

Moolarben Coal Operations

**MOOLARBEN COAL
OPERATIONS**

**INDEPENDENT ENVIRONMENTAL
COMPLIANCE AUDIT –
PA 05_0117**

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April 2013

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

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1.0 Introduction

The Moolarben Coal Operations (MCO) is located in the western coal fields of NSW, approximately 40 kilometres northeast of Mudgee and approximately 25 kilometres east of Gulgong. Project Approval 05_0117 (PA05_0117) was granted by the Department of Planning and Infrastructure (DP&I) in September 2007 for the operation of Moolarben Coal Mine. This approval covers Stage 1 of the project which includes the construction and operation of three separate open cut mines (OC1, OC2 and OC3), an underground mine (UG4), the coal handling and preparation plant (CHPP) and infrastructure area. At the time of the audit, only OC1 and the CHPP and infrastructure area had been constructed and were operational. No works have been undertaken to date for OC2, OC3 or UG4.

MCO commissioned Umwelt (Australia) Pty Limited (Umwelt) to conduct an independent environmental audit of the Moolarben Coal Mine. The audit was conducted in accordance with Condition 6 of Schedule 5 of the Moolarben Coal Project Approval. The audit assessed the compliance status of the MCO against the Project Approval and other relevant environmental approvals and licences, for operations occurring between June 2010 and October 2012.

The on-site component of the environmental audit was conducted on 23 and 24 January 2013. Some information requested by the audit team was not available on-site at the time of the audit and has subsequently been 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. **Appendices 2, 3 and 4** include detailed checklists of the status of compliance with the conditions of the Project Approval (PA05_0117), Environment Protection Licence (EPL) 12932 and Mining Leases (ML1605, ML1606 and ML1628), for the project respectively.

The audit was led by Jenny Ehmsen; a RABQSA registered Lead Environmental Auditor (Certificate No. 15186). The audit team included:

- Luke Bettridge (Assistant Auditor);
- Tim Procter (Technical Specialist – Noise);
- Adam Wyatt (Technical Specialist – Surface Water);
- Allison Riley (Technical Specialist – Ecology); and
- Lange Jorstad, Golder Associates (Technical Specialist – Groundwater).

As required by Condition 6 of Schedule 5 of the Project Approval, the audit team was approved by DP&I to undertake the audit.

1.1 Audit Objectives

The key objectives identified for the 2013 Independent Environmental Audit for the Moolarben Coal Operations are as follows:

- to undertake an independent environmental audit as required by Condition 6 of Schedule 5 of the Conditions of Project Approval; and

- to assess the environmental performance of the MCO operations and the ability of the MCO environmental management systems and controls to provide for sustainable management of the operations.

1.2 Audit Scope

As part of the Project Approval conditions, the Moolarben operations are required to be audited independently to determine compliance to the satisfaction of the Director-General of the DP&I. In order to assess the level of compliance with the terms of the approval, Condition 6 of Schedule 5 of PA05_0117 requires that an independent environmental audit be carried out. Specifically, Condition 6 of Schedule 5 of the Project Approval states:

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:

- (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 whether it is complying with the relevant requirements in this approval and any relevant mining lease and environment protection licence (including any assessment, plan or program required under these approvals);
- (d) review the adequacy of any approved strategies, plans or programs required under these approvals; and, if necessary; and
- (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals, including changes to the mine plan.

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

Condition 2 of Schedule 2 of PA05_0117 provides the Terms of Approval for the project which identifies that the project shall be carried out generally in accordance with the:

- Environmental Assessment (EA);
- Statement of Commitments;
- Approved Modification applications MOD1, MOD2, MOD4, MOD5, MOD6, MOD7 and MOD8; and
- Conditions of the approval.

1.3 Audit Criteria

The audit assessed the level of compliance and the environmental performance of the mine against the following approvals and licences:

- the current Project Approval and associated modification approvals (consolidated consent dated January 2011);
- the Moolarben Environment Protection Licence (EPL) 12932;

- the EA (including the EAs supporting MOD 1 to MOD8);
- Mining Leases ML1605, ML1606 and ML1628; and
- any strategy, plan or program which has been prepared for the Project.

Plans and programs required to be prepared by the Project Approval, Mining Lease and EPL for the project which were assessed as part of the audit included:

- Noise Monitoring Program;
- Blast Monitoring Program;
- Air Quality Monitoring Program;
- Water Management Plan, including:
 - Site Water Balance;
 - Erosion and Sediment Control Plan;
 - Surface Water Monitoring Plan;
 - Groundwater Monitoring Plan; and
 - Surface and Groundwater Response Plan;
- Landscape Management Plan, including:
 - Rehabilitation and Offset Management Plan;
 - Final Void Management Plan; and
 - Mine Closure Plan;
- Aboriginal Heritage Plan;
- Non-Aboriginal Heritage Plan;
- Road Upgrade Program;
- Energy Savings Action Plan;
- Greenhouse Gas Minimisation Plan;
- Waste Management Plan;
- Environmental Management Strategy;
- Environmental Monitoring Program;
- Mining Operations Plan; and
- Annual Environmental Management Reports (AEMRs).

1.4 Structure of this Document

This report contains the following sections:

- **Section 1.0 - Introduction.** An overview of the MCO and the purpose and scope of the audit;
- **Section 2.0 - Audit Methodology.** A detailed description of the audit process;
- **Section 3.0 – Agency Consultation.** A summary of the results of consultation with relevant agencies undertaken as part of the audit;
- **Section 4.0 – Compliance Assessment.** An overview of the findings of the audit, including detailed descriptions of any non-compliance identified;
- **Section 5.0 – Site Environmental Management Plans.** An overview of the management plans prepared for the site, including an assessment of their adequacy, implementation and effectiveness;
- **Section 6.0 - Environmental Performance.** An overview of the environmental performance of the MCO, including the findings from the site inspection;
- **Section 7.0 – Conclusion;**
- **Appendix 1 - Agency Interview Responses;**
- **Appendices 2 to 4 – Compliance Checklists.** Results of the audit assessment against relevant approval documents applying to the project including the Project Approval, EPL and MLs. The checklists provide a detailed review of each compliance condition applying to the project; and
- **Appendix 5 - 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 MCO and a site inspection of the mine 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 MCO was reviewed by the auditors. This involved a review of the Project Approval and EAs (including the EAs for approved modifications) for the site and the management plans that have been prepared in accordance with the Project Approval, 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 audit team member asking a standard set of questions which are provided in **Appendix 1**. A summary of the phone interviews is provided in **Section 3.0**.

2.3 Site Interviews and Inspections

2.3.1 Opening Meeting

The opening meeting was held at the Moolarben Administration Office commencing at 8.00 am on 23 January 2013. The list of participants is provided in **Table 2.1**. Frank Fulham (General Manager) was an apology for this meeting as he was offsite at the time of the audit.

Table 2.1 – Opening Meeting Attendees

Opening Meeting	Organisation	Title
Phil English	MCO	Project Co-ordinator
Robert Patterson	MCO	HR and OHS Manager
Luke Bowden	MCO	Environment and Community Relations Manager
Darren Gaw	MCO	CHPP Manager
Bruce Birchall	MCO	OC Mine Manager
Klay Marchant	MCO	Environment and Community Relations Coordinator
Trent Cini	MCO	Environment and Community Relations Coordinator
Julie Thomas	MCO	Environment and Community Relations Superintendent
Jenny Ehmsen	Umwelt	Lead Auditor
Luke Bettridge	Umwelt	Assistant Auditor
Tim Procter	Umwelt	Technical Specialist - Noise
Allison Riley	Umwelt	Technical Specialist - Ecology
Adam Wyatt	Umwelt	Technical Specialist – Surface Water
Lange Jorstad	Golder	Technical Specialist - Groundwater

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 MCO.

Following the opening meeting, a comprehensive site inspection was undertaken to familiarise the audit team with the site and operations. The site inspection encompassed the MCO operations, including the open cut pit, rehabilitation areas, coal handling and processing plant, and the plant maintenance areas and workshops.

2.3.2 Audit Interviews

During the on-site component of the audit, interviews were conducted with the MCO staff and contractors identified in **Table 2.2**.

Table 2.2 – Personnel Interviewed During Audit

Name	Area of Operations
Rayne Hull	Project OCE
Jonathan Chapman	CHPP Production Superintendent
Tony Olivier	Maintenance Planner
Nina Mackay	Site Training Co-ordinator
Bruce Birchall	OC Mine Manager
Klay Marchant	Environment and Community Relations Coordinator
Trent Cini	Environment and Community Relations Coordinator
Julie Thomas	Environment and Community Relations Superintendent
Luke Bowden	Environment and Community Relations Manager
Wayne Pym	Open Cut Production Superintendent

2.3.3 Data Collection and Verification

Where possible documents and data collated during the audit process were reviewed whilst 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 MCO was undertaken on 23 January 2013. The following locations were inspected:

- Mining operations including Open Cut 1 and rehabilitation areas;
- CHPP;
- Plant and equipment maintenance and laydown areas;

- Bulk fuel and chemical storages areas, including those at the workshop and the CHPP;
- Rail load out facilities;
- Water management structures and systems;
- Waste management systems, including:
 - general waste, including paper and cardboard recycling systems;
 - waste oils and greases, used filters and oily rags; and
 - scrap metal wastes; and
- Downer Mining explosives compound (contractor facilities on site).

2.3.5 Closing Meeting

Due to the technical specialists only being on site for one day, two closing meetings were held – one on Wednesday 23 January 2013 (technical specialists) and one on 24 January 2013 (final closing meeting). The list of participants is provided in **Table 2.3**. Frank Fulham (General Manager) was an apology for these meetings as he was offsite at the time of the audit.

Table 2.3 – Closing Meeting Attendees

Closing Meeting	Organisation	Title
Phil English	MCO	Project Co-ordinator
Robert Patterson	MCO	HR and OHS Manager
Luke Bowden	MCO	Environment and Community Relations Manager
Darren Gaw	MCO	CHPP Manager
Bruce Birchall	MCO	OC Mine Manager
Klay Marchant	MCO	Environment and Community Relations Coordinator
Trent Cini	MCO	Environment and Community Relations Coordinator
Julie Thomas	MCO	Environment and Community Relations Superintendent
Richard Van Laeren	MCO	Technical Services Manager
Hans Richter	MCO	Senior Property Officer
Wayne Pym	MCO	Open Cut Production Superintendent
Jenny Ehmsen	Umwelt	Lead Auditor
Luke Bettridge	Umwelt	Assistant Auditor
Tim Procter	Umwelt	Technical Specialist - Noise
Allison Riley	Umwelt	Technical Specialist - Ecology
Adam Wyatt	Umwelt	Technical Specialist – Surface Water
Lange Jorstad	Golder	Technical Specialist - Groundwater

The objectives of these meetings 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 Project Approval, EPL and MLs compliance checklists were completed and audit notes were reviewed in order to compile a list of outstanding matters to be noted in the audit report. This report was prepared to provide an overview of the status of compliance by reference to the relevant compliance documentation and any other observations of the auditors during the site inspections and interviews. This report has been prepared on an exception basis, highlighting 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 non-compliance.

Non-Compliance

Non-compliance occurs when any 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.

Observation

A finding which:

- is not likely to significantly affect the operation;
- does not strictly relate to the scope of the audit of compliance; and
- could lead to performance improvement.

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.

3.0 Agency Consultation

Consultation was undertaken with relevant government agencies to identify any particular issues of concern relating to the MCO. The results of the consultation undertaken are provided in **Table 3.1**.

Table 3.1 – Agency Consultations

Agency	Person Contacted	Date(s) Contacted	Response
DP&I	Sara Wilson Planning Officer	16/1/13 – message left 21/1/13 – advised not available until 23/1 Contacted 31/1/13	Advised that there is currently an outstanding compliance issue related to shift changes which are required to be outside of school bus hours. Is currently awaiting feedback from MCO on this issue. Noise is an ongoing issue and there have been discrepancies noted between the Stage 1 and Stage 2 noise assessments. Advised that DP&I is aware of recent complaints in relation to water discharges.
NOW	Fergus Hancock Team Leader, Mining Impact Assessment	Contacted 18/1/13	Not aware of any current compliance issues but would like audit to address the issue of reporting against the Groundwater Management Plan and Groundwater Response Plan. Expressed some doubt as to the adequacy of reporting. NOW has issued water licences in relation to the MCO operations but only in relation to deeper basement porous rock. Also identified that MCO currently has no licence to impact on alluvial aquifers – requested audit team to address the issue of whether or not Open Cut 1 was impacting on alluvial systems.
OEH	Sheridan Ledger	Contacted 16/1/13	Considers that MCO is doing a good job with monitoring and reporting. Advised that MCO now has a good system in place for surface water management following previous issues with water discharges resulting in Penalty Infringement Notices (PIN) being issued. Advised that noise is a significant ongoing community issue and many complaints recorded. MCO monitoring generally shows compliance with noise criteria, although a PIN was issued in 2011 for failure to comply with Noise Management Plan. MCO is addressing specific noise issues but it is considered this may be more reactive than pro-active. Suggested complaints handling be addressed during the audit as there may be some room for improvement in that regard. Acknowledged that MCO has made significant improvements in environmental performance in recent years.

Table 3.1 – Agency Consultations (cont.)

Agency	Person Contacted	Date(s) Contacted	Response
DTIRIS	Michael Young Team Leader Environmental Officer	16/1/13 – message left, advised not available until 23/1. Contacted 31/1/13	No current issues. MCO has had issues in the past which have affected their reputation but there now appears to be a management commitment to improving performance. Rehabilitation progress is good and current MOP is of a high standard.
Mid West Regional Council			Attempts have been made to contact a Council representative. On 21/1/13, Umwelt was advised by MWRC that the Council staff member dealing with MCO had left Council in December 2012 and the position had not yet been filled. It was advised that we should contact the Group Manager, however, they considered that there was a conflict of interest as a close family member was employed at MCO. No further comments have been received from Council.

4.0 Compliance Assessment

The detailed findings of the compliance audit are presented in this section. Detailed assessments of compliance with relevant compliance documents are provided in **Appendices 2 to 4**. 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 MCO.

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 was provided in **Section 3.0**. Specific findings of the audit in relation to each approval, lease or licence is discussed in **Sections 4.2, 4.3 and 4.4**.

4.1 Summary of Audit Findings

Generally, the audit found that MCO has achieved a high level of compliance with the conditions of its Project Approval, EPL and Mining Leases. At the time of the audit, only OC1 and the CHPP and infrastructure areas had been constructed and were operational. A review of the EAs associated with the original project and the modifications approved to date found that the development has been constructed and operated generally in accordance with that outlined in the EAs.

A summary of the compliance assessment is provided in **Table 4.1**. It should be noted that one event (e.g. a blast exceedance) may result in more than one non-compliance, particularly where similar conditions are included in the Project Approval, EPL and Mining Lease for the site.

Table 4.1 – Summary of Statutory Compliance with Conditions

Approval/Licence	Not Triggered	Compliance	Non-Compliance	Verification Required	Observation
Project Approval 05_0117	72	238	11	1	21
EPL 12932	14	101	4	0	6
ML 1605	12	23	1	0	1
ML 1606	12	22	2	0	1
ML 1628	12	23	1	0	1

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

4.2 Previous Audit – URS 2010

URS undertook the previous audit in 2009 during the construction phase of the project. Following comment from DP&I on the audit report, a further two day site visit was conducted in May 2010 to carry out further on-site verification works and address comments made by the Department in its review of the initial report.

A number of non-compliances and observations were made as part of the audit, with these being documented in Table 8.1 of the audit report. A large number of the non-compliances related to the construction works being undertaken at the time which have now been completed.

Where previous non-compliances relate to ongoing operations at the site, these have been reviewed by Umwelt as part of the 2013 audit. Generally, the Umwelt audit team noted that MCO has addressed the majority of the previous findings and has significantly improved its environmental performance from the previous audit period.

Non-compliances from the previous report that are still outstanding include:

- Energy Savings Action Plan (ESAP) – it was noted that the ESAP has still not been substantially implemented and requires review;
- Submitting reports within required timeframes – whilst it was noted that MCO has improved its reporting processes and generally now responds within the required timeframes, there are still some instances where the required reporting timeframes have not been met; and
- Contractor management – URS identified that MCO could not provide evidence of the monitoring contractor having had sufficient training for the role. Umwelt has also noted that MCO does not currently undertake any auditing or surveillance of its contractors.

Further discussion on these issues is included in **Sections 4.3** and **4.4** of this report.

4.3 Project Approval

MCO was found to be operating generally in compliance with the terms of its Project Approval. However, a number of non-compliances were identified where action is required to ensure full compliance is achieved 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 MCO and there was no specific timing requirement in the condition.

A full compliance checklist against the requirements of the Project Approval including the modifications approved to date is included as **Appendix 2**. A summary of the non-compliance issues related to the Project Approval is provided in the following sections.

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.

MCO has generally implemented measures to minimise harm to the environment in terms of air quality, noise, visual amenity, vibration and lighting and has demonstrated a commitment to improving its environmental performance. During the audit site inspection, it was observed that there were generally good management practices across the site, particularly related to the rehabilitation practices implemented at the site.

In terms of environmental controls, the current practices in place for the storage, handling and use of hazardous substances would not be considered to represent all reasonable and feasible measures to minimise harm to the environment from the storage and use of these substances. Specifically, it was noted that secondary containment has not been provided to the diesel fill point at the Downer compound, and isolated drums of grease and oil were observed to be stored in unbunded areas.

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

The Proponent shall carry out the project generally in accordance with the:

(j) conditions of this approval.

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

Schedule 3: Condition 2 – Non-compliance

The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land, or on more than 25% of any privately-owned land.

Noise exceedances have been recorded during the period covered by the audit. Four (4) exceedances were recorded and reported during the 2009 - 2010 period, whilst one (1) exceedance was recorded and reported during the 2010 - 2011 period. It was noted that no exceedances were recorded during the 2011 - 2012 period.

Issues associated with noise impacts and recommended actions are addressed in detail in **Section 6.5**.

Schedule 3: Condition 10 – Non-compliance

The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:

Whilst the NMP was considered to be generally compliant in terms of preparation, an issue was noted in relation to implementation of the Plan. Table 9 and Figure 1 of the NMP provided information on the monitoring locations. However, the auditor noted that the monitoring locations that have been used in the monitoring that has been undertaken were not consistent with the locations identified in Table 9 and Figure 1 of the NMP. It is understood that the NMP was revised in 2012 to reflect these changes but it had not, at the time of the audit, been approved by DP&I.

Issues associated with noise impacts and recommended actions are addressed in detail in **Section 6.5**.

Schedule 3: Condition 11 – Non-compliance

The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 5 at any residence on privately owned land.

Table 5: Airblast overpressure impact assessment criteria

Airblast overpressure level (dB(Lin Peak))	Allowable exceedance
115	5% of the total number of blasts over a period of 12 months
120	0%

A review of blasting records for the audit period identified a blast on 8/7/2010 which registered an overpressure of 120.6 at BM1 (Ulan School). This exceeds the maximum blast overpressure of 120 dB specified in the condition. As detailed within the 2009 – 2010 AEMR, MCO undertook a review of blast design parameters following this event and implemented blast design changes in response to the exceedance. There have been no further exceedances of blast criteria at the site and no further action is considered to be required in relation to this non-compliance.

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

The Groundwater Monitoring Plan must include:

- (d) a program to monitor the impacts of the project on base flows to the Goulburn River and associated creeks;

The auditor noted that there was no methodology provided to assess base flow to Goulburn River and tributaries. This issue is further discussed in **Section 6.6**.

Schedule 3 Condition 41 (a) and (b) – Non compliance

Within 12 months of this approval, the Proponent shall make suitable arrangements to:

- 41 (a) transfer at least 135 hectares of the White Box Yellow Box Blakely’s Red Gum Woodland endangered ecological community to the Minister for Climate Change, Environment and Water to offset, on a ‘like for like’ basis, the 65 hectares that would be cleared by the project at an offset ratio of 2:1; and
- 41(b) provide DECCW with funds (which at the discretion of DECCW may include an in-kind contribution) to cover any reasonable costs associated with the transfer and ongoing management of this land.

Technically Moolarben is non-compliant with Condition 41 (a) and (b) as the timing requirements of the condition were not met; however the transfer of lands and provision of funds to the then Department of Environment, Climate Change and Water (DECCW – now OEH) was undertaken in a relatively prompt manner and is considered to be generally in accordance with the consent although technically outside the prescribed 12 months (approximately three weeks) from the date of the approval.

Schedule 3: Condition 62(a) 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:

- (a) be prepared in consultation with NOW;
- (b) be prepared in accordance with the Guidelines for Energy savings Action Plan (DEUS 2005, or its latest version;
- (c) be submitted to the Director-General prior to carrying out any construction on the site; and
- (d) include a program to monitor the effectiveness of measures to reduce energy use on site.

The Energy Savings Action Plan (ESAP) for Moolarben was developed in December 2008 for construction activities which were to be undertaken at Moolarben's operations. The ESAP was reviewed by the then Department of Planning (DoP – now DP&I) and approved on 17 December 2008, prior to the commencement of construction activities. There is no evidence available to demonstrate the plan was developed in consultation with NOW. It was noted during the audit that a number of the actions within the ESAP are specifically related to the construction activities which were undertaken at the commencement of the project. It is noted that not all energy opportunities as detailed within Table 2 of the ESAP have been reviewed or implemented.

Recommendation

It is recommended that the ESAP be reviewed to identify any energy saving measures which may be implemented on site to reduce the energy use on site, as mining operations have now commenced. The ESAP is also to include a program to monitor the effectiveness of the measures to reduce energy use, with the updated plan to be developed in consultation with NOW (we note that the condition currently refers to NOW, however, the relevant agency should be clarified with DP&I).

Schedule 5: Condition 4 – Non-compliance

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:....

For the sample notification reviewed during the audit, a report was noted to have been provided on 11/10/11 for an incident that occurred on 30/09/11. Whilst the written report was submitted, it was submitted 11 days after the incident which is outside of the 6 day period specified. This non-compliance is not considered to materially affect the environmental management of the operations and no further action is required. However, MCO should strive to submit future notifications within the 6 day period.

4.4 Environment Protection Licence

MCO 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 MCO's responsibilities and the environmental performance standards it is required to meet, being:

- limit conditions;
- operating conditions;

- monitoring and recording conditions; and
- reporting conditions.

MCO reports its performance against the above responsibilities and environmental performance status via the submission of its Annual Return and the quarterly reports required under Condition R4.1.

Generally, MCO has demonstrated a high level of compliance with the conditions of its EPL. Four non-compliances were identified along with a number of observations and suggestions for improvement.

A full compliance checklist against the requirements of EPL 12365 was completed as part of the audit and is included as **Appendix 3**. A summary of the non-compliance issues is provided below.

Condition L5.1 – Non-compliance

Noise generated from the premises must not exceed the noise limits in the table below. The locations referred to in the table below are indicated on Project Approval 05_0117 Moolarben Coal Mine Appendix 5 - Property Numbers.

Noise exceedances have been recorded during the period covered by the audit. Four (4) exceedances were recorded and reported during the 2009 - 2010 period, whilst one (1) exceedance was recorded and reported during the 2010 - 2011 period. It was noted that no exceedances were recorded during the 2011 - 2012 period.

The monitoring locations identified in the NMP and used during the attended monitoring program to assesses $L_{Aeq,15minute}$ noise levels are not referenced against all the receiver locations identified in the Project Approval and EPL. If monitoring at all the receiver locations is impractical, EPA 'may accept alternative means of determining compliance', however, this has not been done and therefore it can't be demonstrated that MCO has an approved method in place for assessing compliance at all of the receivers specified in the EPL. EPA requires the proponent to either monitor or present an alternative means for determining compliance at all the receiver locations identified in the Project Approval and EPL.

