed during the audit. Both Annual Returns included the Statement of Compliance and the Monitoring and Complaints Summary.	It was noted that the 2008/2009 Annual Return indicated no non-compliances yet noise exceedances were identified in the routine monitoring and reported to DECCW.
	(a) a Statement of Compliance; and	Y		
	(b) a Monitoring and Complaints Summary.	Y		
	A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before 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.	Y		
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. 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.	Y	Annual Returns for 2008/2009 and 2009/2010 were reviewed during the audit.	
R1.3	Where this licence is transferred from the licensee to a new licensee: (a) 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	NT		
	(b) 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. Note: An application to transfer a licence must be made in the approved form for this purpose.	NT		
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:	NT		
	(a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or	NT		
	(b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	NT		
R1.5	The Annual Return for the reporting period must be supplied to the EPA 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').	Y	Two Annual Returns have been submitted for the operations. Annual Returns were received by the EPA on 21 April 09 and 10 as noted on the EPA Public Register.	
R1.6	Not applicable.			
R1.7	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.	Y	Annual Returns were available for review for the previous 2 years since licence was issued.	
R1.8	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:		Annual Returns were noted to be signed by a Director and the Company Secretary as required where the licensee is a company.	
	(a) the licence holder; or	Y		
	(b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	NT		

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
R1.9	A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.	NT		
R2	Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	Y		
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	N	No evidence that notifications made by phone.	
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.	N	Written notifications of air and noise exceedances were provided to DECCW by letters dated 25/7/08, 21/08/08 and 10/2/10 but these were not provided within 7 days of the incident.	
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.	NT		
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.	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.	NT	No requests received from DECCW	

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	NT	No requests received from DECCW	
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Y	A copy of the licence was observed to be maintained on site and was available for audit.	
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	NT	No authorised officer has asked to see it.	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Y	Licence was available to the auditors.	
U1.1	Not applicable.			
E1.1	Prior to the commissioning of the evaporation and storage ponds, the licensee must provide the DECC 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.	N	"As Constructed" report prepared by URS (September 2010) was sighted during the audit but NCM has advised that it has not yet been submitted to DECCW.	
E2.1	Noise impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be addressed by:	Y		
	a) documenting noise complaints received to identify any higher level of impacts or wind patterns;	Y		
	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.	Y		

APPENDIX 7

Compliance Assessment ML 1609

Mining Lease No: 1609

Lease granted 18 January 2008 - due to expire January 2029

Conditions 2-8 and 17-23 are identified as conditions relating to environmental management.



Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	Y	Site inspection and audit of compliance documentation found no significant issues relating to environmental management. Environmental Management Plans are established. Good level of environmental awareness amongst all staff interviewed as part of the audit.	
3	(a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries.	Y	Sighted MOP Prepared February 2008. Current until December 2011.	
	(b) The MOP must: identify areas that will be disturbed by mining operations;	Y	Section 3 of MOP	
	detail the staging of specific mining operations;	Y	Section 3 of MOP	
	identify how the mine will be managed to allow mine closure;	Y	Section 5 of MOP	
	identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;	Y	Section 7 of MOP	
	reflect the conditions of approval under: the <i>Environmental Planning and Assessment Act 1979</i>	Y	Relevant approvals are listed in Section 1.3 of the MOP. Specific environmental controls required by the approval are also included in Section 7 of the MOP.	
	the <i>Protection of the Environment Operations Act 1997</i>	Y	The EPL is listed in Section 1.3 of the MOP. Specific environmental controls required by the licence are also included in Section 7 of the MOP.	
	and any other approvals relevant to the development including the conditions of this lease; and	Y	Section 1.3 of the MOP identifies other relevant approvals including water licences etc.	
	have regard to any relevant guidelines adopted by the Director-General.	Y	MOP has been approved.	
	(c) The titleholder may apply to the Director-General to amend an approved MOP at any time.	Y	MOP has been amended twice to date - once in 2008 and once in 2010.	MOP now includes construction of the infrastructure associated with Stage 2 which was the subject of the S75W modification.

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
	(d) 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</i> , the <i>Environmental Planning and Assessment Act 1979</i> , <i>Protection of the Environment Operations Act 1997</i> or the <i>Occupational Health and Safety Act 2000</i> , and	NT		
	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.	NT		
	(e) 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.	Y	MOP is current until December 2011.	
4	The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.	Y	Two AEMR's have been produced to date for the Narrabri North operations.	
5	The EMR must: report against compliance with the MOP;	Y		
	report on progress in respect of rehabilitation completion criteria;	Y		
	report on the extent of compliance with regulatory requirements; and	Y		
	have regard to any relevant guidelines adopted by the Director-General.	Y		
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.	NT	No additional reports have been requested.	
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Y		

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	NT		
	(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> .	NT	No secondary extraction or longwall mining has been undertaken to date.	Longwall mining is scheduled to commence in early 2012.
	(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 <i>Coal Mine Health and Safety Act 2002</i> , or the document <i>New Subsidence Management Plan Approval Process - Transitional Provisions</i> (EDP09).	NT		
	(d) Subsidence Management Plans as approved shall form part of the Mining Operations 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> .	NT		
15	(a) Ground Vibration 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 Climate Change and Environment.	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 1.44 m/sec	

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Conditions 2-8 and 17-23 are identified as conditions relating to environmental management.



Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
	(b) Blast Overpressure 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 Climate Change and Environment.	Y	4 blasts undertaken in 2008/2009 as part of construction of box cut. Blast results show no exceedances. Maximum was 113.3 dBL	
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.	V	Evidence required to confirm that exploratory holes have been drilled.	
	(2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-			
	(a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;			
	(b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;			
	(c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;			
	(d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;			
	(e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.			
	(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.			
	(g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.			

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	Y	Works are generally being undertaken in accordance with the approved MOP and in accordance with the requirements of the Project Approval and EPL.	See separate compliance assessments against Project Approval and EPL.
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.	NT		
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.	NT	NCM owns the land upon which surface disturbances are being undertaken.	
	(b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	NT	NCM owns the land upon which surface disturbances are being undertaken.	
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.	Y	Roadworks were required along Kurranjong Creek Road and Kamilaroi Highway. These works were completed to the satisfaction of Narrabri Shire Council.	
	(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 Mines Subsidence Compensation Fund.	NT	No damage has been caused to date.	

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Condition No.	Requirement	Compliance Y/N/NT	Evidence	Comments
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.	Y	Access tracks and roads were inspected during the site inspection. Observed ripping and rehabilitation of temporary access tracks to gas drainage infrastructure at SIS sites 5 & 6 as part of site rehabilitation requirements.	
23	(a) The lease holder must not fell trees, strip bark or cut timber 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.	Y	Land on which works are currently being undertaken is owned by NCM.	
	(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.	Y	NCM has a site clearing permit process. Sighted records of clearing permits for the ventilation shaft area.	
	(c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.	NT		

APPENDIX 8

Photographic Plates



PLATE 1
Storage of Oils and Lubricants at the edge of a Bunded Facility



PLATE 2
Perimeter Amenity Bund



PLATE 3
Temporary Waste Oil Storage



PLATE 4
Ventilation Shaft Construction Site



PLATE 5
CHPP Construction Site



PLATE 6
Evaporation Pond A in Operation



PLATE 7
Evaporation Pond B1 under Construction

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