Issues associated with noise impacts and recommended actions are addressed in detail in **Section 6.5**.

Condition L6.3 – Non-compliance

The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. 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.

A review of blasting records for the audit period identified a blast on 8/7/2010 which registered an overpressure of 120.6 at BM1 (Ulan School). This exceeds the maximum blast overpressure of 120 dB specified in the condition. As detailed within the 2009 – 2010 AEMR, MCO undertook a review of blast design parameters following this event and implemented blast design changes in response to the exceedance. There have been no further exceedances of blast criteria at the site and no further action is considered to be required in relation to this non-compliance.

Condition O5.1 – Non-compliance

All chemicals, fuels and explosives must be handled and stored in a bunded area which complies with the specifications of the relevant Australian Standard and legislative requirements.

Whilst in most areas, adequate bunding and spill management controls were in place, it was noted that the diesel fill point at the Downer EDI Blasting Services compound did not have any secondary containment provided. It was also noted that there were isolated incidents of 44 gallon drums of grease or oils not being stored in bunded areas at the Workshop. These issues are further discussed in **Sections 6.4** and **6.13**.

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.

For the example notification reviewed during the audit, a report was provided to the EPA on 11/10/11 for an incident that occurred on 30/09/11. Whilst the written report was submitted, it was submitted 11 days after the incident which is outside of the 7 day period specified in the condition. This non-compliance is not considered to materially affect the environmental management of the operations and no further action is required. However, MCO should strive to submit future notifications within the 7 day period.

4.5 Mining Leases

The audit findings indicate that MCO has achieved a high level of compliance with the environmental management conditions of its mining leases. Two non-compliances were identified during the audit. The non-compliances relate to the implementation of measures to minimise environmental harm (all three leases) and exceedance of blast overpressure criteria (ML1606).

A full compliance checklist against the environmental management requirements of ML 1605, 1606 and 1628 was completed as part of the audit and is included as **Appendix 4**.

Condition 2 – Environmental Harm – 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 development.

MCO has generally implemented measures to minimise harm to the environment in terms of air quality, noise, visual amenity, vibration and lighting and has demonstrated a commitment to improving its environmental performance. During the audit site inspection, it was observed that there were generally good management practices across the site, particularly related to the rehabilitation practices implemented at the site.

In terms of environmental controls, the current practices in place for the storage, handling and use of hazardous substances would not be considered to represent all reasonable and feasible measures to minimise harm to the environment from the storage and use of these substances. Specifically, it was noted that secondary containment has not been provided to the diesel fill point at the Downer compound, and isolated drums of grease and oil were observed to be stored in unbunded areas.

Condition 15(b) – Blast Overpressure – Non-compliance

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.

A review of blasting records for the audit period identified a blast on 8/7/2010 which registered an overpressure of 120.6 at BM1 (Ulan School). This exceeds the maximum blast overpressure of 120 dB specified in the condition. As detailed within the 2009 – 2010 AEMR, MCO undertook a review of blast design parameters following this event and implemented blast design changes in response to the exceedance. There have been no further exceedances of blast criteria at the site and no further action is considered to be required in relation to this non-compliance.

5.0 Site Environmental Management Plans

MCO 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 required to be prepared include:

- Noise Monitoring Program (Version 1, March 2010);
- Blast Monitoring Program (Version 1, March 2010);
- Air Quality Monitoring Program (Version 1, March 2010);
- Water Management Plan (Version 2, April 2010), including:
 - Site Water Balance;
 - Erosion and Sediment Control Plan;
 - Surface Water Monitoring Plan;
 - Groundwater Monitoring Plan; and
 - Surface and Groundwater Response Plan;
- Landscape Management Plan (Version 1, April 2010), including:
 - Rehabilitation and Offset Management Plan;
 - Final Void Management Plan; and
 - Mine Closure Plan;
- Aboriginal Heritage Plan (Version E, July 2008);
- Non-Aboriginal Heritage Plan (Version 1, March 2010);
- Energy Savings Action Plan (December 2008);
- Waste Management Plan (Version 1, November 2009);
- Environmental Management Strategy (Version 2, December 2008); and
- Environmental Monitoring Program (Version 1, April 2010).

Additionally, the Mining Operations Plan (MOP) for the Moolarben Coal Mine (June, 2011) was reviewed, being a Plan required under the provisions of the Mining Leases for the site. The MOP was prepared by MCO to guide the environmental management of the mining operations.

Condition 6(c) of Schedule 5 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 that had been prepared for the project were generally adequate and prepared in accordance with the relevant compliance requirements. The audit team noted that MCO has reviewed and amended its management plans as part of modification approvals for the mine and has submitted revised plans to DP&I

for approval some 12 months ago. However, approval of the revised plans has not yet been received from DP&I. Under the provisions of Schedule 2 Condition 13, the approved plans remain in force until such time as revised plans have been approved. Whilst MCO was found to be generally operating in accordance with those management plans that had been prepared, technical non-compliances have been noted due to the fact that MCO is operating in accordance with the revised (but not yet approved) plans where those revised plans provide for better environmental management of the modified operation.

Key issues in relation to the adequacy of the documents reviewed and their implementation on-site are discussed in the following sections.

5.1 Noise Management Plan

The MCO Noise Management Plan (NMP) provides information on the management of project specific, cumulative and traffic noise impacts associated with mining operations in OC1 and the operation of the CHPP and Infrastructure Areas. The objectives of the NMP are to:

- ensure that operational noise impacts from MCO are minimised;
- maintain compliance with conditions of project approvals, environmental protection licences and legislation relating to noise;
- provide a protocol for monitoring and evaluation of noise impacts on surrounding private residences and sensitive receivers; and
- communicate with the local community and regulators regarding MCO's activities.

The NMP was approved by DP&I in 2010. When consulted by MCO, the Office of Environment and Heritage (OEH; formerly known as the Department of Environment, Climate Change and Water [DECCW]) did not review or comment on the NMP (refer to **Section 6.5.2** for additional information about consultation with OEH (DECCW)).

Following the review of the NMP, the auditor concluded that the NMP satisfies the requirements of *Schedule 3 - Specific Environmental Conditions, Condition 10 Monitoring* with respect to the preparation of the NMP.

In the NMP, MCO propose the implementation of a range of management and control measures to ensure MCO comply with Project Approval and EPL noise criteria. During the mine planning phase, the NMP states that MCO gives consideration to:

- seasonal influences on noise impacts, including prevailing winds and temperature inversions;
- sound power levels of mobile equipment during equipment procurement and scheduling;
- the location of fixed infrastructure;
- the location and design of mine site haul roads; and
- noise monitoring results.

The equipment noise specification provided in Table 7 of the NMP details the equipment sound power levels required in order to ensure compliance with the noise impact assessment criteria in the Project Approval and EPL. The NMP states that MCO employ operational controls such as:

- separate day and night dumping areas;
- use of shielded areas in adverse weather conditions;
- use of real-time noise monitoring data to assist operational personnel in proactive management of noise impacts;
- regular maintenance of equipment, including sound attenuation components; and
- sound power testing of mobile and stationary equipment.

Engineering controls that MCO has considered and/or fitted to 'high risk' mobile and stationary equipment include:

- enclosure of high risk stationary equipment at the CHPP such as conveyors, crushers and reject bins; and
- attenuation of mobile equipment such as haul trucks, shovels and excavators, dozers and drills.

During the period covered by the audit, MCO investigated and/or implemented the management and control measures identified in the NMP. This was demonstrated through the mine planning process, equipment selection, the use of real-time noise monitoring units to assist in the management of noise impacts, regular sound power testing of equipment and attenuation of noisy equipment.

Whilst the NMP has been implemented by MCO, the auditor identified that there are opportunities to improve the transparency of the noise monitoring and reporting processes to assist in the community understanding of noise impacts. This issue is discussed further in **Section 6.5**.

Recommendation

It is recommended that MCO provided more information to the public through the CCC or other appropriate forum on the investigation into and implementation of the management and control measures identified in the NMP as a part of the continuous improvement program.

5.2 Blast Monitoring Program

The Blast Management Plan (Version 1, March 2010) was approved by the then Department of Planning (now DP&I) in March 2010 subject to the inclusion of additional information regarding the development of a communication protocol between MCO and surrounding mines to minimise the potential for simultaneous blasting, as well as the development of a Blast Protocol to minimise blasting impacts on privately owned residences.

A Blast Protocol for minimising the blast impacts on private residences has been developed and implemented by MCO. This was noted to be documented in Section 4.6.1 of the Plan which describes the Pre-Blast Environmental Assessment process which is undertaken for all blasts on site. As a blast was undertaken on the day of the audit site inspection, the auditors

observed the blast protocols used by MCO and reviewed the pre-blast environmental assessment undertaken. The Pre-Blast Environmental Assessment was noted to include:

- identification of high and medium risk wind directions;
- review and assessment of weather conditions in the time leading up to the blast;
- checks that all blast monitors are functioning;
- includes a register of notifications undertaken for each blast; and
- identifies any actions that are required based on the findings of the pre-blast assessment.

As noted in **Section 6.5.6**, the Blast Management Plan appears to be well implemented on site, with the range of controls detailed within the Blast Management Plan observed to be implemented during the site inspection. During the audit, MCO personnel advised that whilst a formal protocol had not been developed between MCO, Ulan Coal Mine and Wilpinjong Coal Mine, that both Wilpinjong Coal Mine and Ulan Coal Mine advise MCO when blasting is proposed to be undertaken. MCO personnel advised that in the event that there may be the potential for simultaneous blasting that MCO personnel reschedule the blast to avoid such times. It is understood that the Blast Management Plan has been updated to reflect this, with the revised plan submitted to DP&I and awaiting approval.

5.3 Air Quality Monitoring Program

The Air Quality Management Plan (AQMP) (Version 1, March 2010) was prepared to include the impacts and related controls associated with operations in OC1 and the CHPP area. Approval was granted by the Director General for the plan on 12 March 2010.

Details of the monitoring program to be implemented at MCO are included in Section 5 of the AQMP. The monitoring system includes three real time TEOM stations, two HVAS PM₁₀ monitors and nine dust deposition gauges. Section 5.2 of the AQMP identifies the processes and information that will be utilised to assess compliance with the impact assessment criteria, with a range of real time triggers developed to identify when changes to the mining operations may be required to be undertaken based on the results received within the real time dust monitoring system, (refer to Section 6.1 of the AQMP). The AQMP states that the real time triggers are required to be reviewed one year after the commencement of the mining operations, and this was noted to have been undertaken and included in Section 3.3.1 of the 2011-2012 AEMR. As detailed within **Section 6.5.7**, the dust management controls, and monitoring programs described in the AQMP were observed to have been implemented during the site inspection.

5.4 Water Management Plan

5.4.1 Surface Water Management

The current Water Management Plan (WMP) (Moolarben Coal, 2010) meets the requirements of the Project Approval, with day to day operations of the surface water management system outlined in the Surface Water Management (SWM) Standard Work Procedure (SWP).

MCO is currently in the process of reviewing the Surface Water Management system to address the recommendations for the upgrade of the water management system identified during the *Stage 1 Open Cut and CHPP Water Management Assessment and Upgrade Proposal Report* (Arkhill Engineers, 2012). The proposed upgrades include increases in the capacity of the sediment dams to meet the design requirements of 95th percentile, 5 day rainfall depth (as specified within the draft conditions of the proposed variation to EPL 12932; EPA, 9 January 2013).

It is understood that the proposed upgrades to the surface water management systems include upgrades to sediment dams 10 and 12, the upgrading of sediment dam (SD14) and the increase in the capacity of Cocky's Dam within the rail loop to manage intercepted clean runoff. MCO proposed to remove the *unsuitable stockpiles*, located to north of the rail loop, with the material to be reused to construct a low levee to assist in diverting clean water around the rail loop and into Bora Creek to the west. This will reduce the volume of water that is currently being managed within the dirty water management system.

The amendments to the water management system recommended by the Arkhill report, will, in the auditor's opinion, assist in improving the performance of the water management system.

5.4.2 Groundwater Management

The groundwater management framework for the MCO consists primarily of the WMP, which includes a Groundwater Management Plan (GWMP) and a Surface Water and Groundwater Response Plan.

A review of the GWMP and Response Plan indicates that, with certain exceptions, the plans substantially comply with the conditions of the Project Approval. The plans include a detailed groundwater monitoring program designed to build upon the baseline assessment, and to assess variations in key indicator parameters during the life of mine, and a framework to respond to impacts should they arise. The groundwater monitoring network includes piezometers completed in the target coal seams, several interburden layers, and alluvial deposits at the surface, and includes monitoring of groundwater-dependent environments (GDE) (e.g. groundwater seeps). Specific assessment criteria have been developed (or, in the case of water quality parameters, adopted from the ANZECC (2000) guidelines) for water levels, pH and electrical conductivity.

The principal opportunity for improvement for both the GWMP and the response plan is in relation to monitoring and impact assessment for surface water features and GDE. The monitoring approach is either absent or unclear for these environmental values, and the assessment and response framework is considered to be too generic to be effective. Further development of these aspects will be important for future development stages that may have a greater influence on the groundwater systems in the project area, and the related environmental values.

The implementation of the GWMP includes the following tasks:

- routine groundwater monitoring is contracted to an external service provider. The scope of the services is limited to data collection in the field, submission of samples to an analytical laboratory, and provision of the factual field data to MCO staff. Groundwater census information appears to be carried out on a two-yearly schedule, with a factual report of the results provided to MCO staff;
- MCO environmental staff receive the monitoring results, and internally review the results for consistency with previous results from each location, and relative to the assessment criteria for the specific locations. This includes the following steps:

- the review includes a comprehensive checklist for each batch of data provided as a guide to ensure all the relevant data have been checked;
- where outliers are observed or assessment criteria are exceeded, various factors are assessed for the specific monitoring location, including field form observations, checks of field equipment calibration certificates, and proximity of mining activities to the monitoring location;
- if the data variability can either be explained through this process, or is associated with a monitoring location that is remote from mining activities, this is noted in the 'comments' column of the checklist;
- MCO staff indicated that if the initial screening process did not readily explain outliers or assessment criteria exceedances, and the monitoring location was in reasonable proximity of mining activities, external expert advice would be considered to assess the outlier. If this review found that the outlier was attributable to MCO's operation it would be reported as a non-compliance; and
- It is understood that the groundwater monitoring data are also reviewed on an annual basis by a qualified hydrogeologist (external consultant) as part of the annual numerical model validation process. Hence there is an additional process in place for potential trends or impacts to be identified by a qualified hydrogeologist that might not otherwise be readily apparent to MCO staff.

The groundwater monitoring results are subject to various reporting requirements, including:

- annual reporting in the AEMR;
- quarterly monitoring updates on the Moolarben Coal website; and
- quarterly monitoring reports to the NSW Office of Water in conjunction with water supply bore license conditions.

The reporting frequency requires that the groundwater monitoring data have been collected, compiled, assessed and reported in some format on a quarterly basis, which provides a reasonable frequency for data evaluation and identification of potential issues arising from the monitoring data.

With respect to the implementation of the GWMP, the following suggestions are provided to improve the monitoring and data analysis:

- a quality assurance/quality control (QA/QC) program should be developed to assist with validation of the groundwater quality data collected. The program should include a combination of field and laboratory QA/QC measures and data quality indicators to provide confidence that the data are reliable and suitable for interpretive use. The program should be communicated to the field monitoring service provider for incorporation into their standard scope of work, with the QA/QC analysis either performed and reported by the service provider, or by internal MCO environmental staff; and
- The development to date does not appear to have had more than a negligible influence on groundwater levels or quality in the project area, and as such there has been no requirement to implement the groundwater response plan. Hence the efficacy of the impact mitigation framework is yet to be tested. However, if the areas for improvement in the monitoring and response plans are addressed, it is anticipated that they will provide an adequate management system for identifying and appropriately addressing potential mining-related impacts to groundwater.

Recommendations

It is recommended that a formal QA/QC program is developed and implemented for the groundwater monitoring data to ensure that it is suitable for interpretive use in relation to monitoring potential mining-related influences.

It is recommended that the results of the annual numerical model validation process is reported in the AEMR, with particular emphasis on any changes in the interpreted impact assessment or assessment criteria, to provide greater confidence to stakeholders in relation to the monitoring, data analysis and impact assessment program.

5.5 Landscape Management Plan

The Landscape Management Plan (LMP) comprises a number of sub-plans including:

- Rehabilitation and Offset Management Plan;
- Mine Closure Plan; and
- Final Void Management Plan.

These plans are discussed in the following sections.

5.5.1 Rehabilitation and Offset Management Plan

The site audit identified that there is a generally high level of focus on biodiversity issues including implementation of the measures in the Rehabilitation and Offset Management Plan (ROMP). The majority of controls are being implemented such as weed and feral animal control, White Box regeneration, seed collection and propagation, and vegetation and fauna monitoring.

The ROMP is considered suitable to adequately manage and monitor the biodiversity values of the site, including offset areas, and to enhance the biodiversity values of mine rehabilitation over time.

Section 3.18 of the ROMP outlines measures for habitat augmentation and specifically identified nest boxes and structures; stag trees; coarse woody debris; and drainage depressions. Inspections of mine rehabilitation identified the emplacement of stag trees, piles of coarse woody debris and drainage depressions which is in accordance with the ROMP. The ROMP states that the utilisation and maintenance of the nest boxes shall be assessed as part of the monitoring program. MCO has determined that nest boxes will not be utilised on site or in offset areas however, MCO has not undertaken any assessment of hollow resources on its land holding to support the assertion. It is recommended that MCO install nest boxes and structures in accordance with the ROMP and/or commission an ecological assessment to determine the extent of hollow resources currently occurring in the MCO land holding, particularly in offset areas and make recommendations regarding the identification of any areas that are low in hollow resources that could therefore benefit from the introduction of nest boxes.

Section 3.23 of the ROMP relates to Bushfire Management from a biodiversity perspective to ensure that fire is managed in a manner that prevents loss or degradation of biodiversity over time. Site personnel interviewed during the audit indicated that none of the controls relating to bushfire management prescribed in the ROMP, including annual assessments of fuel loads, have been undertaken.

The controls relating to biodiversity management that are being undertaken by MCO are considered to be generally effective in conserving and enhancing ecological values and discussions with site personnel indicate a thorough awareness of biodiversity issues and the requirements of biodiversity management and monitoring.

Recommendation

It is recommended that MCO install nest boxes and structures in accordance with the ROMP and/or commission an ecological assessment to determine the extent of hollow resources currently occurring in the Moolarben land holding, particularly in offset areas and make recommendations regarding the identification of any areas that are low in hollow resources that could therefore benefit from the introduction of nest boxes.

5.5.2 Mine Closure Plan

A Mine Closure Plan has been developed as a component of the LMP. The Mine Closure Plan has been developed in accordance with the requirements of the Project Approval and includes objectives and criteria for mine closure, identifies the legal requirements for mine closure, provides a summary of the stakeholders to be consulted during the mine closure process and provides an inventory of mine closure activities which are required to be undertaken within each mine closure domain at MCO.

Future final land use options for MCO are detailed within Section 5.7 of the Landscape Management Plan. Section 5.7 of the LMP identifies a range of final land use options for the site, with the LMP detailing that long term proposed final land use of the site will be consistent with the land use provisions of the relevant Mid-Western Regional Council Local Environmental Plan and relevant state environmental planning policies. MCO is currently undertaking progressive rehabilitation of disturbed areas with a detailed mine closure MOP to be prepared 3 - 5 years prior to mine closure.

From the auditor's review of the Mine Closure Plan, MCO has prepared the Plan in accordance with the requirements of the Project Approval.

5.5.3 Final Void Management Plan

A Final Void Management Plan has been prepared as a component of the LMP. Sections 4.1 and 4.3 of the LMP detail that two voids will be retained at mine closure, with the location and characteristics of the voids being dependent on the timing of mine closure and the extent of mining undertaken. MCO has proposed that final void options will be reviewed as mining progresses, with conceptual final voids being designed to be as small as possible.

The LMP (Section 4.4.1.2) details a range of controls which have been identified to be implemented to minimise the risk of impacts associated with the final void. These measures, which include progressive rehabilitation and shaping of landforms consistent with existing topography, were observed as being implemented during the site inspection.

5.6 Aboriginal Heritage Plan

An Aboriginal Heritage Management Plan has been prepared for MCO (Version E dated 27/7/08). The measures within the management plan to assist with the ongoing management of Aboriginal heritage features within and adjacent to MCO were observed to be implemented throughout the site inspection. Cultural Heritage Areas on site were observed to be fenced with signage erected to clearly detail that the area is a Cultural Heritage Area. A ground disturbance permit process has also been established on site which requires the

MCO Environmental team to confirm that there are no Aboriginal archaeological features with the proposed area of disturbance. Artefacts within the Stage 1 disturbance footprint have been collected and are being stored in a secure keeping place in accordance with MCO's Care and Control permit for the artefacts.

Recommendation

It is recommended that the Aboriginal Heritage Management Plan be updated to include activities undertaken on site since the plan was developed in July 2008. The Aboriginal Heritage Management Plan is to be updated to include detail of the salvage works which have been undertaken as well as providing reference to the progress of existing mining operations. The updated plan should also provide an update on the status of the program to be developed by MCO to assess and document the Aboriginal Heritage Values of the MCO.

5.7 Non-Aboriginal Heritage Plan

A Non-Aboriginal Heritage Management Plan was prepared for MCO in March 2010. The Non-Aboriginal Heritage Management Plan was prepared in consultation with Mid-Western Regional Council in accordance with the requirements of the Project Approval. The Non-Aboriginal Heritage Management Plan was approved by DP&I on 12 March 2010 provided that a Grave Exhumation protocol was developed within 3 months (i.e. 12 June 2010). Evidence was sighted during the audit that the Grave Exhumation protocol had been prepared (Report prepared by Stedinger Associates).

It is noted within Table 2 of the Non-Aboriginal Heritage Management Plan that a number of sites within or adjacent to MCO were identified as requiring archival recording. The 2009–2010 MCO AEMR identified that archival recording of a number of sites was undertaken, with the archival recording report provided to DP&I and the Mid Western Regional Council as well as local landholders who have the sites on their properties. It is noted that Site 20 is a memorial garden which MCO are required to maintain, with MCO reporting through subsequent AEMR's that this has been undertaken. MCO is also required to maintain access to Site 23 'The Drip', which MCO personnel confirmed has been undertaken during the report period.

5.8 Energy Savings Action Plan

The Energy Savings Action Plan (ESAP) for MCO was developed in December 2008 and primarily addressed the construction activities which were to be undertaken at MCO. The ESAP was reviewed by the then DoP and approved on 17 December 2008, prior to the commencement of construction activities. There is no evidence available to demonstrate the plan was developed in consultation with NOW. It was noted during the audit that a number of the actions within the ESAP are specifically related to the construction activities which were undertaken at the commencement of the project. It is noted that not all energy opportunities as detailed within Table 2 of the ESAP have been reviewed or implemented. Reporting against the requirements of the ESAP is undertaken within the AEMR, which provides annual GHG emissions for MCO in accordance with National Greenhouse and Energy Reporting (NGER) requirements.

Recommendation

It is recommended that the ESAP be reviewed to ensure it is consistent with the ongoing operations at MCO, and to confirm that status of proposed actions such as the preparation of an Energy Management System are included within the ESAP and are actioned.

5.9 Waste Management Plan

A Waste Management Plan has been prepared for the site in accordance with the requirements with Condition 65 of Schedule 3 of the Project Approval. The Waste Management Plan was developed in November 2009 prior to the commencement of mining operations at MCO.

The Waste Management Plan addresses the requirements of the Project Approval. It includes recycling targets for MCO, identifies waste management controls including the identification of waste management controls and practices and details the reporting processes to be utilised at MCO. As detailed in **Section 6.5.8**, the Waste Management Plan appears to be implemented effectively on site.

5.10 Environmental Management Strategy

The Moolarben Coal Mines Environmental Management Strategy (EMS) Version 2 dated 8/12/2008 was reviewed during the audit. This is the currently approved version of the EMS.

The EMS includes a brief description of the operations in Section 2, however given that it was prepared in 2008 for the construction activities, the Plan does not reflect the operations that currently exist in relation to OC1 and the CHPP. It was noted that the systems and processes actually utilised on site are reflective of the current operations, therefore the EMS needs to be updated to document the environmental management systems currently in place.

Section 3 of the EMS document outlines the statutory requirements that apply to the project, including the specific requirements of the Project Approval. This section identifies what additional approvals are required by the operations and what approvals, licences etc have already been obtained. It is recommended that this section of the EMS needs to be regularly updated to reflect any changes in legislation. For example, since the EMS was prepared, the *Occupational Health and Safety Act* has now been superseded by the *Workplace Health and Safety Act*.

The approved EMS does not specifically address the processes for dispute resolution other than in the handling of complaints. However, it was noted that the Plan includes a copy of the Project Approval which does include a dispute resolution process in Appendix 11. This provides a generic process for resolving disputes through the DP&I, but it does not provide a process whereby MCO can resolve disputes locally with affected residents for example. During discussions with site staff, it was identified that MCO does have some issues with landowners in relation to ongoing complaints. As a result of these issues, MCO is currently developing procedures in consultation with the EPA to provide further guidance to staff on dealing with complaints. These processes should be included in the next review of the EMS.

Management roles and responsibilities are detailed in Section 6 of the EMS. Given that Version 2 of the Plan was prepared in 2008 for the construction phase of the project, it needs to be updated to reflect the management roles and responsibilities associated with current operations. Despite the plan needing to be updated, interviews with site staff during the site inspection identified that staff generally have a good understanding of their roles and responsibilities in relation to environmental management. For example, the Production Supervisor was aware of the noise and air criteria for the operations and was familiar with the required environmental controls and reporting processes.

It is understood that the EMS has been updated by MCO and the revised strategy has addressed the issues raised by the auditor. The revised strategy has been submitted to DP&I for approval but no approval had been received at the time of the audit. MCO is operating in accordance with the revised strategy.

5.11 Mining Operations Plan

A Mining Operations Plan (MOP) has been developed for Moolarben Coal (Version 1, June 2011). The MOP incorporated construction activities for both OC1 and the CHPP and infrastructure areas, and mining operations in OC1. Section 1.2 of the MOP states ‘This MOP has been prepared in accordance with the Interim Mining Operations Plan (MOP) Guidelines (‘Interim Guidelines’) (DTI, 2012)...’ Section 1.3 provides further information in relation to the Interim Guidelines. A review of the MOP indicates that it has been prepared in accordance with the guidelines.

The controls within the MOP were noted during the site inspection as being implemented on site, particularly the progressive rehabilitation of the operation. Preliminary rehabilitation criteria have been developed for OC1 and the Environmental Bund, with MCO to undertake further research and monitoring to further refine the criteria (refer to Section 5 of the MOP).

It is noted that a revised MOP has been submitted for the period 2013–2017. Whilst this MOP is outside the scope of the audit, it is noted that consultation with Department of Trade, and Investment (DTI) representatives during the completion of this audit, identified that DTI considers the MOP for the period 2013–2017 to be of a high standard.

6.0 Environmental Performance

6.1 Management Commitment

Throughout the audit, MCO management and staff were co-operative and forthcoming with information and this allowed the auditors to gain an understanding of the culture of the organisation and its commitment to environmental management. Overall, the audit found that there is a high level of commitment from management to achieving a high level of environmental performance. MCO has acknowledged that it has had issues in the past in relation to the environmental performance of its operations, however it has strived to address these issues and improve its performance. It is evident from the audit interviews conducted with staff at varying levels of the organisation that there is now an underlying culture and commitment to improving its environmental performance and its image within the community.

6.2 Training and Competence

Training records were reviewed during the audit to verify that MCO has a system in place for the training of its employees and contractors such that licensed activities are undertaken in a competent manner (EPL Condition O1.1) and that plant and equipment on site is operated in a proper and efficient manner (EPL Condition O2.1). Trained and competent operators will assist in ensuring that operations are carried out in an environmentally responsible manner.

Training programs and records reviewed during the audit indicated that MCO has developed and implemented a good framework for the training of employees and assessment of competence. Different training and assessment pathways have been identified for each different stream of workers (for example, plant operators, supervisors, office staff etc). An example of a training assessment for a plant operator was reviewed in detail during the audit (*Conduct Excavator Operations (Support)*). The operator was initially granted a Permit to Train (authorised by his Supervisor), then went into a period of Limited Supervision which included instruction by a competent operator/trainer, accumulation of log book hours and periods in a plant simulator, before undertaking an assessment to be determined competent to operate. Refresher training and competency assessments are also undertaken at defined intervals.

Training records are summarised in an excel spreadsheet '*Maintenance Employees Training Matrix*' which is updated daily. This spreadsheet records the current status of each competency required for each staff member and identified when retraining is required. Records from this spreadsheet are then used to develop a '*Training Calendar*' which identifies the training activities for the year.

An indication of the effectiveness of the training program and the competency of operators can be seen in the operations of the open cut pit and its associated rehabilitation areas. **Plates 1 and 2 in Appendix 5** show that the pit is neat and tidy, with stable surfaces and a highwall with very few irregular faces.

In terms of environmental training, training records reviewed during the audit did not identify any specific environmental training courses attended by staff (for example, spill control training or environmental awareness training). The Training Co-ordinator advised that environmental issues are addressed in some detail during the induction process at MCO, and all supervisors undergo additional Supervisor Training which also includes an environmental component.

The course notes and worked examples used for the Supervisor Training were reviewed during the audit and were found to be reasonably comprehensive and addressed issues such as EPL compliance criteria, environmental controls to be implemented, emergency response, legislative requirements and general environmental issues associated with operations.

6.3 Inspection and Monitoring Programs

6.3.1 Plant Maintenance

Poorly maintained plant and equipment has the potential to increase the risk of environmental impacts due to the increased risk of fuel or oil spills and leaks, increased air emissions and increased noise. These impacts can be significantly reduced with a comprehensive plant and equipment maintenance program.

MCO is using the SAP software system to manage vehicle and plant maintenance, including any identified defects. For routine maintenance, plans have been developed for each vehicle or piece of plant, based on the manufacturer's specifications and recommended maintenance periods. These plans are entered into the SAP system which generates work orders as maintenance triggers are met (e.g., a certain number of plant hours or vehicle kilometres travelled). Services are then carried out and the results recorded on the work order. Maintenance histories were observed to be maintained for each plant item.

To identify any issues with plant that may arise between scheduled servicing, MCO has implemented a system of pre-start checks which are carried out on a daily basis by the plant operator (for example, Heavy Earthmoving Inspection Checklist Defect Report, No 66535 for Unit 191 Drill Rig dated 18/1/13). Where defects are identified, a priority system is used to rank the severity of each defect from 1 being a high priority to 4 being a low priority. All defects are recorded on the daily start-up checklist and are also reported to the workshop (particularly for Priority 1 and 2 defects). For any defects identified as being Priority 1, the item of plant is parked up and tagged out of service until repairs can be effected. Pre-start checklists are collated on a daily basis and the results entered into SAP. Work orders are then generated for any items requiring repair. Using the SAP system, it is possible to track any outstanding defects, and MCO maintenance staff advised that this is done on a regular basis to ensure that defects are rectified in a timely manner.

On the basis of the audit observations and the records reviewed on-site, the auditors concluded that plant used on site is generally maintained in a proper and efficient condition as required by Condition O2.1 of the EPL.

6.3.2 Environmental Inspections

The MCO environmental team has developed a program for regular inspections of the mine and its operations, with a supplementary inspection program for defined events (for example more than 30 millimetres of rain in 24 hours). The Inspection Schedule 2012–2013 was reviewed during the audit to ascertain the scope and frequency of the inspection program.

MCO is currently using the computer software *CMO Compliance* to record the inspections undertaken and track the actions arising from inspections. A selection of recent inspection reports was reviewed during the audit. Each inspection checklist included any actions from the previous inspections so that the completion and effectiveness of the previous actions could be verified. Comments are recorded on the inspection checklists by the environment team member undertaking the inspection and any requirements for new actions are identified.

The inspection results and any actions required are entered into the CMO Compliance system where they are assigned an identification number, a completion date and an actionee. To allow comprehensive tracking of inspection actions, it is suggested that MCO investigate the feasibility of adding the identification number from CMO to the inspection record sheet as this would allow cross checking to ensure that all actions are addressed.

Whilst the program prepared and implemented by the environment team appeared to be reasonably comprehensive with respect to MCO's operations, the scope of the inspection program did not include contractor facilities such as the Downer EDI Mining Blasting Services compound. This is discussed further in **Section 6.4**.

In addition to the environmental inspections undertaken by the environment team, environmental inspections are also undertaken by other sections of the operations. For example, the CHPP undertakes a *24hr Environmental Inspection* which is completed on a daily basis (reports for 10/1/13 and 14/1/13 reviewed during the audit). This inspection includes an assessment of the relevant dam levels, inspection of all bunded storages at the CHPP, inspection of erosion and sediment control structures in the area, and an assessment of visible dust from the CHPP and train loadout facilities. Where required, actions are noted on the inspection checklist.

Similarly, the workshop has programmed regular inspections of its facilities into SAP which generates work orders when inspections become due. For example, Work Order 40105964 dated 18/1/13 for the Workshop Mechanical Inspection was reviewed during the audit. This inspection was noted to cover general housekeeping in the workshop, storage of hazardous substances, oily water separator and interceptor pit, and the waste management systems around the workshop. Where required, actions are noted on the inspection checklist.

6.3.3 Environmental Monitoring Programs

A range of environmental monitoring programs have been developed within the respective site management plans. The monitoring requirements for MCO have also been collated into the MCO Environmental Monitoring Program dated 3 August 2010. A review of the monitoring program identified that it provides a consolidation of the monitoring requirements outlined in the Project Approval and EPL and other monitoring required under the various management plans prepared for the operations. The document includes maps of monitoring locations and provides a summary of monitoring parameters and frequency of monitoring for each monitoring location.

All monitoring undertaken in accordance with the Environmental Monitoring Program is displayed on the MCO website within the MCO Monthly Environmental Monitoring Report. The report contains the environmental monitoring reports for the month, with a comparison of the monitoring result to the performance criteria contained within the Project Approval/EPL identified within the report.

A review of the monitoring programs currently being undertaken identified that monitoring is generally being undertaken as required.

6.4 Contractor Management

MCO currently contracts Downer EDI Mining to provide blasting services for the mine operations. Downer has established a compound on site to facilitate the storage and handling of chemicals, and parking of plant and machinery. The activities of this contractor have the potential to impact on MCO's ability to meet its compliance requirements if not adequately managed. The Downer compound was inspected as part of the audit.

Whilst the Downer compound appears to be reasonably well maintained, an issue was identified in relation to the diesel fill point located beside the compound fence. As shown in **Plate 3** in **Appendix 5**, the diesel fill point has no secondary containment. The small drip tray provided may be appropriate for catching drips from the fill point but would be totally inappropriate for containing any larger spill, such as from a burst hose. The gravel surface beneath the fill point is unlikely to be sufficiently impervious to prevent escape of any spills, and although there is a small earth bund evident in the photo, it does not enclose the fill point, nor would it be impermeable. It is noted that, to date, there is no evidence that any issues have arisen from the diesel fill point and there was no evidence of staining on the ground beneath it. However, best practice would suggest that secondary containment should be provided.

As mentioned in **Section 6.3.2**, MCO currently has no program or processes in place to audit or otherwise monitor the activities of key operational contractors, specifically, those operating under their own management systems. The issue of the lack of secondary containment on the diesel fill point may have been addressed earlier had such a program been in place. It was noted that Sections 6.6 and 7.3 of the MCO EMS identify that contractors will be required to undertake an environmental risk assessment to identify key risks and hazard mitigation measures and provide an environmental control plan (or environmental management plan) prior to commencing works on site. There was no evidence sighted during the audit to indicate that this process had been utilised for the Downer contract.

Given that the activities of contractors could affect MCO's ability to meet its obligations under the Project Approval and EPL, it is considered by the auditor that a risk based audit or inspection program should be developed to monitor the activities associated with contracted works, particularly where the contractor is operating under its own management systems.

Recommendation

*It is recommended that MCO review the hydrocarbon and chemical storage practices at the Downer EDI compound, using the **Technical Considerations in Appendix 2 of the 'Storage and Handling Liquids: Environmental Protection, Participant's Manual'** (DECC 2007) as a guide.*

Recommendation

It is recommended that MCO establish and implement a systematic, risk based environmental audit or inspection program for operational contractors operating under their own management systems to verify that contracted works are being undertaken in an environmentally responsible manner and do not impact on MCO's ability to meet its compliance requirements.

6.5 Noise

The audit found that MCO is generally complying with the noise criteria outlined in the Project Approval and EPL (except for few minor exceedances discussed below). The audit also found that MCO has implemented a number of measures to improve the mines response to complaints raised by the community and alarms initiated by the continuous noise monitors. MCO has also investigated and implemented a range of measures to reduce the noise impacts associated with the project. However, even with these improvements, the audit identified that the perceived noise impacts from MCO result in approximately 90% of all complaints received in relation to the Moolarben operations (483 noise complaints in a total of 537 complaints for the period covered by the audit).

With respect to the ongoing monitoring and management of noise at MCO the audit identified a number of areas for improvement. The recommendations related primarily to improving the systems associated with:

- the format and presentation of the noise related information to assist the public in understanding noise issues;
- informing the public on the assessment and implementation of noise control measures, response measures and noise attenuation; and
- the effectiveness of the attended noise monitoring program.

6.5.1 Noise Monitoring

To assess compliance with noise impact assessment criteria, MCO undertake attended noise monitoring in the surrounding community and operate three real-time noise monitoring units to assess ongoing performance of the operation.

Table 9 and Figure 1 of the NMP provided information on the monitoring locations. The monitoring locations used at the time of the audit were not consistent with the locations identified in Table 9 and Figure 1. It is understood the NMP review was in progress and that these discrepancies were being addressed.

Recommendation

It is recommended the NMP include a procedure that allows for the update of the monitoring locations independent of the annual review process.

Attended noise monitoring is undertaken in the region surrounding MCO by an independent acoustic consultant. The attended monitoring is conducted during day, evening and night time periods on two consecutive days. Initially undertaken every two months, the attended monitoring program is now undertaken on a quarterly basis to reflect the EPL requirements.

While the NMP outlines the methodology for conducting the attended noise monitoring, it does not provide any information on the format of, and the information to be contained within, the noise monitoring report. The methodology for conducting the monitoring calls for collection of information including:

- meteorological data (wind direction, wind speed, air temperature and relative humidity) measured using a hand held weather meter;
- notes on any changes in wind speed/direction at the various monitoring locations;
- meteorological data (wind speed and wind direction 10 metres above ground level) from the MCO weather station;
- measured noise levels (LAmax, LA1, LA10, LA50, LA90, LAmin, LAeq) measured in A- and C-weighting over a 15 minute interval;
- the recording of a noise level/time-trace at 1-second intervals for post measurement analysis; and
- comprehensive field notes identifying mine related sources and other sources and an indication of when they occurred during the measurement to the nearest 1-second.

Recommendation

It is recommended that the NMP be revised to include an outline of the preferred format for the noise monitoring reports and reporting how the monitoring data is to be presented.

The objective of the attended noise monitoring report is to report on compliance (or not) of MCO with the noise impact assessment criteria. A secondary role of the attended noise monitoring report is to inform the reader about the performance of MCO against the noise impact assessment criteria.

It is noted that the methodology for conducting the attended noise monitoring and the format of the attended noise monitoring report are consistent with the objectives of the NMP and *Schedule 3 - Specific Environmental Conditions, Condition 10 Monitoring*. However, it is suggested that improvements to the format and presentation of the noise monitoring results could assist the public's understanding of the noise issues.

Recommendation

It is recommended that the attended noise monitoring reports present the information collected during the monitoring program in a format that can be used to inform the public about the performance of MCO against the noise impact assessment criteria.

Real-time Noise Monitoring and Real-time Response Protocols

The NMP notes that attended noise surveys are the primary method for describing the acoustic environment and determining the sites compliance against the relevant noise criteria. However the *Schedule 3 - Specific Environmental Conditions, Condition 10 (c) Monitoring* calls for 'a combination of real-time and supplementary attended monitoring measures'. This implies that the real-time noise monitoring system can be used as the basis for compliance assessment and that the results from the attended noise monitoring program are used to support the findings of the real-time noise monitoring system. It was noted that MCO does not currently use the real time noise monitoring system for compliance assessment as there is no methodology in place approved by EPA or DP&I and the NMP clearly states that the real-time noise monitoring locations are not used as compliance tools.

The NMP proposes that real-time operational response measures to reduce noise impacts would evolve as a greater understanding is gained on factors including weather patterns and operational conditions. The NMP proposed the development of suitable algorithms within the real-time noise software to post-process noise and meteorological data. Once triggers documented in Table 8 of the NMP are met, notification would be sent to the relevant area supervisor(s) and the environmental department.

MCO has, during the period covered by the audit, continued to develop and implement real-time response protocols to assist in the management of the noise impacts from MCO. This includes the implementation of noise alarms on the continuous noise monitors and the employment of 'production assistants' who investigate noise complaints and alarms.

Recommendation

*It is recommended that MCO provided more information to the public through the CCC or other appropriate forum on the implementation of the real-time response measures and report on the 'clear public benefit' of the application in accordance with *Schedule 3 - Specific Environmental Conditions, Condition 9 Continuous Improvement*.*

It is also recommended that MCO continue to investigate, develop and implement real-time response protocols to the satisfaction of DP&I that enable the performance of MCO against the noise impact assessment criteria to be measured and reported by the real-time noise monitoring system.

Schedule 3 - Specific Environmental Conditions, Condition 10 (c) Monitoring calls for a 'noise monitoring protocol for evaluating compliance with the noise impact assessment and land acquisition criteria'. The NMP notes that the monitoring results from the real-time noise monitoring system are to be reviewed against the noise impact assessment, land acquisition and cumulative impact criteria on a daily, weekly and monthly basis. It is understood that results from the real-time noise monitoring system are reviewed against the noise impact assessment criteria on a daily basis by the MCO environmental staff and that an independent consultant compiles and reviews monitoring results against the cumulative impact criteria on a seasonal basis. While no non-compliance with criteria has been identified in the last EPL reporting period, it was noted by the auditor that the system currently in use by MCO is not consistent with the requirement of the NMP as noted above.

Recommendation

It is recommended that MCO either develop and implement a protocol for evaluating the data from real-time noise monitoring system consistent with the requirements of the approved NMP or revise the NMP to reflect the current practice of daily monitoring by MCO staff and seasonal monitoring by an independent consultant.

6.5.2 Noise Impact Assessment Criteria

Schedule 3 - Specific Environmental Conditions, Condition 2 Noise Impact Assessment Criteria requires the LA_{eq,15minute} noise generated by the project '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'. This is consistent with the requirements of the EPL 12932. That is MCO is required to determine compliance (or not) for all the receiver locations identified in Schedule 3 - Specific Environmental Conditions Table 2 and EPL 12932 Section L6.1.

Given that MCO has an approved NMP it could be considered that DP&I has agreed that the noise monitoring program is suitable to determine compliance with noise criteria in the Project Approval. As discussed previously, it is noted that the noise monitoring locations currently being used are not consistent with the NMP. In regard to the EPL, no such agreement is in place and EPA did not provide comments on the NMP and therefore to strictly demonstrate compliance with the EPL noise limits, MCO would need to be either monitoring at all noise receivers identified the EPL (as required by Condition M9.1 which does provide for the Whittaker, Goninan/Boland and Kimber properties to be monitored via the Kimber property), or clearly cross referencing the monitoring locations with the receiver locations identified in the EPL and Project Approval.

The same issue was identified in the URS 2010 audit. URS made the following recommendation.

*It is recommended that alternative methods of determining compliance are agreed with the DECCW, documented in the Noise Management Plan and implemented.
The footnotes to PAC 3/2 state that:*

'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).'

Chapter 11 of the Industrial Noise Policy (INP) allows for noise measurement closer to the noise source and extrapolation of the noise levels to the sensitive receivers. In the auditors opinion this method would provide a more accurate and transparent determination of the noise levels from the MCO.

This recommendation has not currently been satisfactorily addressed by MCO, however, the issue could potentially be resolved by cross referencing the monitoring locations with the receiver locations identified in the EPL and Project Approval.

6.5.3 Continuous Improvement

The NMP states:

- that MCO is committed to maintaining an awareness of best practice noise mitigation technologies and alternative operating methodologies;
- that, in accordance with the project approval, MCO will review best available practices and technologies on an ongoing basis and report the finding in the AEMR; and
- that specifically, MCO will '*implement any technologies that are found to be feasible, reasonable and effective in the context of a safe and economic mining operation; and where there is a clear public benefit in its application*'.

This has been demonstrated through the 4,000 hour trial of the Duratray (rubber lined) Suspended Dump body and the subsequent purchase of four new bodies to be installed on four new trucks. The trial of the Duratray body has been reported in the 2011 - 2012 AEMR and a short press release, and it is understood MCO will report on the success of the four new bodies once they are in service. MCO undertook the assessment of the Duratray body in accordance with the requirements for continuous improvement, outlined in the Project Approval. However, it is suggested that MCO measure and report on the '*clear public benefit*' of the application and that this information is provided to the local community via the CCC.

In addition to the trial of the Duratray body, MCO has implemented a range of noise mitigation measures over the period covered by the audit. In 2010 URS recommended that when MCO undertakes a review of available best practice noise mitigation measures the assessment should include a review of the public benefit of the application of such measures. The outcomes of these reviews should be detailed in the AEMR. Umwelt concurs with the recommendation of the previous audit.

Recommendation

It is recommended that MCO measure and report on the 'clear public benefit' of any noise mitigation measures that are implemented and that this information is provided to the local community via the CCC or other appropriate forum.

In addition to the noise mitigation works, MCO has employed production assistants to assist the MCO Open-cut Examiners (OCEs) with the interrogation of the real-time noise units, conducting noise monitoring surveys and collating data necessary for MCO to respond to noise complaints. While the employment of the production assistants is not a mitigation technology, for MCO it does represent an alternate operating methodology.

It is understood that the production assistant position description includes a clear, concise description of the level of authority, responsibility and reporting mechanisms appropriate to the observation of noise generated by MCO.

Overall, it is considered by the audit team that MCO complies with *Schedule 3 - Specific Environmental Conditions, Condition 9 Continuous Improvement*.

6.5.4 Compliance Review and Evaluation

The NMP outlines the protocols used by MCO for receiving and handling complaints, and assessing compliance with LAeq,15minute impact assessment criteria, LA1,1minute sleep disturbance criteria, the LAeq,period cumulative criteria, the land acquisition criteria (LAeq,15minute and LAeq,period) and LAeq,period traffic noise criteria.

Noise Complaints

Since the commencement of MCO, there has been a steady increase in the number of noise complaints. The trend, presented in the AEMR, is as follows:

Reporting Period	Noise Complaints	Total Complaints
2007 - 2008	0	2
2009 - 2009	4	7
2009 - 2010	35	56
2010 - 2011	110	113
2011 - 2012	334	359

Over the audit period, the MCO AEMRs reported each complaint received from the community and MCO's response to the complaint. A review of MCO responses indicates that MCO has successfully implemented a protocol that establishes the nature of the issue, clearly defines the source of the complaint and implements remedial actions when required. When reviewing the complaint records in the AEMRs, it was observed that whilst the actions taken are generally recorded on the complaint form, they were not always recorded for each complaint. For example Complaints 284 to 286 in the 2011–2012 AEMR were all recorded on 1 May 2012 but no action was recorded: even if no action was taken, the decision to take no action should have been recorded. In general, noise complaints were considered to have been adequately addressed for the audit period.

Recommendation

It is recommended MCO adapt the complaint management procedure to include the recording of all actions taken in response to the complaint, including a comment where no action was taken.

Compliance with the LAeq,15minute and the LA1,1minute Noise Criteria

The findings of the noise monitoring programs undertaken to assess the performance of MCO against the respective noise criteria are documented in the noise monitoring reports prepared by Global Acoustics and Advitech. With respect to the noise monitoring program the following observations were made:

2009–2010 Results

- During the 2009–2010 period the attended noise monitoring program recorded four (4) minor exceedances of relevant criterion. The exceedances included:
 - NA2 (Lagoon Road) during the night period on 21 April 2010 where the LA_{1,1minute} impact/dumping noise from MCO of 48 dB(A) exceeded the relevant criterion by 3 dB and the LA_{eq,15minute} mine noise from MCO of 40 dB(A) exceeded the relevant criterion by 3 dB;
 - NA5 (Toole Road) during the evening period on 21 April 2010 where the LA_{eq,15minute} mine noise from MCO of 43 dB(A) exceeded the relevant criterion by 5 dB;
 - NA1 (Ulan School) during the day period on 3 June 2010 where the LA_{eq,15minute} mine noise from MCO of 47 dB(A) exceeded the relevant criterion by 4 dB; and
 - NA2 (Lagoon Road) during the evening period on 17 August 2010 where the LA_{eq,15minute} mine noise from MCO of 39 dB(A) exceeded the relevant criterion by 1 dB.
- The 2009 - 2010 AEMR reports on the actions taken to reduce the noise impacts, including the provision of additional information to the then DECCW (now. EPA) and the then DoP (now. DP&I).
- During an attended monitoring session the monitoring data is only considered valid if the wind speed and temperature inversion conditions are within the conditions set in the Project Approval and EPL. Whilst this is considered reasonable, it is noted that during the 2009 - 2010 period only 46% of the monitoring results were valid. The monitoring periods where the meteorological conditions resulted in valid/invalid monitoring data is summarised in the following table.

		Are the Attended Monitoring Results Valid [#]					
		Yes	No	Yes	No	Yes	No
Location	Period	Apr-10		Jun-10		Aug-10	
NA1	Day	2	-	2	-	2	-
	Evening	1	1	-	2	-	2
	Night	-	2	-	2	-	2
NA2	Day	2	-	1	1	2	-
	Evening	2	-	-	2	2	-
	Night	1	1	-	2	-	2
NA3	Day	1	1	2	-	2	-
	Evening	-	2	2	-	1	1
	Night	-	2	-	2	-	2
NA5	Day	2	-	2	-	2	-
	Evening	1	1	1	1	-	2
	Night	-	2	-	2	-	2
Valid Data		50%		42%		46%	

[#] - Numbers relate to number of attended monitoring periods at each site.

2010–2011 Results

- During the 2010 - 2011 period, the attended noise monitoring program recorded one exceedance of relevant criterion by 2 dB. The exceedance occurred at NA2 (Lagoons Road) during the day period on 25 February 2011. MCO complied with the project specific criteria at all other monitoring sites during the reporting period.
- The 2010 - 2011 AEMR reports on the actions taken to reduce the noise impacts. The incident was reported to DP&I and EPA with no further action taken.
- During the reporting period only 48% of the monitoring results were valid (i.e. within the meteorological conditions set in the Project Approval and EPL) The monitoring periods where the meteorological conditions resulted in valid/invalid monitoring data is summarised in the following table.

		Are the Attended Monitoring Results Valid [#]											
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Location	Period	Oct-10		Dec-10		Feb-11		Apr-11		Jun-11		Aug-11	
NA1	Day	-	2	1	1	2	-	1	-	-	4	4	-
	Evening	-	2	2	-	2	-	-	1				
	Night	1	1	2	-	2	-	-	1				
NA2	Day	1	1	1	1	2	-	1	1				
	Evening	1	1	1	1	2	-	-	2				
	Night	1	1	1	1	1	1	-	2				
NA3	Day	1	1	1	1	2	-	1	1	3	1	4	-
	Evening	-	2	2	-	2	-	-	2	1	3	1	3
	Night	2	-	2	-	-	2	-	2	1	3	2	2
NA5	Day	1	1	1	1	2	-	1	1				
	Evening	-	2	1	1	2	-	-	2				
	Night	-	2	2	-	2	-	-	2				
NA6	Day									1	3	4	-
	Evening									2	2	-	4
	Night									-	4	1	3
NA7	Day									2	2	4	-
	Evening									2	2	-	4
	Night									-	4	1	3
Valid Data		33%		71%		88%		19%		30%		53%	

[#] - Numbers relate to number of attended monitoring periods at each site.

2011–2012 Results

- During the 2011 - 2012 period MCO complied with the project specific criteria at all monitoring sites during the reporting period. However, only 47% of the monitoring results were valid (i.e. within the meteorological conditions set in the Project Approval and EPL). The monitoring periods where the meteorological conditions resulted in valid/invalid monitoring data is summarised in the following table.

		Are the Attended Monitoring Results Valid [#]							
		Yes	No	Yes	No	Yes	No	Yes	No
Location	Period	Quarter 4 2011		Quarter 1 2012		Quarter 2 2012		Quarter 1 2012	
NA1	Day	-	4	2	2	4	-	4	-
NA3	Day	-	4	-	4				
	Evening	-	4	2	2				
	Night	2	2	1	3				
NA6	Day	-	4	3	1	4	-	4	-
	Evening	-	4	3	1	3	1	2	2
	Night	3	1	-	4	2	2	2	2
NA8	Day	-	4	2	2	4	-	4	-
	Evening	3	1	2	2	1	3	2	2
	Night	3	1	2	2	-	4	-	4
Valid Data		28%		43%		64%		64%	

[#] - Numbers relate to number of attended monitoring periods at each site.

The above tables show that the program established for the attended noise monitoring program may not be as effective as desired because of the wind speed and/or estimated temperature inversion conditions resulted in noise criteria not always being applicable. During the night time periods, the effectiveness of the attended noise monitoring program has been limited to 4%, 33% and 45% valid data during the three consecutive AEMR reporting periods. This lack of meaningful attended noise monitoring data makes a detailed assessment of noise performance challenging for some periods in which mining operations occurred. It is understood that MCO and the monitoring consultant review the weather forecast seven days prior to noise monitoring and then again the day before monitoring is to occur. Where conditions are not expected to be favourable, monitoring events are rescheduled wherever practicable, taking into account the availability of the monitoring contractor.

Recommendation

It is recommended MCO review the attended noise monitoring program/schedule and investigate alternatives that could increase the percentage of valid data recorded during the attended noise monitoring sessions and document this process in the NMP.

It was noted that there was a shift from two monthly monitoring to quarterly monitoring. This was undertaken to reflect the requirements of the EPL which requires attended noise monitoring to occur quarterly in a reporting period (EPL Condition M9.1).

Recommendation

It is recommended that the NMP is updated to reflect the change in the noise monitoring protocol or the NMP be modified to allow flexibility in the noise monitoring protocol.

In addition to the routine noise monitoring program, independent noise studies have been conducted, in accordance with Schedule 4 Condition 4 of the Project Approval, in response to landowners concerns about noise impacts at their properties. During the 2011–2012 period, the results from the independent noise studies found that MCO was complying with the noise criteria at the respective landowner’s residences. No independent noise studies were identified in the AEMRs for the 2009–2010 and 2010–2011 periods.

Real-time Noise Monitoring Response Protocols

During the 2011–2012 period, MCO received a PIN from the EPA for failure to react to noise alarms and take action to reduce noise between the hours of 11:00 pm to 4:00 am on the night of the 8 to 9 November 2011. Information was sent to the EPA regarding the mining activities being undertaken at the time at MCO. The AEMR reports that despite the evidence provided and subsequent meetings with the EPA over the matter, the EPA still enforced the PIN.

As noted previously, it is recommended that MCO develop and implement a protocol for evaluating the data from real-time noise monitoring system consistent with the requirements of the approved NMP. This should include a process for recording all actions taken in response to the alarms even when the alarms are not applicable to MCO.

In the 2010 audit URS recommended that '*the continuous noise monitoring results should be used to assist MCO assess compliance with the noise criteria and any results above noise criteria which, following investigation are determined to be attributable to MCO activities and not due to adverse weather conditions, should be considered as exceedances and managed and reported accordingly*'. Before this recommendation can be implemented any '*alternative means of determining compliance*' should be presented to EPA for approval. This is consistent with the recommendation above regarding the EPA approval of alternative means for determining compliance at all the receiver locations identified in the project approval and EPL.

Compliance with the LAeq,period Cumulative Noise Criteria

Advitech Pty Ltd was engaged by MCO to collate, analyse and report on the continuous noise monitoring results on a quarterly basis. A number of the reports prepared by Advitech were reviewed during the audit. The findings for the 2011–2012 period are summarised as follows:

- For the Summer 2012 period Advitech reported that the ambient LAeq,period cumulative noise levels associated with existing environmental, industrial and transportation sources were above the assessment criteria specified in the MCO NMP. On investigation, Advitech found that LAeq,night noise levels greater than 40 dB(A) were associated with environmental and transportation sources and gusting wind (i.e. not MCO operations). Advitech reported that where mining noise was observed, it was considered that this contributed to background noise levels only.
- For the Autumn 2012 period Advitech reported that the ambient LAeq,period cumulative noise levels associated with existing environmental, industrial and transportation sources were above the assessment criteria specified in the MCO NMP. On investigation, Advitech found that LAeq,night noise levels greater than 40 dB(A) were associated with environmental and transportation sources, aircraft and gusting wind (i.e. not MCO operations).
- For the Winter 2012 period Advitech reported that the ambient LAeq,period cumulative noise levels associated with existing environmental, industrial and transportation sources were above the assessment criteria specified in the MCO NMP. On investigation, Advitech found that LAeq,night noise levels greater than 40 dB(A) were associated with environmental and transportation sources and gusting wind (i.e. not MCO operations).

It was noted that the AEMRs do not report on the cumulative noise level results analysed and reported by Advitech.

Recommendation

It is recommended that the findings of the cumulative noise level assessment are included in the AEMR.

Compliance with the Road Traffic Noise Criteria

During the 2009 - 2010 period, the results from the road traffic noise monitoring during June 2010 indicate the MCO contribution to the road traffic noise levels complied with the Traffic Noise Impact Assessment Criteria outlines in the project approval.

During the 2010 - 2011 period, the results from the road traffic noise monitoring during February 2011 and June 2011 indicate the MCO contribution to the road traffic noise levels complied with the Traffic Noise Impact Assessment Criteria outlines in the project approval.

During the 2011 - 2012 period, the results from the road traffic noise monitoring during December 2011 and June 2012 indicate the MCO contribution to the road traffic noise levels complied with the Traffic Noise Impact Assessment Criteria outlines in the project approval.

Based on the traffic noise monitoring, it is believed that MCO complied with the Traffic Noise Impact Assessment Criteria outlines in the project approval for the audit period.

Recommendation

It is recommended that MCO develop and/or review the reporting protocols for various noise monitoring programs to ensure the information provided by the independent noise consultant(s) is transparent, easy to interpret and suitable for non-technical reader. Through the preparation of 'easy to understand' noise reports, it will be possible to educate the public about the noise impacts associated with the mining operations undertaken by MCO.

6.6 Biodiversity

The audit identified a good focus and understanding of biodiversity issues at MCO and did not identify any material non-compliances (refer to **Section 4.3**). Biodiversity values are being managed through the implementation of a range of strategies and monitoring that aims to minimise impacts and conserve and enhance biodiversity values within both the mining lease areas and the offset areas provided.

Vegetation clearing of active mining areas is managed under a ground disturbance permit that includes consideration of pre-clearance surveys. Flora and fauna monitoring is undertaken in accordance with the LMP and makes recommendations regarding requirements for further management.

Biodiversity offset areas have been established as part of the Project Approval conditions in order to compensate for residual impacts on biodiversity values that could not be adequately avoided or mitigated. Offset Area 1 was inspected during the audit and was found to contain: high conservation value vegetation communities and fauna habitat; low levels of disturbance, weed infestations or impacts from feral animals; active regeneration of derived grassland communities in accordance with the Project Approval; adequate access control and demarcation; and biodiversity monitoring, by way of review of ecological monitoring reports, was identified as suitable to identify any management issues relating to the offset sites.

It is considered likely that the management measures and monitoring being implemented on site will detect changes in vegetation and fauna habitat condition and ensure that offset areas continue to provide suitable compensation for residual impacts on Biodiversity, as set out in the Project Approval and Landscape Management Plan.

6.7 Groundwater

The operations to date at MCO have had a negligible influence on the groundwater systems below and surrounding the mine site, and in that regard the environmental performance of the mine site from a groundwater perspective has not been significantly tested.

The monitoring program appears to be reasonably robust and MCO staff appear to be knowledgeable about the program and have good systems in place for ensuring the monitoring is carried out in accordance with the plan, and reviewing the results in a timely manner for completeness and with a view to identifying outliers or exceedances of assessment criteria.

As discussed in the previous sections, there are some aspects of the GWMP and response plan that would benefit from further development, to ensure that they are appropriate for monitoring and managing impacts during future development stages in which groundwater impacts will potentially be more significant. In addition, it is recommended that the results of the annual numerical model validation process are reported in the AEMR, with particular emphasis on any changes in the interpreted impact assessment or assessment criteria. This would provide further assurance to MCO, the regulator and community stakeholders that the maximum benefit of the groundwater monitoring and response framework is being achieved, and potential risks to the environment are being appropriately managed.

6.8 Surface Water

The surface water management across the site is generally in accordance with the Project Approval Schedule 3 conditions and EPL 12932 conditions with respect to surface water management.

No licensed discharges occurred from the mine water or dirty water systems during the reporting period, other than the approved emergency discharges in December 2010/ January 2011 following a large rainfall event.

MCO received a PIN (under condition O1.1 of EPL 12932) for discharging of water from clean water dam S6 above OC1 on 7 and 8 May 2012. It is understood that the EPA had verbally approved discharges after water quality testing found the water within dam Strip 6 to be within the discharge requirements for the licence discharge of water from the dirty water management system. Despite this, turbid water was observed downstream following the discharge of the clean water. Information provided by the Environmental Team indicated that the observed turbidity was the likely result of re-entrained material within downstream channel reaches.

Project Approval Schedule 3 Condition 32 requires that the permeability of the all dam walls be less than 1×10^{-9} m/s. The previous audit undertaken by URS in 2010 raised potential issues with the Product Dam north wall. Evidence was sighted that MCO has had geotechnical testing undertaken by Macquarie Geotech to confirm that the permeabilities are within the criteria specified.

EPL 12932 condition U2.1 requires that an independent design review be undertaken and submitted to the EPA by 22 December 2011 and EPL 12932 condition U2.2 requires that a *Water Management Action Plan* be prepared and submitted to the EPA by 31 January 2012. Both of these conditions are addressed within the *Stage 1 Open Cut and CHPP Water Management Assessment and Upgrade Proposal Report* (Arkhill Engineers 2012). The proposed upgrades identified in the Arkhill report are currently in the process of being implemented on site, although it was noted that no timeframes had been specified for implementation of the works.

Whilst not specifically covered by the Project Approval or EPL 12932 conditions, it was noted that clean water from the upper catchment areas was being intercepted by OC1. Clean runoff intercepted by mining operations may fall within the harvestable rights of landowners (i.e. 10% of the average regional runoff generated by the contiguous landholdings), however any intercepted clean runoff that exceeds the harvestable rights provisions will require licensing.

Recommendation

It is recommended that the volume of water that is being intercepted be verified against the harvestable rights provisions for MCO, with additional water licences acquired or installation of additional clean water management systems undertaken to minimise the inflow of clean water into the pit.

6.9 Rehabilitation

During the 2011–2012 AEMR Report period significant rehabilitation works were undertaken which included the completion of rehabilitation of 49 hectares of land within the active mining areas.

As discussed with operational and environmental personnel at MCO during the site inspection, there is a strong commitment to progressive rehabilitation works on the site with this being apparent during the field inspection. It was observed that rehabilitation works were undertaken as close as possible to the completion of mining activities, with a number of mining strips having already been shaped to final landform and rehabilitated. Seed mixes utilised on site are prepared based on the composition of species observed in analogue monitoring sites, with local provenance species sourced from a local nursery utilised where available. This was consistent with the provisions of the ROMP. As progressive rehabilitation is undertaken on the site, topsoil removed for new mining strips is utilised to rehabilitate strips which have been shaped to a final landform. It is however noted that the rehabilitation undertaken on the site is relatively young and as such the establishment of the rehabilitation will need to be reviewed during future AEMR periods to confirm the rehabilitation is successful.

Across the mine site itself, little evidence of weeds was observed, indicating that weeds are well controlled. There was also no significant erosion observed across the site, despite the high intensity storm the previous evening. In regards to the rehabilitation and land management practices on site the following was noted:

- topsoil stockpiles were limited in number due to the progressive rehabilitation, however MCO personnel confirmed topsoil stockpiles were restricted in height when developed and were seeded with a cover crop in the event that they were not to be utilised for a period of time. Where topsoil stockpiles were not for immediate reuse, suitable cover crops were observed to be in place with little evidence of erosion of the stockpiles;

- MCO personnel confirmed that prior to revegetation activities that spoil and topsoils are characterised to identify the type and application rate required for soil ameliorants;
- suitable erosion control was observed adjacent to recently cleared mining strips in Open Cut 1;
- MCO personnel confirmed that seed collection is undertaken on site in accordance with the Landscape Management Plan;
- site personnel indicated that whilst shaping of final landform was undertaken progressively following mining operations, which was observed during the site inspection, seeding of the final landform may be delayed by MCO personnel until optimal seeding conditions in Spring and Autumn. In these instances, cover crops are used to provide protection to the soils until final seeding can be undertaken;
- as detailed within the 2011 -2012 AEMR, weed surveys are undertaken to target noxious weeds, with a number of noxious weeds identified with treatment of Blackberry undertaken during the report period; and
- stockpiled timber was observed adjacent to recently cleared mining strips with the timber noted as being used within rehabilitation on the environmental bund.

Recommendation

It is recommended that MCO implement a system to record information regarding the rehabilitation works which have been undertaken including ameliorant application rates, species composition and quantities of species utilised within the rehabilitation, the date the rehabilitation was undertaken.

6.10 Blasting

During the site inspection, the Blast Management Plan was observed as being implemented. The implementation of the plan was assessed during the site inspection on 23 January 2013 including the inspection of a blast which was undertaken within OC1 within the active mining area. The Blast Management Plan and management controls were observed to be well implemented with the controls within the blast management plan implemented prior to the execution of the blast. MCO undertake a pre-blast environmental assessment to assist with the management of predicted vibration and overpressure, as well as blast fume. Pre-blast controls implemented include the establishment of exclusion zones, a pre-blast inspection of the blast area followed by the establishment of sentries to prevent access to the blast area. This is followed by pre-defined internal communication protocols to confirm that all safety measures are in place prior to the blast occurring. The blast observed during the audit was a small blast to fracture coal, with the blast resulting in no significant vibration or dust generation observed, with no fume developed as a result of the blast.

The Pre-blast environmental assessments also include a protocol for the contact of stakeholders who wish to be notified of upcoming blasts. The notification process includes quarterly placement of advertisements in the Mudgee Guardian, and display of predicted blast dates and times on the MCO website. Relevant emergency services are also notified of proposed blast times when closure of roads is required. People located within 2 kilometres of MCO who wish to be notified about MCO blasts receive an email 48 hours prior to the proposed blast. The notification provided to stakeholders includes the date and time of the proposed blast, location of the blast, type of blast (coal/overburden), whether road closures are required and provides map of 300 metre and 500 metre exclusion zones.

During the 2011–2012 AEMR report period there were two occasions where the blast monitors failed to measure blast information, with one occasion being due to the data logger uploading data to the MCO server during the blast, with the uploading process now modified to ensure monitoring data is recorded. A blast monitor also failed to record monitoring data for no apparent reason on one occasion, with a review of the logger identifying it was operational immediately prior to the blast. There have been no further instances of failure of this monitor to record data.

Blast monitoring has been undertaken at Aboriginal rock shelters, Moolarben Creek Dam and at infrastructure including the 330 kV transmission line and railway culverts/bridges in accordance with the requirements of the Blast Management Plan throughout the report period. During the period covered by the audit, there has been one exceedance of the maximum blast overpressure criteria of 120 dBL with a blast measuring 120.6 dBL being recorded on 8 July 2010 at Ulan School. As detailed within the 2009–2010 AEMR, MCO undertook a review of blast design parameters following this event and implemented blast design changes in response to the exceedance. There have been no further exceedances of blast criteria at the site.

Whilst the Maximum Instantaneous Charge (MIC) of each blast is recorded on each blasting record sheet, this information is not maintained by the environment team in their blasting data spreadsheet prepared for compliance tracking. This makes it difficult for MCO to easily track the number of blasts with an MIC greater than 650 kg. Limits on the number of blasts greater than 650 kg are imposed by both the Project Approval and the EPL for the site, therefore it is considered that MCO need to be tracking the MIC of all blasts to ensure that compliance can be maintained.

Recommendation

It is recommended that MCO adapt the existing Blast Monitoring Results spreadsheet to include the MIC of each blast to enable tracking of the number of blasts greater than 650 kg.

6.11 Air Quality

During the audit site inspection, dust was observed to be well managed. It was noted that approximately 45 millimetres of rain was recorded in the MCO weather station on the evening prior to the audit, and this would have assisted with dust control.

During the two days of the site inspection, water carts were observed being utilised on haul roads and hard stand areas when there was potential for dust generation (**Plate 4** in **Appendix 5**). Water sprays were observed to be installed on transfer points in the Coal Handling and Preparation Plant (CHPP), with water sprays also noted on the ROM dump hopper (**Plate 5** in **Appendix 5**). In addition to the above controls, MCO has implemented a real time dust monitoring and alarm system which alerts operational personnel and the Environment and Community team via an SMS alarm when elevated dust levels are reached. There was also noted to be a strong awareness of dust management responsibilities and controls among staff interviewed on site.

During the 2011–2012 AEMR report period, MCO also undertook a Particulate Matter Control Best Practice Pollution Reduction Program, which was submitted to the EPA and is available on the MCO website. Following the completion of this report, MCO concluded that there are no feasible additional best practice measures for air quality management which could be implemented at MCO. This was accepted by the EPA.

Assisting with the management of dust on the site was the progressive rehabilitation of the mining operations; with rehabilitation works including final shaping observed as being undertaken adjacent to the existing highwall in OC1. Rehabilitation is discussed in more detail in **Section 6.9**.

Monitoring of air quality impacts at MCO is undertaken via a network of monitors which include three Tapered Element Oscillating Microbalances (TEOMs) to measure PM₁₀ in real time, two high volume air samplers (HVAS) and nine depositional dust gauges. The siting of the air quality monitoring equipment was reviewed in September 2010 by an independent contractor who confirmed that the monitoring units were generally sited in accordance with the relevant Australian Standards referenced by the EPA Approved Methods publication. The air quality monitoring results are reported annually in the AEMR, as well as on a monthly basis within the Moolarben Coal Monthly Environmental Monitoring Report, which is available on the MCO website. Air quality monitoring results reviewed during the audit identified there have been no exceedances of the air quality criteria for TSP, PM₁₀ or depositional dust during the report period.

It was noted that specific TSP monitoring is not being undertaken as part of the air quality monitoring program. The EPL for the site does not require TSP to be specifically monitored and whilst the project approval does not specifically require TSP monitoring, it has specified a criterion. MCO advised that compliance with the TSP criterion is assessed via the interpolation of PM₁₀ monitoring results. It is noted that this is standard practice amongst most mines and that provided a sound basis for the interpolation of the TSP levels exists, it is a reasonable approach. As such, calculated TSP levels are reported as part of the AEMR.

6.12 Waste Management

Management of general waste at MCO is managed by JR Richards as a total waste management contractor. During the audit site inspection, waste management systems were observed to be well managed and implemented. Waste bins and waste skips for different waste streams were observed at numerous locations around the site, with waste streams generally observed to be well separated. Evidence of waste tracking documentation was also observed during the audit. During the audit, an issue was identified in relation to waste separation and storage at the workshop. This issue had already been identified by the MCO environment team and actions were in place to procure additional waste signage and undertake a Toolbox Talk in relation to waste management with all maintenance workshop staff.

On-site sewage management facilities were observed to be located at key facilities across the site. Under the *Local Government (General) Regulation 2005* all landowners with on-site systems are required to obtain an approval to operate the system from their council. Landowners must also maintain and manage their on-site systems in accordance with health and environmental performance standards. The on-site sewage management facilities at MCO appeared to be well managed, with evidence of Council approval on-site sewage management systems sighted during the audit.

6.13 Hazardous Substances Management

Hazardous substances were noted to be generally well managed across the site. Fuel and oil tanks are double skinned with most filling points bunded (**Plate 6** in **Appendix 5**) providing appropriate secondary containment in the event of a spill. An exception to this was at the Downer Mining Services compound where the diesel fill point was observed to have no secondary containment as discussed in **Section 6.4**.

Packaged oils, greases and chemicals at the workshop and CHPP were generally stored in bunded areas or on bunded pallets. There were isolated instances of drums of grease and oils not being stored in bunded areas (**Plate 7 in Appendix 5**), particularly at the open cut workshop. In terms of oils, greases and chemicals being stored on bunded pallets, there is potential for spills and leaks to extend beyond the pallet bund, particularly where containers are stacked or leaks occur under pressure (**Plate 8 in Appendix 5**).

MCO maintains an up to date register of chemicals, fuels and oils on site with MSDSs available through Chemwatch for all products used. Access to Chemwatch is provided to all relevant employees through the MCO intranet site. The company has prepared a pollution incident response management plan for the operations which outlines the emergency response for a range of incidents including hydrocarbon spills. Fully stocked spill kits were observed to be located at various locations around the site, including at all locations where hydrocarbons are used or stored (**Plate 9 in Appendix 5**).

Recommendation

*It is recommended that MCO review the hydrocarbon and chemical storage practices for packaged oils, greases and chemicals stored at the open cut workshop, using the **Technical Considerations in Appendix 2 of the 'Storage and Handling Liquids: Environmental Protection, Participant's Manual'** (DECC 2007) as a guide.*

6.14 Heritage Management

6.14.1 Aboriginal Heritage Management

An Aboriginal Heritage Management Plan has been prepared for MCO. The measures within the management plan to assist with the ongoing management of Aboriginal heritage features within and adjacent to MCO were observed to be implemented throughout the site inspection. Cultural Heritage Areas on site were observed to be fenced with signage erected to clearly detail that the area is a Cultural Heritage Area (**Plate 10 in Appendix 5**). A ground disturbance permitting process has also been established on site which requires the MCO Environmental team to confirm that there are no Aboriginal archaeological features with the proposed area of disturbance. Artefacts within the Stage 1 disturbance footprint have been collected and are being stored in a secure keeping place in accordance with MCO's Care and Control permit for the artefacts.

It is noted that the 2009–2010 MCO AEMR (Section 3.23.1) identified an incident relating to the disturbance of Aboriginal sites which were located on an existing farm track. The AEMR identified that the disturbance to the sites was reported to both the then DoP and DECCW. During the site audit, the Ground Disturbance Permit process was reviewed. Implementation of this process is considered by the auditors to provide a robust method of assessing any impacts to archaeological features as part of the proposed activities, and should prevent any recurrence of the incident involving disturbance to Aboriginal artefacts.

6.14.2 Non Aboriginal Heritage Management Plan

In regards to the implementation of the Non-Aboriginal Heritage Management Plan, it is noted that Site 20 is a memorial garden which MCO are required to maintain, with MCO reporting through subsequent AEMR's that this has been undertaken. MCO are also required to maintain access to Site 23 'The Drip', which MCO personnel confirmed has been undertaken during the report period.

7.0 Conclusions

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

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

- the lack of substantial implementation of the ESAP which also requires review;
- exceedance of specific environmental performance criteria relating to noise and blasting;
- lack of a methodology for assessing baseflows to the Goulburn River and its tributaries;
- lack of secondary containment on all fuel storage or transfer points; and
- secondary requirements for documents or actions required under the Project Approval, such as gaining formal approval from (then) 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 MCO'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 performance criteria, MCO 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 EPL, although such notifications are not always undertaken within the required timeframes.



APPENDIX 1

Agency Interview Questions

**Moolarben Independent Environmental Audit – January 2013
Agency Questions**

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

1. What is your agency's role in relation to the Moolarben mining operations?
2. What is your specific role within the agency, particularly relating to your involvement with the Moolarben mining operations?
3. What aspects of your agency's statutory role relate to the Moolarben mining operations?
4. In relation to the Moolarben mining operations compliance with statutory requirements administered by your agency:
4.1. Are you satisfied with the Moolarben 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 Moolarben mining operations?
6. Are you satisfied with the way in which community complaints have been managed by the Moolarben mining operations?
7. Do you have any other specific environmental or community issues in relation to the Moolarben mining operations that need to be addressed?



APPENDIX 2

Compliance Assessment Project Approval
(PA05_0117)

Project Approval No. 05_0117

Effective Date 6 September 2007

Condition	Requirement	Compliance C/NC/O/NT	Evidence	Comments
SCHEDULE 2 - ADMINISTRATIVE CONDITIONS				
Obligation to Minimise Harm to the Environment				
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.	NC	MCO has generally implemented measures to minimise harm to the environment in terms of air quality, noise, visual amenity, vibration and lighting, and has demonstrated a commitment to improving its environmental performance. During the audit site inspection, it was observed that there were generally good management practices across the site, particularly related to the rehabilitation practices implemented at the site. In terms of environmental controls, the current practices in place for the storage, handling and use of hazardous substances would not be considered to represent all reasonable and feasible measures to minimise harm to the environment from the storage and use of these substances. Specifically, it was noted that secondary containment has not been provided to the diesel fill point at the Downer compound, and isolated drums of grease and oil were observed to be stored in unbunded areas.	
Terms of Approval				
2	The Proponent shall carry out the project generally in accordance with the:	C	Observations made during the audit site inspection and review of documentation and records showed that the development is generally being undertaken with that described in the original EA as modified by the EA's for the modifications approved to date.	Environmental Management Plans have been prepared for a range of environmental issues and evidence was sighted that the plans that have been prepared 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.
	(a) EA;			
	(b) statement of commitments;			
(c) EA (MOD 1);				
(d) EA (MOD 2);				
(e) EA (MOD 4);				
(f) EA (MOD 5);				
(g) EA (MOD 6);				
(h) EA (MOD 7);				
(i) EA (MOD 8); and				
	(j) conditions of this approval.	NC	Non-compliances with the conditions of approval were identified during the audit as noted in this report.	
	Notes: - The general layout of the project is shown in Appendix 2. - The statement of commitments is reproduced in Appendix 3 (excluding the commitments which are directly reflected in, or inconsistent with, the conditions of this approval).	Noted		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
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.	C	Moolarben operations are undertaken in accordance with the latest version of all documents.	
	<i>Note: To remove doubt, modifications made to the statement of commitments (eg via MOD 5) prevail over all EAs submitted prior to that modification.</i>	Noted		
4	The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:	C	A review of the management plans and correspondence from relevant government agencies indicates that MCO has generally addressed the comments on the draft plans.	
	(a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with this approval; and			
	(b) the implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.	C	It was noted that the DP&I had commented on the previous audit report. MCO and the auditor addressed the comments from DP&I, including an additional site inspection.	
Limits on Approval				
5	Mining operations may take place for 21 years from the grant of the mining lease for the project.	C	Approval is current.	
	<i>Note: Under this approval, the Proponent is required to rehabilitate the site and provide offsets 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 and the offset provided to a satisfactory standard.</i>	Noted		
6	The Proponent shall not:	C	Production volumes, as detailed within the AEMR's for the site detail the product coal tonnages from the open cut are as follows: 2009 -2010 - 1,326,911 tonnes 2010 - 2011 - 5,497,666 tonnes 2011 - 2012 - 5,027,362 tonnes There was no coal produced from underground mining during the audit period.	
	(a) produce more than 10 million tonnes of coal a year; or			
	(b) extract more than 8 million tonnes of ROM coal a year from the open-cut mining operations, and 4 million tonnes of ROM coal a year from the underground mining operations.	C	Production volumes, as detailed within the AEMR's for the site detail the ROM from the open cut are as follows: 2009 - 2010 - 1,928,339 tonnes 2010 - 2011 - 7,866,398 tonnes 2011 - 2012 - 7,132,324 tonnes There was no coal produced from underground mining during the audit period.	
7	The Proponent shall only transport coal from the site by rail.	C	MCO advised that all coal has been transported from the site via rail.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Staged Submission of Management Plans/Monitoring Programs				
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.	C	Management Plans developed by Moolarben have been prepared to address the construction phase and the operation of OC1. Revised management plans have been prepared as a result of the modifications to date, however these have not yet received approval from DP&I. 2010 Audit report noted that DP&I had provided approval of staged submission of management plans.	
8A	Within 3 months of any modifications to this approval, the Proponent shall review and if necessary revise all strategies/plans/programs required under this approval which are relevant to the modification to the satisfaction of the Director-General.	C	Management Plans have been revised to reflect the modifications that have been approved, however, at the time of the audit, they had not been approved by DP&I.	
Structural Adequacy				
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.	C	Sighted Construction Certificate No. CC0107/2009 from, Mid Western Regional Council for Public buildings. Sighted building certificate BC015/2011 obtained for the washer workshop and offices / bathhouse. Sighted building certificate BC017/2011 obtained for the open cut workshop, store and offices. Sighted building certificate BC019/2011 obtained for the material handling system.	This condition was noted as non-compliant during the previous audit. MCO has addressed the issue and obtained certificates as required.
	Notes: - Under Part 4A 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.	Noted		
Demolition				
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.	C	MCO advised that no demolition works had been undertaken on site.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Operation of Plant and Equipment				
11	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and	C	Maintenance and defects reporting systems reviewed during the audit indicated that MCO has established maintenance plans for each plant item and conducts regular servicing. Pre-start checklists are used to identify defects - SAP reporting system allows tracking of defect repairs and service requirements such that weekly servicing schedules can be prepared. Records reviewed showed that the weather station is calibrated annually by Carbon Based Environmental (for example calibration certificate dated 25/1/2012). Blast monitor certificate of calibration for Unit No, BG14017 sited. Dated 7 January 2013.	
	(b) operated in a proper and efficient manner.	C	Moolarben has developed training competency units to train and assess the competency of its operators. During the audit site inspection, plant was observed to be operated in a proper manner. The neat and tidy condition of the pit and surrounds is considered to give a good indication of the competency of the operators.	
Planning Agreement				
12	Within 12 months of this approval, the Proponent shall enter into a planning agreement with Council in accordance with: (a) Division 6 of Part 4 of the EP&A Act; and	C	Sighted Planning Agreement established 23 April 2008 between Moolarben Coal Mines, Mid West Regional Council and Felix Resources.	Council provide invoices to Moolarben as payment are due which are duly paid by Moolarben.
	(b) the terms of the Proponent's offer to the Minister on 4 September 2007, which includes the matters set out in Appendix 4.	C	Sighted Planning Agreement established 23 April 2008 between Moolarben Coal Mines, Mid West Regional Council and Felix Resources. Assessed as compliant during 2010 compliance audit.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																																																											
SCHEDULE 3 - SPECIFIC ENVIRONMENTAL CONDITIONS																																																															
ACQUISITION OF AFFECTED PROPERTIES																																																															
Acquisition Upon Request																																																															
1	<p>Upon receiving a written request for acquisition from the owner of the land listed in Table 1, the Proponent shall acquire the land in accordance with the procedures in conditions 10-12 of Schedule 4.</p> <table border="1"> <caption>Table 1: Land subject to acquisition upon request</caption> <tbody> <tr> <td>4 – M. Swords</td> <td>5 – M & P Swords</td> </tr> <tr> <td>6 – Thompson</td> <td>15 – Green</td> </tr> <tr> <td>20 – Williamson</td> <td>25 – Tuck-Lee</td> </tr> <tr> <td>29a – E. Mayberry</td> <td>29b – E. Mayberry</td> </tr> <tr> <td>29 – E. Mayberry</td> <td>33 – K. & R. Mayberry</td> </tr> <tr> <td>36 – Rayner</td> <td>50 – C. Mayberry</td> </tr> <tr> <td>134 – M.J. & H. Swords</td> <td>163 – C.M. & J.J. Key</td> </tr> <tr> <td>164 – J.J. Key</td> <td>166 – C.M. Key</td> </tr> </tbody> </table> <p><i>Note: For information on the numbering and identification of properties used in this approval, see Appendix 5.</i></p>	4 – M. Swords	5 – M & P Swords	6 – Thompson	15 – Green	20 – Williamson	25 – Tuck-Lee	29a – E. Mayberry	29b – E. Mayberry	29 – E. Mayberry	33 – K. & R. Mayberry	36 – Rayner	50 – C. Mayberry	134 – M.J. & H. Swords	163 – C.M. & J.J. Key	164 – J.J. Key	166 – C.M. Key	C	<p>Moolarben Coal Operations have received written request from Williamson (Residence 20) for acquisition on 13 September 2010 (sighted letter). Moolarben met with Williamson with an offer to purchase the residence provided by Moolarben to Williamson on 25 November 2010. Moolarben acquired the Williamson residence in February 2011.</p>																																												
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NOISE																																																															
Noise Impact Assessment Criteria																																																															
2	<p>The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land, or on more than 25% of any privately-owned land.</p> <table border="1"> <caption>Table 2: Noise impact assessment criteria dB(A)</caption> <thead> <tr> <th rowspan="2">Land Number</th> <th>Day</th> <th>Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>L_{Aeq(15min)}</th> <th>L_{Aeq(15min)}</th> <th>L_{Aeq(15min)}</th> <th>L_{At(1min)}</th> </tr> </thead> <tbody> <tr> <td>26, 49</td> <td>38</td> <td>38</td> <td>38</td> <td>45</td> </tr> <tr> <td>22, 23, 41A, 63, 64, 170, 171, 172</td> <td>38</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>169, 173</td> <td>37</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>All other privately owned land (outside the village of Ulan)</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> <tr> <td>Ulan Primary School</td> <td colspan="2">35 (internal)</td> <td colspan="2">-</td> </tr> <tr> <td>Ulan Anglican Church</td> <td colspan="2">when in use and under all weather conditions</td> <td colspan="2">-</td> </tr> <tr> <td>Ulan Catholic Church</td> <td colspan="2">35 (internal)</td> <td colspan="2">-</td> </tr> <tr> <td>Ulan Catholic Church</td> <td colspan="2">when in use and under all weather conditions</td> <td colspan="2">-</td> </tr> <tr> <td>Goulburn River National Park</td> <td colspan="2">50</td> <td colspan="2">-</td> </tr> <tr> <td>Munghom Gap Nature Reserve</td> <td colspan="2">50</td> <td colspan="2">-</td> </tr> </tbody> </table>	Land Number	Day	Evening	Night		L _{Aeq(15min)}	L _{Aeq(15min)}	L _{Aeq(15min)}	L _{At(1min)}	26, 49	38	38	38	45	22, 23, 41A, 63, 64, 170, 171, 172	38	38	37	45	169, 173	37	37	37	45	All other privately owned land (outside the village of Ulan)	35	35	35	45	Ulan Primary School	35 (internal)		-		Ulan Anglican Church	when in use and under all weather conditions		-		Ulan Catholic Church	35 (internal)		-		Ulan Catholic Church	when in use and under all weather conditions		-		Goulburn River National Park	50		-		Munghom Gap Nature Reserve	50		-		NC	<p>Review of 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs Review of noise monitoring reports (Global)</p>	<p>Four (4) exceedance recorded and reported during the 2009 - 2010 period One (1) exceedance recorded and reported during the 2010 - 2011 period No exceedances recorded during the 2011 - 2012 period</p>
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	<p>However, the Proponent may exceed the noise limits in Table 2 if it has:</p> <p>(a) a written negotiated noise agreement with any landowner for higher noise limits, and a copy of this agreement has been forwarded to the Department and DECCW; or</p>	NT		<p>It was noted during the audit that noise agreements have been established with residences referenced in Table 2, for works related to the proposed Stage 2.</p>																																																											
	<p>(b) an approved Construction Noise Management Plan (see condition 7 below) for the project, which sets higher noise limits for a specified period.</p>	C	<p>MCO have completed all construction phase works associated with Stage 1 operations and as such the Construction Noise Management Plan has been superseded by the Noise Management Plan for Stage 1 operations (Version 1, March 2010). Assessed as compliant during 2010 compliance audit conducted by URS.</p>																																																												

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments										
	<p>Notes:</p> <p>To determine compliance with the LAeq(15 minute) noise limits, 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.</p>	O	Review of Noise Management Plan	Table 9 and Figure 1 of the NMP provided information on the monitoring locations. The monitoring locations used at the time of the audit were not consistent with the locations identified in Table 9 and Figure 1. It is understood the NMP review was in progress and that these discrepancies were being addressed.										
	<p>To determine compliance with the LA1(1 minute) noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).</p>	O	Review of Noise Management Plan	Table 9 and Figure 1 of the NMP provided information on the monitoring locations. The monitoring locations used at the time of the audit were not consistent with the locations identified in Table 9 and Figure 1. It is understood the NMP review was in progress and that these discrepancies were being addressed.										
	<p>The noise emission limits identified in the above table apply under meteorological conditions of:</p> <ul style="list-style-type: none"> - wind speeds of up to 3 m/s at 10 metres above ground level ; or - temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level. 	C	Review of noise monitoring reports	<p>However, due to wind speed and/or estimated temperature inversion conditions resulted not always being applicable during: 2009 - 2010 period only 46% of the monitoring results were valid</p> <p>2010 - 20110 period only 48% of the monitoring results were valid</p> <p>2011 - 2012 period only 47% of the monitoring results were valid</p>										
Land Acquisition Criteria														
3	<p>If the noise generated by the project exceeds the relevant criteria in Table 3 at any residence on privately owned land or on more than 25% of any privately-owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 10-12 of Schedule 4.</p> <p>Table 3: Land acquisition criteria dB(A)</p> <table border="1"> <thead> <tr> <th>Day/Evening/Night LAeq(15min)</th> <th>Land Number</th> </tr> </thead> <tbody> <tr> <td>43 / 43 / 43</td> <td>26, 49</td> </tr> <tr> <td>43 / 43 / 42</td> <td>22, 23, 41A, 63, 64, 170, 171, 172,</td> </tr> <tr> <td>42 / 42 / 42</td> <td>169, 173</td> </tr> <tr> <td>40 / 40 / 40</td> <td>All other private land owners not listed in Table 1</td> </tr> </tbody> </table> <p>Note: Noise generated by the project is to be measured in accordance with the notes presented below Table 2.</p>	Day/Evening/Night LAeq(15min)	Land Number	43 / 43 / 43	26, 49	43 / 43 / 42	22, 23, 41A, 63, 64, 170, 171, 172,	42 / 42 / 42	169, 173	40 / 40 / 40	All other private land owners not listed in Table 1	C	Moolarben has not exceeded the land acquisition criteria detailed in Table 3 of the Project Approval.	
Day/Evening/Night LAeq(15min)	Land Number													
43 / 43 / 43	26, 49													
43 / 43 / 42	22, 23, 41A, 63, 64, 170, 171, 172,													
42 / 42 / 42	169, 173													
40 / 40 / 40	All other private land owners not listed in Table 1													

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments						
Cumulative Noise Criteria										
4	<p>The Proponent shall take all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other mines does not exceed the following amenity criteria at any residence on privately owned land, or on more than 25% of any privately owned land, excluding the land listed in Table 1, to the satisfaction of the Director-General:</p> <ul style="list-style-type: none"> - LAeq(11 hour) 50 dB(A) - Day; - LAeq(11 hour) 45 dB(A) - Evening; - LAeq(11 hour) 40 dB(A) – Night. 	C	Review of noise monitoring reports prepared by independent consultant (Advitech)	Not reported in the 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs						
5	<p>If the cumulative noise generated by the project combined with the noise generated by other mines exceeds the following amenity criteria at any residence on privately owned land, or on more than 25% of privately owned land, excluding the land listed in Table 1, then upon receiving a written request from the landowner, the Proponent shall take all reasonable and feasible measures to acquire the land on as equitable basis as possible with the relevant mines, in accordance with the procedures in conditions 10-12 of schedule 4, to the satisfaction of the Director-General:</p> <ul style="list-style-type: none"> - LAeq(11 hour) 53 dB(A) - Day; - LAeq(4 hour) 48 dB(A) - Evening; - LAeq(9 hour) 43 dB(A) – Night. 	C	Review of noise monitoring reports prepared by independent consultant (Advitech)							
	<p><i>Notes:</i></p> <ul style="list-style-type: none"> - For the purpose of this condition, the expression "Proponent" in conditions 10-12 of schedule 4 should be interpreted as the Proponent and any other relevant mine owners. - The cumulative noise generated by the project combined with the noise generated by other mines is to be measured in accordance with the relevant procedures in the NSW Industrial Noise Policy. 	Noted								
Traffic Noise Impact Assessment Criteria										
6	<p>The Proponent shall take all reasonable and feasible measures to ensure that the traffic noise generated by the project combined with the traffic noise generated by other mines does not exceed the traffic noise impact assessment criteria in Table 4.</p> <p><i>Table 4. Traffic noise criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th>Road</th> <th>Day/Evening LAeq(1 hour)</th> <th>Night LAeq(1 hour)</th> </tr> </thead> <tbody> <tr> <td>Ulan Road</td> <td>60</td> <td>55</td> </tr> </tbody> </table> <p><i>Note: Traffic noise generated by the project is to be measured in accordance with the relevant procedures in the DECCW's Environmental Criteria for Road Traffic Noise.</i></p>	Road	Day/Evening LAeq(1 hour)	Night LAeq(1 hour)	Ulan Road	60	55	C	<p>Review of 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs</p> <p>Review of noise monitoring reports prepared by independent consultant (Global)</p>	
Road	Day/Evening LAeq(1 hour)	Night LAeq(1 hour)								
Ulan Road	60	55								

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Construction Noise Management				
7	The Proponent shall prepare and implement a Construction Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.	
	(a) be prepared in consultation with the DECCW by a suitably qualified expert whose appointment has been approved by the Director-General;	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.	
	(b) be submitted to the Director-General for approval prior to carrying out any construction on site;	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.	
	(c) contain noise goals for the construction period;	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.	
	(d) specify the type and location of night-time construction activities;	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.	
	(e) describe what measures would be implemented to minimise the construction noise impacts of the project during the construction period, with particular emphasis on minimising the impacts on Ulan School and its pupils;	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.	
	(f) describe how the effectiveness of these measures would be monitored;	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.	
(g) document the procedures that would be followed if an exceedance of the construction noise goals are detected.	NT	Not triggered for this audit as construction completed for Open Cut 1 of Stage 1 operations. No further construction activities have been undertaken at Moolarben.		
Additional Noise Mitigation Measures				
	<p>Upon receiving a written request from a landowner:</p> <ul style="list-style-type: none"> - of the land listed in Table 1 (unless the landowner has requested acquisition); or - of the following land: 26, 49, 22, 23, 41A, 63, 64, 170, 171, 172; or - of any residence on privately owned land outside the Ulan Village where subsequent noise monitoring shows the noise generated by the project is greater than or equal to LAeq(15 min) 38 dB(A) (except where a negotiated noise agreement is in place) <p>the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner.</p>	C	MCO stated that no written requests have been received from landowners identified within this condition.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
8	<i>Note: For the purposes of this approval Ulan Village is defined by the area coloured pink on the map in Appendix 6.</i>	C	MCO stated that no written requests have been received from landowners identified within this condition.	
	These additional mitigation measures must be reasonable and feasible.	C	MCO stated that no written requests have been received from landowners identified within this condition.	
	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.	C	MCO stated that no written requests have been received from landowners identified within this condition.	
	Within 3 months of this approval, the Proponent shall notify all applicable landowners that they are entitled to receive additional noise mitigation measures.	C	MCO stated that no written requests have been received from landowners identified within this condition.	
Continuous Improvement				
9	The Proponent shall: (a) include in each Annual Environmental Management Report (AEMR) required by Condition 5 (Schedule 5) a review of best practice noise mitigation measures that could be reasonably and feasibly applied to the ongoing operation of the mine;	C	Review of 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs	
	(b) where there is a clear public benefit in the application of such measures, implement these measures to the satisfaction of the Director-General; and	C	Review of 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs	Could included more information on public benefit
	(c) ensure that any additional measures implemented as part of this condition are considered in all future AEMR's and Independent Environmental Audit's required under Condition 6 (Schedule).	C	Review of 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs	
10	The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:	NC	Table 9 and Figure 1 of the NMP provided information on the monitoring locations. However, the auditor noted that the monitoring locations that have been used in the monitoring that has been undertaken were not consistent with the locations identified in Table 9 and Figure 1 of the NMP.	It is noted that OEH does not review or comment on Noise Mangement Plans
	(a) be prepared in consultation with DECCW;	C		
	(b) be submitted to the Director-General for approval prior to carrying out any construction on site; and	C	Review of Noise Management Plan	
	(c) include: - a combination of real-time and supplementary attended monitoring measures; and	C	Review of Noise Management Plan	
	- noise monitoring protocol For evaluating compliance with the noise impact assessment and land acquisition criteria in this approval	C	Review of Noise Management Plan	
<i>Note: This program must expressly monitor the modifying factors referred to in the NSW Industrial Noise Policy (such as intermittency, tonality and low frequency).</i>	Noted			

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments															
BLASTING AND VIBRATION																			
Airblast Overpressure Impact Assessment Criteria																			
11	<p>The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 5 at any residence on privately owned land.</p> <p><i>Table 5: Airblast overpressure impact assessment criteria</i></p> <table border="1"> <thead> <tr> <th>Airblast overpressure level (dB(Lin Peak))</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td>115</td> <td>5% of the total number of blasts over a period of 12 months</td> </tr> <tr> <td>120</td> <td>0%</td> </tr> </tbody> </table>	Airblast overpressure level (dB(Lin Peak))	Allowable exceedance	115	5% of the total number of blasts over a period of 12 months	120	0%	NC	<p>Requirements identified in BMP - Section 3.1. Review of blasting records identified a blast on 8/7/2010 which registered an overpressure of 120.6 at BM1 (Ulan School).</p> <p>Requirements identified in BMP - Section 3.1. Review of blast records identifies two exceedances of 115dB within the audit period (1/7/2010 and 14/6/2011). However the number of exceedances above 115 is less than 5% over each reporting period.</p>										
Airblast overpressure level (dB(Lin Peak))	Allowable exceedance																		
115	5% of the total number of blasts over a period of 12 months																		
120	0%																		
Ground Vibration Impact Assessment Criteria																			
12	<p>The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the criteria in Table 6.</p> <p><i>Table 6: Ground vibration impact assessment criteria</i></p> <table border="1"> <thead> <tr> <th>Receiver</th> <th>Peak particle velocity (mm/s)</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td>Residence on privately owned land</td> <td>5</td> <td>5% of the total number of blasts over a period of 12 months</td> </tr> <tr> <td></td> <td>10</td> <td>0%</td> </tr> <tr> <td>330kV transmission line</td> <td>50</td> <td>0%</td> </tr> <tr> <td>Aboriginal rock shelters</td> <td>40</td> <td>0%</td> </tr> </tbody> </table> <p><i>Note: The impact assessment criteria for Aboriginal rock shelters applies unless the Proponent develops site specific impact assessment criteria to the satisfaction of the Director-General.</i></p>	Receiver	Peak particle velocity (mm/s)	Allowable exceedance	Residence on privately owned land	5	5% of the total number of blasts over a period of 12 months		10	0%	330kV transmission line	50	0%	Aboriginal rock shelters	40	0%	C	<p>Requirements identified in BMP - Section 3.2. Review of blast data indicated no exceedances of ground vibration criteria during the audit period.</p>	
Receiver	Peak particle velocity (mm/s)	Allowable exceedance																	
Residence on privately owned land	5	5% of the total number of blasts over a period of 12 months																	
	10	0%																	
330kV transmission line	50	0%																	
Aboriginal rock shelters	40	0%																	
Blasting Hours																			
13	<p>The Proponent shall only carry out blasting at the project between 9am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of DECCW.</p>	C	<p>Requirements identified in BMP - Section 4.1. Review of blasting records confirms that blasting has been undertaken in accordance with the requirements of this condition.</p>																

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Blasting Frequency				
14	The Proponent may carry out: (a) 2 blasts a day;	C	Requirements identified in BMP - Section 4.1. Blast records reviewed showed that no more than 2 blasts per day have been conducted.	
	(b) 9 blasts a week, averaged over any 12 month period, including	C	Requirements identified in BMP - Section 4.1. Review of blasting records for period July 2010 to June 2012 showed that blasts were averaging approximately 2 per week, well below the limit of 9. Blasting frequency has increased since that time but is currently averaging about 4 per week.	
	(c) a maximum of 4 blasts a week, averaged over any 12 month period, with a maximum instantaneous charge (MIC) of greater than 650kg.	O	Requirements identified in BMP - Section 4.1.	Whilst MIC of each blast is recorded on the blasting data sheets, this information is not maintained by the environment team in their blasting data spreadsheet. This makes it difficult to confirm compliance with this condition. However given that blasts averaged less than 4 per week during the audit period, this requirement is considered to have been met.
Operating Conditions				
15	During mining operations, the Proponent shall: (a) implement best blasting practice to: - protect the safety of people and livestock in the area surrounding blasting operations;	C	Blast MP Section 4.1 and 4.2 detail blast management practices implemented during blast program. Implementation of blast management practices at Moolaraben were verified during site inspection when a blast in the mining area was undertaken. The blast was observed by the audit team in the company of members of the MCO Environmental and Mining departments. As explained by MCO personnel, an assessment of meteorological conditions is undertaken prior to the blast, to confirm that the blast is not likely to result in exceedances of the relevant blast criteria. Meteorological conditions are reviewed the day before the proposed blast as well as on the morning of the blast. A blast exclusion zone was also established prior to the blast, with the calculated blast exclusion zone identified on the Pre-Blast Environmental Assessment undertaken by Moolaraben.	
	- protect public or private infrastructure/property in the area surrounding blasting operations from blasting damage; and	C	Blast MP Section 4.3 and 4.4 detail that a minimum blast exclusion zone of 500m is established for blast, that a pre-blast inspections is to be undertaken, that sentries are posted at locations to prevent access to the exclusion zone. These controls were observed to be in place for the blast conducted in Open Cut 1 during the audit.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
	- minimise the dust and fume emissions from blasting at the project; and	C	Blast MP Section 4.6 details the blast controls implemented to minimise dust and fume. An assessment of fume is conducted for each blast with both fume and dust generation for the blast undertaken during the audit deemed to be minimal.	
	(b) co-ordinate blasting on site with the blasting at the adjoining Ulan and Wilpinjong coal mines to minimise the potential cumulative blasting impacts of the three mines, to the satisfaction of the Director-General.	O	Moolarben advised that blast notifications are received from both Ulan and Wilpinjong which detail when blasting is proposed to be undertaken at these operations. In the event that a blast is proposed for the same time that Moolarben propose to blast, then Moolarben reschedule the blast to avoid simultaneous blasting.	It is understood that the Blast Management Plan has been updated to reflect this, with the revised plan submitted to DP&I and awaiting approval.
	The Proponent shall not undertake blasting within 500 metres of: (a) the Ulan-Wollar Road without the approval of Council;	C	Blast MP - Section 4.4 MOP - Section 3.3.2 MCO has also developed a Road Closure Procedure Blasting (MCO_ENV_PRO_0024) which was reviewed during the audit.	
	(b) the Ulan Road without the approval of the DTI;	C	Blast MP - Section 4.4 MOP - Section 3.3.3	It is noted that MWRC has care and control of the Ulan Road - blasting and road closure is undertaken in accordance with the Road Closure Plan.
	(c) the Gulgong-Sandy Hollow Railway Line without the approval of the ARTC;	C	Blast MP - Section 4.4 MOP - Section 3.3.4 MCO has negotiated a Blasting Deed with ARTC (dated 27 August 2010)	
	(d) the Wollar-Wellington 330kV Transmission Line without the approval of Transgrid; and	C	Blast MP - Section 4.4 MOP - Section 3.3.5 MCO has negotiated a blasting agreement with Transgrid dated 29 April 2010.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
16	(e) any privately-owned land or adjoining mine-owned land, unless suitable arrangements have been made with the landowner and any tenants to minimise the risk of flyrock-related impact to the property to the satisfaction of the Director-General.	C	Blast MP Section 4.1 and 4.2 detail blast management practices implemented during blast program. Implementation of blast management practices at Moolaraben were verified during site inspection when a blast in the mining area was undertaken. The blast was observed by the audit team in the company of members of the MCO Environmental and Mining departments. As explained by MCO Environmental department, an assessment of meteorological conditions is undertaken prior to the blast, to confirm that the blast is not likely to result in exceedances of the relevant blast criteria. Meteorological conditions are reviewed the day before the proposed blast as well as on the morning of the blast. A blast exclusion zone was also established prior to the blast, with the calculated blast exclusion zone identified on the Pre-Blast Environmental Assessment undertaken by Moolaraben.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Public Notice				
17	During mining operations, the Proponent shall: (a) notify the landowner/occupier of any residence within 2 kilometres of the open cut mining operations who registers an interest in being notified about the blasting schedule at the mine;	C	Blast MP Section 4.3 details the process for notifying landowners or occupiers of residence. The 2010 compliance audit identified that residents had been advised that blasting was to be undertaken at Moolarben. Stakeholders who wish to be notified are notified by email 48 hours and 24 hours prior to the scheduled blast. Additional notifications are undertaken when road closures are required, with blast notifications provided 3 days prior to the proposed blast. The proposed blasting schedule is also provided on the Moolarben Coal website.	
	(b) operate a Blasting Hotline, or alternate system agreed to by the Director-General, to enable the public to get up-to-date information on the blasting schedule at the project;	C	Blast MP Section 4.4 identifies that a 24 hour free-call Community Response Line (1800 556 484) has been established. The community response line number and the proposed blast times are also identified on the Moolarben Coal website.	
	(c) advertise the blasting hotline number in a local newspaper at least 4 times each year; and	C	Blast MP - Section 4.5 identifies that the blast number is advertised on the Moolarben website as well as the Moolarben Coal Community Newsletter. Newsletter dated February 2010 and December 2011 included notification. Evidence was also sighted that the hotline number is advertised in the local paper.	
	(d) publicise an updated blasting schedule on its website, to the satisfaction of the Director-General.	C	Blast MP Section 4.3.1 states that a blasting schedule is contained on the Moolarben coal website. Review of the website on 15 February 2013 identified that current information regarding proposed blasting dates is available on the website.	
Property Inspections				
	Prior to starting mining operations, the Proponent shall: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to prepare a report of the condition and structural integrity of:	C	Assessed as compliant during 2010 Compliance Audit. No further action required in regards to this condition since the previous audit.	
	- Ulan Public School;	C	Assessed as compliant during 2010 Compliance Audit. No further action required in regards to this condition since the previous audit.	
	- Ulan Catholic Church;	C	Assessed as compliant during 2010 Compliance Audit. No further action required in regards to this condition since the previous audit.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
18	- Ulan Anglican Church;	C	Assessed as compliant during 2010 Compliance Audit. No further action required in regards to this condition since the previous audit.	
	- the historic heritage items with moderate to exceptional heritage significance identified in Appendix 6; and	C	Assessed as compliant during 2010 Compliance Audit. No further action required in regards to this condition since the previous audit.	
	- any building or structure on privately owned land within 2 kilometres of open cuts 1, 2 or 3, and	C	Assessed as compliant during 2010 Compliance Audit. No further action required in regards to this condition since the previous audit.	
	(b) give the relevant land owner a copy of this report.	C	Assessed as compliant during 2010 Compliance Audit. No further action required in regards to this condition since the previous audit.	
	<i>Notes:</i> - The preparation of this report may be delayed with the agreement of the relevant land owner. - The Proponent is not required to prepare a report on any building or structure on privately owned land within 2 kilometres of open cuts 1, 2 or 3 if the relevant land owner does not want such a report to be prepared.	Noted		
Property Investigations				
19	If the landowner of privately owned land within 2 km of an open cut area claims that buildings and/or structures on his/her land have been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this claim:			
	(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to investigate the claim; and	C	Blast MP Section 4.3.2 details the process to be implemented in the event that a claim is received by Moolarben. Moolarben advised there have been no claims received in relation to this condition during the audit period.	
	(b) give the landowner a copy of the property investigation report.	C	Blast MP Section 4.3.2 details the process to be implemented in the event that a claim is received by Moolarben. Moolarben advised there have been no claims received in relation to this condition during the audit period.	
	If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damages to the satisfaction of the Director- General.	C	Blast MP Section 4.3.2 details the process to be implemented in the event that a claim is received by Moolarben. Moolarben advised there have been no claims received in relation to this condition during the audit period.	
	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.	C	Blast MP Section 4.3.2 details the process to be implemented in the event that a claim is received by Moolarben. Moolarben advised there have been no claims received in relation to this condition during the audit period.	
	If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 8).	C	Blast MP Section 4.3.2 details the process to be implemented in the event that a claim is received by Moolarben. Moolarben advised there have been no claims received in relation to this condition during the audit period.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments								
Blast Monitoring Program												
20	The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:											
	(a) be prepared in consultation with the DECCW;	C	Blast MP - Appendix 3 (letter dated 25/08/10)									
	(b) be submitted to the Director General for approval prior to carrying out any blasting on site; and	C	Blast MP - Appendix 3 (letter dated 01/09/09, 12/03/10)									
	(c) include a protocol for evaluating blasting impacts and demonstrating compliance with the blasting criteria in this approval.	C	Blast MP Section 5.0 and 8.0. Section 5 details the monitoring requirements related to blast management with Section 8.0 detailing the reporting requirements for blasts. Also reviewed AEMR's which detail blasting performance. Results of blast monitoring are also detailed in the monthly environmental monitoring report. Sighted the Moolarben Coal Monthly Environmental Monitoring Report December 2012 on the Moolarben Coal website.									
AIR QUALITY												
Impact Assessment Criteria												
21	The Proponent shall ensure that the dust emissions generated by the project do not cause additional exceedances of the air quality impact assessment criteria in Tables 7, 8, and 9 at any residence on privately owned land, or on more than 25 percent of any privately owned land (excluding the properties listed in Table 1).											
	<p>Table 7: Long term impact assessment criteria for particulate matter</p> <table border="1"> <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>	Pollutant	Averaging period	Criterion	Total suspended particulate (TSP) matter	Annual	90 µg/m ³	Particulate matter < 10 µm (PM10)	Annual	30 µg/m ³	C	<p>The air quality criteria to be met for the project are identified in the AQMP - Section 3.1. Monitoring data for all air quality monitoring sites was reviewed during the audit.</p> <p>Whilst it was noted that there had been individual exceedances of the dust gauge criteria from month to month, the average annual dust deposition rate is below the criteria specified. The review of data also identified that there had been no exceedances of the PM10 criteria at any unit during the audit period.</p>
	Pollutant	Averaging period	Criterion									
Total suspended particulate (TSP) matter	Annual	90 µg/m ³										
Particulate matter < 10 µm (PM10)	Annual	30 µg/m ³										
<p>Table 8: Short term impact assessment criteria for particulate matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM10)</td> <td>24 hour</td> <td>50 µg/m³</td> </tr> </tbody> </table>	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM10)	24 hour	50 µg/m ³						
Pollutant	Averaging period	Criterion										
Particulate matter < 10 µm (PM10)	24 hour	50 µg/m ³										
<p>Table 9: Long term impact assessment criteria for deposited dust</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td>2 g/m²/month</td> <td>4 g/m²/month</td> </tr> </tbody> </table> <p>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 Particulate Matter - Deposited Matter - Gravimetric Method.</p>	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		Specific TSP monitoring is not being undertaken. While the approval does not specifically require TSP monitoring to be undertaken, it has specified a criterion. Moolarben advised that compliance with the TSP criterion is assessed via the interpolation of PM10 monitoring results.		
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									

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																																
Land Acquisition Criteria																																				
22	<p>If the dust emissions generated by the project exceed the criteria in Tables 10, 11 and 12 at any residence on privately owned land, or on more than 25 percent of any privately owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 10-12 of schedule 4.</p> <p><i>Table 10: Long term land acquisition criteria for particulate matter</i></p> <table border="1"> <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 11: Short term land acquisition criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>Criterion</th> <th>Percentile¹</th> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>150 µg/m³</td> <td>99²</td> <td>Total³</td> </tr> <tr> <td>Particulate matter < 10 pm (PM₁₀)</td> <td>24 hour</td> <td>50 µg/m³</td> <td>98.6</td> <td>Increment⁴</td> </tr> </tbody> </table> <p><i>Notes:</i></p> <p>¹Based on the number of block 24 hour averages in an annual period. ²Excludes extraordinary events such as bush fires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with the DECCW. ³Background PM₁₀ concentrations due to all other sources plus the incremental increase in PM₁₀ concentrations due to the mine alone. ⁴Incremental increase in PM₁₀ concentrations due to the mine alone.</p> <p><i>Table 12: Long term land acquisition criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td>2g/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 Particulate Matter - Deposited Matter - Gravimetric Method.</i></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	Percentile ¹	Basis	Particulate matter < 10 µm (PM ₁₀)	24 hour	150 µg/m ³	99 ²	Total ³	Particulate matter < 10 pm (PM ₁₀)	24 hour	50 µg/m ³	98.6	Increment ⁴	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2g/m ² /month	4 g/m ² /month	C	The requirements for this are provided in AQMP - Section 3.2. To date no requests for acquisition as a result of this condition have been received by Moolarben.	
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																																		
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Deposited dust	Annual	2g/m ² /month	4 g/m ² /month																																	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Operating Conditions				
23	The Proponent shall: (a) regularly assess the real time air quality and meteorological monitoring data;	C	The requirements for air quality and meteorological monitoring are provided in Sections 4.0, 5.1 and 6.0 of the AQMP. Data from weather station WS03 is utilised in conjunction with the real-time air quality monitoring provided by the TEOM units to provide Moolarben with real-time data to enable decisions on mining operations to be undertaken in consideration of the prevailing conditions at the time.	
	(b) relocate, modify and/or stop mining operations in adverse meteorological conditions to minimise the short term air quality impacts of the project on privately-owned land, and in particular on properties 8, 22, 23, 26, 30, 31, 32, 41A, 49, 63, 64, 169, 170, 172 during open cut mining operations;	C	Section 5.2 of the AQMP identifies the processes and information that will be utilised to assess compliance with the impact assessment criteria, with a range of real time triggers developed to identify when changes to the mining operations may be required to be undertaken based on the results received within the real time dust monitoring system, (refer to Section 6.1 of the AQMP). The AQMP states that the real time triggers are required to be reviewed one year after the commencement of the mining operations; and this was noted to have been undertaken and included in Section 3.3.1 of the 2011-2012 AEMR.	
	(c) implement all reasonable and feasible measures to minimise the off-site odour and fume emissions generated by any spontaneous combustion on site, to the satisfaction of the Director-General.	C	Odour and fume associated with spontaneous combustion on the site was to be addressed as part of a spontaneous combustion management plan that had been yet to be developed (AQMP Section 4.3). Evidence was sighted during the audit to indicate that a spontaneous combustion management plan had been prepared (Document No. 10.9.1AA.PRO-V1 dated 5/4/2012). A review of AEMRs did not find any indication that spontaneous combustion had occurred at the site.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Monitoring				
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:			
	(a) be prepared in consultation with DECCW;	C	A copy of the draft plan was forwarded to DECCW and the response received is included in Appendix 2 of the AQMP.	
	(b) be submitted to the Director-General for approval prior to carrying out any construction on site; and	C	An AQMP was prepared for construction of the mine prior to construction activities commencing. The current approved AQMP represents a revised Plan to include the impacts and related controls associated with OC1 and the CHPP area. Approval was granted by the Director General for the revised plan on 12/3/10.	
	(c) include: - a combination of real-time monitors, high volume samplers and dust deposition gauges to monitor the air quality emissions of the project; and - an air quality monitoring protocol for evaluating compliance with the air quality impact assessment and land acquisition criteria in this approval	C	Details of the monitoring program to be implemented are included in Section 5 of the AQMP. The system includes three real time TEOM stations, two HVAS PM10 monitors and nine dust deposition gauges.	The monitoring system described in the AQMP was observed to be implemented on site. Data from the various monitoring stations was reviewed as part of the audit.
		C	Section 5.2 of the AQMP identifies the processes and information that will be utilised to assess compliance with the impact assessment criteria.	Monthly reports reviewed during the audit confirm that the process is implemented, however no exceedances of the air quality criteria were identified during the audit period.
Meteorological Monitoring				
25	The Proponent shall ensure the project has a suitable meteorological station in the vicinity of the site that complies with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales guideline.	C	MCO has three weather stations on site (WS01, WS02 and WS03) with all three measuring the parameters required by the EPL for the site in accordance with the approved methods. WS01 and WS03 are linked to the real-time monitoring system to provide real time weather data.	It was noted that in September 2010, Minespex undertook a review of the siting of all monitoring units against the guidelines contained in the relevant Australian Standards referenced by the EPA Approved Methods publication.

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
SUBSIDENCE				
Subsidence - Natural Features				
26	The Proponent shall: (a) ensure that the Drip, Goulburn River Gorge and bed of the Goulburn River (see Appendix 7) remain outside the zone of recorded subsidence damage for longwall mining in NSW;	NT	Underground mining has not yet commenced.	
	(b) minimise subsidence damage to Cliff Line 3 (see Appendix 7); and	NT		
	(c) reduce the likelihood of subsidence damage to: - Aboriginal sites 264, 282, 283, 286, 287 (see Appendix 7) to low; and	NT		
	- Aboriginal site 280 (see Appendix 7) to moderate.			
	<i>Note: The mine layout and design will be reviewed during the assessment of each subsidence management plan (see below), which will be informed by both the end-of panel reports (see condition 28 below) and each independent environmental audit (see condition 6 of Schedule 5). Consequently, the final mine plan may differ in minor respects from the mine plan shown in Appendix 7. However, the revised mine plan would need to comply with the performance criteria specified in this condition.</i>	Noted		
Subsidence Management Plan				
27	The Proponent shall prepare and implement a Subsidence Management Plan (SMP) for the project to the satisfaction of the Director-General of DII. This plan must:	NT	Underground mining has not yet commenced.	
	(a) be prepared in accordance with the latest version (or subsequent replacement) of the:	NT		
	- New Approval Process for Management of Coal Mining Subsidence - Policy; and	NT		
	- Guideline for Applications for Subsidence Management Approvals;	NT		
	(b) be approved prior to the carrying out any underground mining operations that could cause subsidence;	NT		
	(c) include a detailed program to monitor:			
	- the height of fracturing above the goaf of the longwall panels;	NT		
	- surface subsidence above the longwall panels, including all near and far field components of subsidence;	NT		
	- the impact of surface subsidence on surface features, including flora and fauna, threatened species, and any surface water quality and/or flows; and	NT		
- the effectiveness of any subsidence mitigation measures; and	NT			
(d) a program to validate the subsidence prediction methodology for the project, and calibrate it to sit specific conditions.	NT			
End-of-Panel Report				
28	Prior to completion of each longwall panel, the Proponent shall: (a) prepare an end-of-panel report analysing the subsidence, surface water, and groundwater impacts of the panel, and the cumulative impacts of this panel combined with any other longwall panels;	NT	Underground mining has not yet commenced.	
	(b) commission suitably qualified subsidence and groundwater experts whose appointment has been approved by the Director-General to review the end-of-panel report, and if necessary recommend changes to the monitoring programs and/or mine plan for subsequent panels; and	NT		
	(c) submit a copy of the end-of-panel report and expert review to the Department, DII and any other relevant agencies.	NT		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
WATER				
Water Supply				
29	The Proponent must ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of mining operations to match its water supply.	C	Water supply agreement with UCML for up to 1,000 ML/year; Water licenses for groundwater extraction.	Mining operations will be scaled back during dry periods. Water balance modelling for the life of the project indicates typically deficit conditions.
	<i>Note: The Proponent is required to obtain the necessary water licences for the project under the Water Act 1912 and/or Water Management Act 2000.</i>	Noted		
Surface Water Discharges				
30	The Proponent shall ensure that all surface water discharges from the site: (a) meet the relevant ANZECC water quality objectives for the protection of aquatic ecosystems and the water quality of existing receiving waters; and	C	No licensed discharges during reporting period. Emergency discharges from Sediment Dam 10 approved.	PIN for discharge of water from clean water dam above Open Cut 1. EPA approved discharges, turbid water observed downstream, apparently a result of re-entraining deposited material within downstream channel reaches.
	(b) comply with the discharge limits (both volume and quality) set for the project in any EPL.	NT		Current EPL for 0.8 ML/day from Dam 10 and Dam 7. Application to increase to 10 ML/day from Dam 10 only.
Groundwater Impacts and Baseflow Offsets				
31	The Proponent shall ensure that the project has negligible impact on groundwater supply to the landform feature known as "The Drip".	C	No impact to the Drip predicted from Stage 1 development. Baseline monitoring in the vicinity of the Drip has not indicated impacts to water levels to date.	Stage 1 development is remote from "The Drip"; monitoring infrastructure in place to provide baseline data in the vicinity of The Drip prior to progression of mining in this area.
31A	The Proponent shall offset the loss of any baseflow of the Goulburn River and/or associated creeks caused by the project to the satisfaction of the Director-General.	NT	No clear assessment of base flow to Goulburn River; however water levels in alluvial monitoring wells exhibited a rising water level trend and have been used as a proxy to indicate negligible risk of impact to base flow contribution.	Evidence is considered reasonable for current stage of development, but more robust base flow assessment methodology is recommended to comply with this condition in future stages of development.
	<i>Notes: - This condition does not apply if baseflow losses are negligible. - Offsets should be provided via the retirement of adequate water entitlements to account for the loss attributable to the project.</i>	NT	Not currently relevant - as above.	Condition has not been triggered on the basis of monitoring results to date.

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Compensatory Water Supply				
31B	The Proponent shall provide compensatory water supply to any landowner of privately-owned land whose water entitlements are impacted (other than an impact that is negligible) as a result of the project, in consultation with NOW and to the satisfaction of the Director-General.	NT	Water level data reported in AEMR (2011-2012) and quarterly monitoring updates available on the MCO website. Stable water levels across monitoring network during Stage 1 development suggests no impact to private water supply bores.	Condition has not been triggered on the basis of monitoring results to date.
	The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified.	NT	Not currently relevant - as above.	Condition has not been triggered on the basis of monitoring results to date.
	If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.	NT	Not currently relevant - as above.	Condition has not been triggered on the basis of monitoring results to date.
	If the Proponent is unable to provide an alternative long-term water supply, then the Proponent shall provide alternative compensation to the satisfaction of the Director-General.	NT	Not currently relevant - as above.	Condition has not been triggered on the basis of monitoring results to date.
Permeability of Water Storages				
32	The Proponent shall ensure that the tailings dam, mine infrastructure dams, groundwater storage and treatment dams, and the Ulan Seam sub-crop line of the most northerly final void are suitably lined to comply with a permeability standard of < 1 x 10-9 m/s.	C	Previous audit raised concerns regarding the permeability of Product Dam north wall. Evidence was sighted that geotechnical testing had been undertaken to confirm the permeabilities of the dam walls (report by Macquarie Geotech).	
Regional Water Supply/Monitoring Investigation				
33	Prior to the commencement of mining operations, unless the Director-General agrees otherwise, the Proponent shall carry out a Regional Water Supply/Monitoring Investigation to the satisfaction of the Director-General. This investigation must:	C	Regional Water Supply and Monitoring Investigation report (ref. S6F/600/027D, dated 5 November 2009), prepared by Aquaterra (the Report).	Report addresses the requirements of this condition. Specific comments provided below.
	(a) be conducted by suitably qualified and independent expert/s whose appointment has been approved by the Director-General;	C	Discussed in Section 1 of the Report.	Introduction of the Regional Water Supply and Monitoring Report indicates that Mr. Peter Dundon (formerly) of Aquaterra was approved by the Director-General to carry out the investigation. Official DG correspondence not sighted, but Mr. Dundon is highly qualified and experienced in this area and DG approval can be reasonably assumed. The Report indicates that it was reviewed by Peter Dundon.
	(b) be carried out in consultation with the DECCW, DII, NOW and owners of the Ulan and Wilpinjong coal mines;	C	Appendix E of the report provides evidence of consultation with DECCW, DII and NOW.	
	(c) assess the feasibility and potential environmental benefits of increased water sharing between the three mining operations in the region;	C	Discussed in Section 6 of the Report.	Principal recommendation is for surplus water at Ulan to be used to meet water demand at the other mines. Report indicates that the water demand will require regular review during the life of each mine such that the water balances for each are accounted for.
	(d) consider the potential for developing regional surface and ground water monitoring programs to: - rationalise the surface and ground water monitoring programs of the three mining operations in the region; and	C	Discussed in Section 3.4, and Appendices A to C of the Report.	Recommendations provided for optimisation of the mine-specific groundwater monitoring networks for specific locations between MCO and Ulan.

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
	- improve the monitoring of the individual and cumulative surface and ground water impacts of these mining operations; and	C	Discussed in Section 8 of the Report.	Recommended periodic recalibration of the regional groundwater model to facilitate ongoing cumulative impact assessment based on monitoring observations.
	(e) recommend measures to reduce the surface and ground water impacts of mining in the region, and any potential changes to existing licences and/or approvals that could facilitate the implementation of these measures.	C	Discussed in Section 8 of the Report.	Principal recommendation is for water sharing between the mine sites, such that surplus water at Ulan can be used to meet water demand at the other mines.
Water Management Plan				
34	The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:	C	Current approved WMP dated August 2010.	It is understood that the WMP has been revised and submitted to DP&I for approval.
	(a) be prepared in consultation with DECCW, DII and NOW by suitably qualified expert/s whose appointment/s have been approved by the Director-General;	C	Correspondence with government agencies included in Appendix 2 of the WMP.	
	(b) be submitted to the Director-General for approval prior to carrying out any construction on site; and	C	The current WMP addresses site water management for OC1 and the CHPP and represents an update to the original WMP prepared for construction of the mine.	
	(c) include:			
	- a Site Water Balance;	C	Included in Section 3 of the WMP	
	- an Erosion and Sediment Control Plan;	C	Included in Section 4 of the WMP	
	- a Surface Water Monitoring Plan;	C	Included in Section 5 of the WMP	
- a Groundwater Monitoring Plan; and	C	Included in Section 6 of the WMP		
- a Surface and Ground Water Response Plan.	C	Included in Section 7 of the WMP		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Site Water Balance				
35	The Site Water Balance must:			
	(a) include details of:	C	WMP §3	
	- sources and security of water supply;	C	WMP §3.1	
	- water use on site;	C	WMP §3.3	
	- water management on site;	C	WMP §3.2	
	- off-site water transfers;	C	WMP §3.4	
	- reporting procedures, and	C	WMP §3.7	
(b) investigate and describe measures to minimise water use by the project.	C	WMP §3.6		
Erosion and Sediment Control				
36	The Erosion and Sediment Control Plan must:			
	(a) be consistent with the requirements of the Managing Urban Stormwater: Soils and Construction Manual (Landcom 2004, or its latest version);	C	WMP §4	
	(b) identify activities that could cause soil erosion and generate sediment;	C	WMP §4.1.1	
	(c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;	C	WMP §4	
	(d) describe the location, function, and capacity of erosion and sediment control structures; and	C	WMP §4	
	(e) describe what measures would be implemented to maintain the structures over time.	C		
Surface Water Monitoring				
37	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 (including the Goulburn River, Bora Creek and Moolarben Creek);	C	WMP §5	
	(b) surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts; and	C	WMP §5	
	(c) a program to monitor:	C	WMP §5	
	- surface water flows, quality, and impacts on water users;	C	WMP §5.4.1	
	- stream health; and	C	WMP §5.4.3	
	- channel stability	C	WMP §5.4.2	
	in the Goulburn River, Bora Creek, and Moolarben Creek.	C		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Groundwater Monitoring				
	The Groundwater Monitoring Plan must include:		Groundwater Monitoring Plan (GWMP) included as Section 6 of the Water Management Plan (WMP) for the mine (Document ref. MCO_ENV_PLN_0028, version 2, dated 3 August 2010).	
	(a) detailed baseline data of groundwater levels, yield and quality in the region, and particularly any groundwater bores, springs and seeps (including spring and seep fed dams) that may be affected by mining operations on site;	C	Discussed in Section 6.2, with additional reference to Appendix 5 of the Stage 1 EA report.	Basic summary of groundwater census of private bores/seeps/springs provided in Section 6.2.2. Reference to Stage 1 and 2 EA for further details. Appendix 5 of Stage 1 EA report (groundwater impact assessment) provides more detailed discussion of census, but makes reference to a separate detailed report that was not available during the audit.
	(b) a program to augment the baseline data over the life of the project;	C	Discussed in Section 6.4.	Detailed groundwater monitoring program provided, including ongoing baseline monitoring in future development stage areas.
	(c) groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;	C	Discussed in Section 6.4.3.	Well-specific assessment criteria provided for water levels, pH and electrical conductivity values. No groundwater quality criteria specified in the EPL. GWMP indicates that exceedances of the assessment criteria will trigger investigation into the significance of the exceedance.

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
38	(d) a program to monitor: - groundwater inflows to the open cut and underground mining operations;	C	Discussed in Section 6.4.2.	Groundwater inflow to Open Cut 1 discussed, to be calculated based on difference between the calculated surface runoff in the Open Cut 1 catchment and the volume pumped out of the Open Cut 1. The Site Water Balance (Section 3, Figure 1, of the WMP) indicates in greater detail the inputs/storages and outputs considered in the balance calculation. MCO indicated that to date the calculated groundwater inflow to the pit has been negligible. Visual inspection of Open Cut 1 did not reveal obvious signs of groundwater seepage or ingress.
	- the impacts of the project on: the alluvial, Triassic, coal seam and interburden aquifers;	C	Monitoring program defined in Section 6.4.1, water level and quality assessment criteria defined in Section 6.4.3.	Reported monitoring results viewed in AEMR (2011-2012) and on MCO website.
	base flows to the Goulburn River and associated creeks;	NC	No methodology provided to assess base flow to Goulburn River and tributaries.	No methodology provided to assess base flow to Goulburn River and tributaries.
	any groundwater bores, springs and seeps (including spring and seep fed farm dams) on privately-owned land;	O	Discussed on Section 6.4.1.	Water level trigger values provided for private bores based on modelling predictions. No clear methodology provided to assess changes/impacts to springs/seeps/dams.
	any groundwater dependent ecosystems, such as the Drip, and riparian vegetation along the Goulburn River and associated creeks; and	C	Discussed on Section 6.4.3 (GDEs) and Section 5.4.3 (health of riparian vegetation)	No predicted impacts to The Drip from Stage 1 development, as such no specific impact monitoring program implemented. Baseline monitoring data between Open Cut 1 and the Drip did not indicate impacts to water levels. MCO staff indicated that installation of additional monitoring wells was being considered in the vicinity of the Drip. Riparian vegetation along the Goulburn River and associated creeks monitored through Stream Health Monitoring Program (no stream health monitoring results reviewed as part of the groundwater audit).
	- the seepage/leachate from any tailings dams, water storages or backfilled voids on site; and	O	Discussed in Section 6.4.4.	Seepage losses to be assessed through monthly water balance calculations on dams, and visual assessment for seepage from dams. External advice to be sought if seepage issues are suspected. No groundwater monitoring included as part of the seepage assessment, which limits the effectiveness of the methodology for identification of groundwater impacts.
	(e) a program to validate the groundwater model for the project, and calibrate it to site specific conditions.	O	Discussed in Section 6.5.6.	The indicated approach was annual validation and calibration of the flow model with reporting in AEMR. Groundwater is generally discussed in Section 3.7 of the AEMR (2011-2012). MCO staff indicated that the model was recalibrated during the preparation of the Stage 2 EA report. Details were not available during the audit.

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Surface and Ground Water Response Plan				
39	The Surface and Ground Water Response Plan must describe what measures and/or procedures would be implemented to: (a) respond to any exceedances of the surface water, stream health, and groundwater assessment criteria;	C	Discussed in Section 7.1.1	Process implementation observed during interview with MCO environmental staff with regard to review of routine groundwater monitoring data.
	(b) offset the loss of any base flow to the Goulburn River and/or associated creeks caused by the project;	O	Discussed in Section 7.1.2	Generic assessment/response framework includes detailed investigation to assess whether, and to what extent, MCO has contributed to any loss to surface water flows, and development and implementation of mitigation and management strategies if required. Stable/rising water levels in alluvium to date suggest negligible potential for baseflow impact from MCO operations to date. For the response protocol to be effective, however, a clear procedure for assessing potential base flow impacts to Goulburn River and tributaries needs to be developed.
	(c) compensate landowners of privately-owned land whose water supply is adversely affected by the project; and	C	Discussed in Section 7.1.2	Process of independent review of landowner complaint, and bore owner compensation (e.g. bore deepening, alternative water supply) if MCO is found to be responsible for loss. Considered to be an acceptable management approach for loss to private water supply bores. No evidence this has been triggered to date.
	(d) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.	O	Discussed in Section 7.1.4	Generic assessment/response framework in this section considered too generic to be an effective management measure for this Condition.

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
LANDSCAPE MANAGEMENT				
Rehabilitation				
40	The Proponent shall progressively rehabilitate the site to the satisfaction of the DII, in general accordance with the proposed rehabilitation and offset strategy shown in Appendix 8.	C	Progressive rehabilitation has been undertaken on site. MCO has already commenced final shaping of areas of OC1 that have been completed.	
Endangered Ecological Community Offset				
41	Within 12 months of this approval, the Proponent shall make suitable arrangements to: (a) transfer at least 135 hectares of the White Box Yellow Box Blakely's Red Gum Woodland endangered ecological community to the Minister for Climate Change, Environment and Water to offset, on a "like for like" basis, the 65 hectares that would be cleared by the project at an offset ratio of 2:1; and	NC	Viewed title certificate for land transfer showing land transfer registered on 28/09/08.	date of approval: 6 Sept 2007 Technically non-compliant however the transfer of lands was undertaken in a prompt manner and is considered to be generally in accordance with the consent although technically marginally (3 weeks) outside the prescribed 12 months from the date of the approval.
	(b) provide DECCW with funds (which at the discretion of DECCW may include an in-kind contribution) to cover any reasonable costs associated with the transfer and ongoing management of this land.	NC	Viewed letter from MCO to DECCW inc copy of cheque payable to DECCW dated 29/09/08	Technically non-compliant however the payment of funds was undertaken in a prompt manner and is considered to be generally in accordance with the consent although technically marginally (3 weeks) outside the prescribed 12 months from the date of the approval.
Vegetation Offsets				
42	By the end of August 2011, the Proponent shall review its Rehabilitation and Offset Management Plan to include suitable arrangements to:	C	LMP approved 03/08/10. Correspondence from government agencies approving revised LMP which includes ROMP, in August 2010	Existing LMP has been updated and is currently with DP&I pending approval. This assessment of compliance was conducted based on the currently approved management plan.
	(a) conserve at least 6 hectares of existing White Box Yellow Box Blakely's Red Gum Grassy Woodland endangered ecological community on Property 6 (Area 3 – Appendix 8);	C	Section 3.5.3 of the LMP and EcoLogical Figure Moolarben Offset Area 3 Specific Offset Areas (Stage 1 Approval)	Offset Sites and works have been grouped into priority areas. Proposed management actions and timing of works appear to be appropriate to conserve and enhance offset areas and regeneration works and monitoring of performance targets undertaken.
	(b) conserve and enhance at least 2.6 hectares of regenerating White Box Yellow Box Blakely's Red Gum Grassy Woodland endangered ecological community on Property 6 (Area 3 – Appendix 8);	C	Section 3.5.2 of the LMP and EcoLogical Figure Moolarben Offset Area 3 Specific Offset Areas (Stage 1 Approval)	Management actions and timeline include baseline survey, access control, weed/feral animal control, regular monitoring and reporting.
	(c) revegetate disturbed land with at least 48 hectares of White Box Yellow Box Blakely's Red Gum endangered ecological community on Properties 6, 10, 12, 13, 14 and 15 (Areas 1, 2 and 3 – Appendix 8);	C	Section 3.5.2 and 3.5.4 of the LMP and EcoLogical Figures <i>Moolarben Offset Area 1 Specific Offset Areas (Stage 1 Approval)</i> ; <i>Moolarben Offset Area 2 Specific Offset Areas (Stage 1 Approval)</i> ; <i>Moolarben Offset Area 3 Specific Offset Areas (Stage 1 Approval)</i>	Management actions and timeline include baseline survey, access control, weed/feral animal control, regular monitoring and reporting. Works in Area 1 verified during site inspection.
	(d) revegetate at least 153 hectares of cleared land on the Properties 12, 13, 14 and 15 (Area 1 – Appendix 8) with suitable native vegetation;	C	Section 3.5.5 of the LMP and EcoLogical Figure <i>Moolarben Offset Area 1 Specific Offset Areas (Stage 1 Approval)</i>	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
	(e) conserve and enhance at least 1,282 hectares of existing native vegetation on Properties 6, 10, 12, 13, 14 and 15 (Areas 1, 2 and 3 – Appendix 8); and	C	Section 3.5 and specifically 3.5.5 of the LMP and EcoLogical Figures <i>Moolarben Offset Area 1 Specific Offset Areas (Stage 1 Approval)</i> ; <i>Moolarben Offset Area 2 Specific Offset Areas (Stage 1 Approval)</i> ; <i>Moolarben Offset Area 3 Specific Offset Areas (Stage 1 Approval)</i>	
	(f) make suitable arrangements to protect and manage these offset areas in the long-term, to the satisfaction of the Director-General and DECCW.	C	Landscape Management Plan details management activities and timing for offset area, as approved by DPI and DECCW. Email evidence sighted regarding Conservation Agreement negotiations with OEH.	While Conservation Agreements for Offset Sites have not been finalised, negotiations with OEH are ongoing and it considered that this meets the 'suitable arrangements to protect' intent of the condition.
Landscaping - Environmental Bunds				
43	The Proponent shall progressively landscape the environmental bunds on site.	C	Environmental bunds inspected on site and found to be subject to rehabilitation efforts and monitoring	
Landscape Management Plan				
44	The Proponent shall prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of DII and Director-General. This Plan must:			
	(a) be prepared in consultation with DECCW and NOW by suitably qualified expert/s whose appointment/s have been approved by the Director-General;	O	LMP - Section 1.0 and Appendix 1 Whilst it was noted that the Plan had been prepared by a suitably qualified consultant, formal approval of the consultant was not obtained.	
	(b) be submitted to the Director-General for approval prior to starting mining operations on site; and:	C	LMP - Section 1.0 and Appendix 1	
	(c) include a:			
	- Rehabilitation and Offset Management Plan;	C	LMP - Section 3.0	
- Final Void Management Plan; and	C	LMP - Section 4.0		
- Mine Closure Plan.	C	LMP - Section 5.0		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Rehabilitation and Offset Management Plan				
	The Rehabilitation and Offset Management Plan must include: (a) the rehabilitation objectives for the site, vegetation offsets and landscaping;	C	Section 3.1 and 3.4 of the LMP	
	(b) a description of the short, medium, and long term measures that would be implemented to: - rehabilitate the site;	C		Rehabilitation of the site is in very early stages but appears well planned and executed
	- implement the vegetation offsets; and	C	Section 3.5 of the LMP	
	- landscape the environmental bunds;	C		Environmental bunds inspected on site and found to be subject to rehabilitation efforts and monitoring
	(c) performance and completion criteria for the rehabilitation of the site, implementation of the vegetation offsets, and landscaping of the environmental bunds;	C	Section 3.26 of the LMP	Detailed completion criteria described that for mine rehabilitation of Open Cut areas and offset areas. Criteria include consideration of vegetation characteristics, fauna species and weeds and feral animals. Environmental Bund was inspected and found to have high species diversity and cover and natural regeneration.
	(d) a detailed description of the measures that would be implemented over the next 3 years including the procedures to be implemented for: - progressively rehabilitating areas disturbed by mining;	C	Section 3.9 of the LMP	Rehabilitation of the site is in very early stages but appears well planned and executed
	- implementing vegetation offsets;	C	Section 3.9 of the LMP	Three offset sites identified, protected and managed.

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
45	- reducing the visual impacts of the project;	C	Section 3.9 of the LMP	
	- protecting areas outside the disturbance areas;	C	Section 3.3 and Section 3.12 of the LMP	Surface Water Management and Risk Assessment.
	- rehabilitating creeks and drainage lines on the site (including Moolarben Creek) to ensure no net loss of stream length and aquatic habitat;	C	Section 3.7 of the LMP	Monitoring of Bora Creek natural regeneration reviewed in the 2011 EcoLogical Flora and Fauna Monitoring Report.
	- undertaking pre-clearance surveys;	C	Section 3.10 of the LMP	Managed under a Ground Disturbance Permit Process that was reviewed during the audit.
	- managing impacts on fauna;	O	Section 3.11 of the LMP	Noted that clearing of mining areas had been delayed due to the identification of active grey-crowned babbler nests during pre-clearance surveys. Nest Boxes have not been installed as per the LMP.
	- landscaping the site to minimise visual impacts;	C	Section 3.9 of the LMP	Visual bund has been constructed and is subject to rehabilitation efforts and monitoring.
	- conserving and reusing topsoil;	C	Section 3.13 of the LMP	Evidence of topsoil management identified when reviewing on site rehabilitation methods and results.
	- collecting and propagating seed for rehabilitation works;	C	Section 3.15 of the LMP	Viewed letter from seed supplier/propagator stating species included in seed mix for rehabilitation area.
	- salvaging and reusing material from the site for habitat enhancement;	C	Section 3.18 of the LMP	Viewed reinstatement of stags and emplacement of logs etc to provide ground fauna habitat in rehabilitation areas.
	- controlling weeds and feral pests;	C	Sections 3.19 and 3.20 of the LMP	Reviewed weed monitoring reports and flora and fauna monitoring reports that detail weed and feral animal control recommendations.
	- controlling access;	C	Section 3.9 of the LMP	Access to offset areas controlled by 'pink key' system. The "Pink Key" is a dedicated environmental key and it's distribution is managed by the Environmental Department thus limiting access to offset areas.
	- bushfire management; and	C	Section 3.23 of the LMP	A Bushfire Management Plan has been prepared and MCO assesses fire risk as part of their operations.
	- managing any potential conflicts between the offsite offset areas and Aboriginal cultural heritage,	C	Section 3.24 of the LMP	
	(e) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria (see (c) above);	C	Section 3.25 of the LMP	Comprehensive annual biodiversity, weed, feral animal control monitoring undertaken.
(f) a description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and	C	Section 3.3 of the LMP	Risk assessment conducted and included in the LMP.	
(g) details of who would be responsible for monitoring, reviewing, and implementing the plan.	C	Section 8.0 of the LMP	Key tasks identified and responsibility and timing assigned to each task.	
	<i>Note: Reference to 'rehabilitation' in this approval includes all works associated with the rehabilitation and restoration of the site as described in the EA, and applies to all areas within the Mining Lease and Offsets Strategy.</i>	Noted		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Final Void Management				
46	The Final Void Management Plan must:			
	(a) justify the planned final location and future use of the final void/s;	C	LMP Section 4.1 and 4.3 details that two voids will be retained at mine closure, with the location and characteristics of the voids being dependent on the timing of mine closure and the extent of mining undertaken. It is proposed that final void options will be reviewed as mining progresses, with conceptual final voids being designed to be as small as possible.	
	(b) incorporate design criteria and specifications for the final void/s based on verified groundwater modelling predictions and a re-assessment of post-mining groundwater equilibration;	C	LMP Section 4.2 details that groundwater modelling was undertaken for the 2006 Environmental Assessment, with the results of the modelling conducted for each open cut pit to be verified against monitored data on an annual basis, with the results to be reported in the AEMR.	
	(c) assess the potential interactions between creeks on the site and the final void/s; and	C	LMP Section 4.3 details proposed water management strategies including diversion of clean water banks (sighted during site inspection), collection, treatment and storage of surface water runoff.	
	(d) describe what actions and measures would be implemented to:			
- minimise any potential adverse impacts associated with the final void; and	C	LMP Section 4.4.1.2 details a range of controls which have been identified to be implemented to minimise risk of impacts associated with the final void. These measures which include progressive rehabilitation and shaping of landforms consistent with existing topography were observed as being implemented during the site inspection.		
- manage and monitor the potential impacts of the final void until the mining lease for the project is relinquished.	C	LMP Section 4.4.2 details the controls to be developed to manage low walls, high walls and spontaneous combustion. Rehabilitation undertaken at Moolarben during the site inspection was noted as being completed in accordance with rehabilitation schedules presented in the Mining Operations Plan (MOP).		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Mine Closure				
47	The Mine Closure Plan must: (a) define the objectives and criteria for mine closure;	C	LMP Section 5.1 and 5.5 detail the mine closure objectives for the operation. Mine closure domains and activities for each respective domain are included in Section 5.4.	
	(b) investigate options for the future use of the site, including any final void/s;	C	LMP Section 5.7 a range of final land use options for the site. Moolarben are currently undertaking progressive rehabilitation of disturbed areas with a detailed mine closure MOP to be prepared 3 - 5 years prior to mine closure.	
	(c) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and	C	LMP Section 5.6 details a range of post closure activates which are proposed to be undertaken within each of the sites domains. A range of additional monitoring and measurement programs are to be implemented post closure.	
	(d) describe how the performance of these measures would be monitored over time.	C	LMP Section 5.6 details the range of existing monitoring programs which are utilised to monitor the ongoing performance of the operations. It is noted that additional monitoring measures / locations may need to be utilised depending on the nature of the mine closure works.	
Vegetation Offset Bond				
48	Within 3 months of the approval of the Landscape Management Plan, the Proponent shall lodge a bond with the Department to ensure that the vegetation offsets are implemented in accordance with the performance and completion criteria of the Landscape Management Plan. The sum of the bond shall be determined by calculating the full cost of implementing the vegetation offsets, and verified by suitably qualified quantity surveyor, to the satisfaction of the Director-General.	C	Viewed Quantity Surveyors Report from RPS dated 30 June 2010	
	<p><i>Notes:</i></p> <p><input type="checkbox"/> If the vegetation offset is completed to the satisfaction of the Director-General, the Director-General will release the conservation bond.</p> <p><input type="checkbox"/> If the vegetation offset is not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works.</p> <p><input type="checkbox"/> If amendments to the Mining Act 1992 allow the Minister for Mineral Resources to require rehabilitation securities under a Mining Lease which apply to the implementation of rehabilitation works outside the boundary of a Mining Lease, the Proponent may transfer the vegetation offset bond required under this approval to the Minister of Mineral Resources provided the Director-General and the DII agree to the transfer.</p>	Noted		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
HERITAGE				
Aboriginal Heritage Plan				
49	The Proponent shall prepare and implement an Aboriginal Heritage Plan for the project to the satisfaction of the Director-General. The plan must:			
	(a) be prepared in consultation with DECCW and the Aboriginal community;	C	AHMP - Section 1.3 and Appendix 1. Aboriginal Heritage Management Plan dated 31 August 2008.	It is recommended that the Aboriginal Heritage Management Plan is updated to include current information regarding the status of the salvage works as well as the storage of artefacts salvaged during this process.
	(b) be submitted to the Director-General for approval prior to carrying out any development on site; and	C	The 2010 Compliance Audit Report identified the plan has been approved by DP&I.	
	(c) include a: - program for the test excavations, intensive recording, salvage, and surface collection of the sites identified in Appendix 9, which includes a suitable lithic analysis of all material collected as part of the salvage operations;	C	AHMP - Section 1.4.2 & 2.5.3, Table 1, and Appendix 4. MCO advised during the audit salvage works as detailed within the Aboriginal Heritage Management Plan have been completed for OC1 works. A keeping place has been established to store Aboriginal artefacts salvaged from the site. The artefacts are held at the keeping place in accordance with Care and Control Permit 1131751 (sighted during the audit). Northern Borefield Salvaged 9 March 2011.	
	- program for the conservation of the site outside the surface disturbance area (see Appendix 9), including measures that would be implemented to secure, analyse and record the sites at risk of subsidence;	C	AHMP - Table 1, Section 2.2. No underground mining works have been undertaken at the site. For open cut mining the extent of the disturbance boundary for OC1 operations has been identified in the field, and was sighted during the audit. Aboriginal sites and conservation areas, were also observed during the audit to be fenced for their protection. MCO has also implemented a permit process which requires approval from the Environmental department prior to any clearing activities.	
	- program to further assess and document the Aboriginal heritage values of the area;	O	AHMP - Section 2.6	Whilst the program appears to have been developed, it has not yet been implemented.
	- description of the measures that would be implemented if any Aboriginal skeletal remains are discovered during the project; and	C	AHMP - Section 2.7 and Appendix 5	
- protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of the Aboriginal heritage on the site.	C	AHMP - Section 2.8		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Non-Aboriginal Heritage Plan				
50	The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:			
	(a) be prepared in consultation with the Council;	C	Non Aboriginal Heritage Management Plan Section Appendix 3 provides correspondence from Mid Western Regional Council approving the management plan.	
	(b) be submitted to the Director-General for approval prior to carrying out any development on site; and	C	Non Aboriginal Heritage Management Plan Section Appendix 3. A letter of approval for the plan was provided by DoP on 12 March 2010.	
	(c) include a: - program for the archival recording of the sites identified in Appendix 10, in accordance with the relevant NSW Heritage Office guidelines; and	C	Non Aboriginal Heritage Management Plan Section 3.0 details the archival recording program. 2010 Compliance audit identified that the archival recording had been completed and submitted to DoP 7 December 2009.	
	- description of the measures that would be implemented to conserve and/or maintain public access to the sites identified in Appendix 10.	C	Non Aboriginal Heritage Management Plan Section 3.1 details the management measures to be implemented for the sites in Appendix 10.	
TRANSPORT				
Road Works				
51	Prior to carrying out any construction on site, unless otherwise authorised by the Director-General, the Proponent shall:			
	(a) construct the new intersection between the Ulan-Cassilis Road (MR 214) and the proposed mine access road for the coal handling preparation plant and coal stockpile infrastructure areas; and	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
	(b) upgrade the existing intersection between the Ulan-Cassilis Road (MR 214) and Ulan-Wollar Road in conjunction with the owner of the Wilpinjong coal mine, to the satisfaction of the DTI.	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
52	Prior to carrying out any construction on site to the south of the Ulan-Wollar Road, the Proponent shall construct the new intersection between the Ulan-Wollar Road and the proposed mine access road for the open cut operations to the satisfaction of Council.	C	Completed intersection was in place during previous audit.	The construction works were undertaken by Council on behalf of MCO
53	Within 3 years of this approval, the Proponent shall construct the proposed diversion of the Ulan-Wollar Road to the satisfaction of Council.	C	Diversion of Ulan-Wollar Road was completed during previous audit.	
54	Prior to the commencement of mining operations in open cut 2, the Proponent shall divert Carrs Gap Road to the satisfaction of Council.	NT	Mining in open cut two had not commenced at the time of the audit.	
55	Prior to the commencement of mining operations in open cut 3, the Proponent shall divert Moolarben Road to the satisfaction of Council.	NT	Mining in open cut three had not commenced at the time of the audit.	
	<i>Note: These road works must be constructed in accordance with the relevant DTI or Austroads standards, and signposted and lit in accordance AS 1742 – Manual of Uniform Traffic Control Devices and AS/NZS 1158: 2005 – Lighting for Roads and Public Spaces.</i>	Noted		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Upgrade of Ulan Road (MR 208/214), Cope Road (MR 598) and Ulan-Wollar Road				
56	Within 6 months of this approval, the Proponent shall prepare a detailed program for the staged upgrade of Ulan Road, Cope Road and Ulan-Wollar Road to the satisfaction of the Director-General. This program must:			
	(a) be prepared by a suitably qualified expert/s whose appointment has been approved by the Director-General;	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
	(b) be prepared in consultation with the DTI, Council, and the owner of the Wilpinjong coal mine;	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
	(c) identify the road works that are required to improve the safety of these roads;	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
	(d) include a detailed program to progressively implement these works; and	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
	(e) allocate the available funding in any relevant VPA or statement of commitments to these works.	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
	<i>Note: The Proponent is only responsible for upgrading the Ulan-Wollar Road from the existing intersection between Ulan-Cassilis Road (MR 214) and Ulan-Wollar Road and the new intersection between the Ulan-Wollar Road and the proposed mine access road for the open cut mining operations (see Conditions 51(b) and 52 of Schedule 3).</i>	C	Assessed as compliant during 2010 compliance audit. No further works undertaken in regards to this condition for the current audit report period.	
57	Following the approval of this program, the Proponent shall implement the program in consultation with the DTI, Council, and owner of the Wilpinjong coal mine.	C	Moolarben advised that all works under this program are being undertaken by the Council works department.	
Traffic Management				
58	The Proponent shall:			
	(a) schedule the shift changes on site to occur outside the school bus hours; and	C	MCO's shift times are 7am to 7pm. Moolarben advised that shift times were designed to avoid shift changes during the school bus times of 8.15am to 9.00am and 3.15pm to 4.00pm.	
	(b) co-ordinate the shift changes on site with the shift changes of the adjoining Ulan and Wilpinjong coal mines to minimise the potential cumulative traffic impacts of the shift changes of the three mines;	V	This is currently being initiated by MCO and should be verified at the next audit.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Rail Transport - West				
59	The Proponent shall not transport any coal west of the site through Gulgong and Mudgee without the written approval of the Director-General. In seeking this approval, the Proponent shall submit a report to the Director-General that:	NT	MCO advised that no transport of coal had been undertaken through Gulgong and Mudgee.	
	(a) has been prepared in consultation with Council;	NT	MCO advised that no transport of coal had been undertaken through Gulgong and Mudgee.	
	(b) demonstrates that the railway line has been suitably upgraded to accommodate the proposed coal train traffic;	NT	MCO advised that no transport of coal had been undertaken through Gulgong and Mudgee.	
	(c) describes:	NT	MCO advised that no transport of coal had been undertaken through Gulgong and Mudgee.	
	- the expected tonnages, train size, number, and rail scheduling of the proposed coal train movements (both laden and unladen);	NT	MCO advised that no transport of coal had been undertaken through Gulgong and Mudgee.	
	- the measures that would be implemented to minimise, mitigate and/or manage the ongoing environmental effects of these coal train movements; and	NT	MCO advised that no transport of coal had been undertaken through Gulgong and Mudgee.	
	- how the performance of these measures would be monitored.	NT	MCO advised that no transport of coal had been undertaken through Gulgong and Mudgee.	
Monitoring of Coal Transport				
60	The Proponent shall monitor the:			
	(a) amount of coal transported from the site each year; and (b) date and time of each train movement generated by the project.	C C	As advised by MCO, the on site SAP system is utilised to record the volume of coal transported from the site each year. As above	
LIGHTING IMPACTS				
61	The Proponent shall:			
	(a) take all practicable measures to further mitigate off-site lighting impacts from the project; and (b) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.	C O	Moolarben Mining Operations Plan (2011) - Section 4.6 details that an environmental bund will be established adjacent to OC1 infrastructure areas and that low brightness floodlights will be used where possible, with lights to be orientated away from sensitive receivers. This was observed to be occurring during the site inspection. It was noted during the site inspection undertaken at MCO that lighting plants, when in use, are orientated away from residential receivers and roadways. Moolarben personnel advised that lighting was compliant with relevant Australian Standards, there was however no correspondence to confirm the satisfaction of the Director-General.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
GREENHOUSE GAS				
Energy Savings Action Plan				
62	The Proponent shall prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Director-General. This plan must:			
	(a) be prepared in consultation with NOW;	NC	An Energy Savings Action Plan (ESAP) was prepared and approved by DP&I (December 2008).	No evidence is available to confirm that the ESAP was prepared in consultation with NOW.
	(b) be prepared in accordance with the Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version);	C	ESAP Section 1.0 identifies that the ESAP was developed in accordance with the guidelines noted in this condition.	
	(c) be submitted to the Director-General for approval prior to carrying out any construction on site; and	C	The 2010 Compliance Audit Report stated that the ESAP was completed prior to the commencement of construction activities.	
	(d) include a program to monitor the effectiveness of measures to reduce energy use on site.	NC	ESAP Section 5 and in particular Table 2 provides a number of energy opportunities for consideration at Moolarben. It was noted during discussion with site personnel that implementation of the recommendations has not been effectively undertaken. It was also noted that the ESAP was required to be reviewed in December 2012, however this review has not been undertaken.	It is recommended that the ESAP be reviewed to identify actions associated with ongoing operations.
Gas Drainage				
63	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.	NT	Underground mining has not yet commenced at Moolarben.	
64	Prior to carrying out underground mining operations, the Proponent shall submit a Greenhouse Gas Minimisation Plan to the Director-General. This plan must:	NT	Underground mining has not yet commenced at Moolarben.	
	(a) identify options for minimising greenhouse gas emissions from underground mining operations, with a particular focus on capturing and/or using these emissions;	NT	Underground mining has not yet commenced at Moolarben.	
	(b) investigate the feasibility of implementing each option;	NT	Underground mining has not yet commenced at Moolarben.	
	(c) propose the measures that would be implemented in the short to medium term on site; and	NT	Underground mining has not yet commenced at Moolarben.	
	(d) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.	NT	Underground mining has not yet commenced at Moolarben.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
WASTE				
65	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must:			
	(a) be submitted to the Director-General for approval prior to commencing construction;	C	Letter of Approval for Waste Mgt Plan in Appendix 3 of Plan (dated 12/03/10).	
	(b) identify the various waste streams of the project;	C	Waste Management Plan - Section 4.1 to 4.13 and Appendix 2 identifies the waste streams at Moolarben.	
	(c) describe what measures would be implemented to reuse, recycle, or minimise the waste generated by the project; and	O	Waste Management Plan - Section 4.4, 4.6 & 4.7 2012 AEMR (Section 2.7) - details that 78.47% of waste is recycled, which complies with management plan target of >70%. Wastes were identified as being generally well managed during the waste audit with waste separation systems observed to be in place, with most bins checked during the audit containing the correct waste stream for that bin. An issue was identified in relation to waste separation and storage at the workshop. This issue had already been identified by the Moolarben environment team and actions were in place to procure additional waste signage and undertake a Toolbox Talk in relation to waste management with all maintenance workshop staff.	
	(d) include a program to monitor the effectiveness of these measures.	C	Waste Management Plan - Section 5.0.	
	<i>Note: This plan is not required to cover the disposal of tailings or the management of overburden.</i>	Noted		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
SCHEDULE 4 - ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT				
NOTIFICATION OF LANDOWNERS				
1	Within 1 month of this approval, the Proponent shall notify the landowners of the land listed in Table 1 in writing that they have the right to require the Proponent to acquire their land at any stage during the project.	C	Independent Environmental Compliance Audit conducted in 2010 by URS noted that landowners had been notified of their rights in accordance with this condition.	
2	If the results of monitoring required in Schedule 3 identify that the impacts generated by the project are greater than the relevant impact assessment criteria in Schedule 3, except where this is predicted in the EA, and except where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall notify the Director-General and the affected landowners and/or existing or future 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.	C	There have been no monitoring results or circumstances where this condition has been triggered since the commencement of operations.	
3	Prior to carrying out any construction on site, the Proponent shall: (a) prepare a brochure to advise landowners and tenants (including tenants of mine owned properties) of the possible health and amenity impacts associated with exposure to particulate matter, in consultation with NSW Health, and to the satisfaction of the Director-General;	C	Identified as compliant during 2010 Compliance Audit.	
	(b) provide a copy of the approved brochure to the landowners and tenants (including tenants of mine owned properties) of properties where the predictions in the EA identify that the dust emissions generated by the project are likely to be greater than the air quality land acquisition criteria in Schedule 3.	C	Identified as compliant during 2010 Compliance Audit. Moolarben advised that there had been no changes in tenants in the properties since the last audit.	
INDEPENDENT REVIEW				
4	If a landowner considers the project to be exceeding the impact assessment criteria in Schedule 3, except where this is predicted in the EA, 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	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 3 months of the Director-General advising that an independent review is warranted:	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(a) consult with the landowner to determine his/her concerns;	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(b) commission a suitably qualified, experienced and independent person whose appointment has been approved by the Director-General, to conduct monitoring on the land, determine whether the project is complying with the relevant impact assessment criteria in Schedule 3, identify the source(s) and scale of any impact on the land, and the project's contribution to this impact;	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(c) give the Director-General and landowner a copy of the independent review.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
5	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	MCO advised that there have been no requests from landowners in accordance with this condition.	
6	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:	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria; and	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(b) conduct further monitoring to determine whether these measures ensure compliance; or	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(c) secure a written agreement with the landowner to allow exceedances of the criteria in Schedule 3, to the satisfaction of the Director-General.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the additional monitoring referred to above subsequently determines that the project is complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the Proponent is unable to finalise an agreement with the landowner, then the Proponent or landowner may refer the matter to the Director-General for resolution.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 11).	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
If the measures referred to in (a) do not achieve compliance with the relevant land acquisition criteria in Schedule 3, and the Proponent cannot secure a written agreement with the landowner to allow these exceedances within 3 months, then, upon receiving a written request from the landowner, the Proponent shall acquire the landowner's land in accordance with the procedures in Conditions 10-12 below.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
7	If the independent review determines that the relevant criteria in Schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Proponent shall, together with the relevant mine/s:	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant criteria are complied with; and	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(b) conduct further monitoring to determine whether these measures ensure compliance; or	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	(c) secure a written agreement with the landowner and other relevant mines to allow exceedances of the criteria in Schedule 3, to the satisfaction of the Director-General.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the additional monitoring referred to above subsequently determines that the project is complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the Proponent is unable to finalise an agreement with the landowner and/or other mine/s, then the Proponent or landowner may refer the matter to the Director-General for resolution.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 11).	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the measures referred to in (a) do not achieve compliance with the relevant land acquisition criteria in Schedule 3, and the Proponent together with the relevant mine/s cannot secure a written agreement with the landowner to allow these exceedances within 3 months, then, upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land on as equitable basis as possible with the relevant mine/s, in accordance with the procedures in Conditions 10-12 below.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
8	If the landowner disputes the results of the independent review, either the Proponent or the landowner may refer the matter to the Director-General for resolution.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
	If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	
9	If, following the Independent Dispute Resolution Process, the Director-General decides that the Proponent shall acquire all or part of the landowner's land, then the Proponent shall acquire this land in accordance with the procedures in conditions 10-12 below.	NT	MCO advised that there have been no requests from landowners in accordance with this condition.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
LAND ACQUISITION				
10	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:			
	(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:	C	Moolarben Coal Operations have received written request from Williamson (Residence 20) for acquisition on 13 September 2010 (sighted letter). Moolarben met with Williamson with an offer to purchase the residence provided by Moolarben to Williamson on 25 November 2010. Moolarben acquired the Williamson residence in February 2011.	
	existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and	C	See notes above	
	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 Condition 8 of Schedule 3;	C	See notes above	
	(b) the reasonable costs associated with:			
	relocating within the Mid Western Regional Council local government area, or to any other local government area determined by the Director-General;	C	Negotiations between Mr Williamson and Moolarben resulted in agreement of price for property and associated costs for relocation etc.	
	obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and	C		
	(c) reasonable compensation for any disturbance caused by the land acquisition process.	C		
	However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution (see Appendix 8).	NT	Negotiation was successful and property acquired without need for resolution process.	
	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 or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired.	Noted		
Within 14 days of receiving the independent valuer's determination, the Proponent shall make a written offer to purchase the land at a price not less than the independent valuer's determination.	Noted			
If the landowner refuses to accept this offer within 6 months of the date of the Proponent's offer, the Proponent's obligations to acquire the land shall cease, unless otherwise agreed by the Director-General.	Noted			
11	The Proponent shall bear the costs of any valuation or survey assessment requested by the independent valuer, or the Director-General and the costs of determination referred above.	C	Moolarben personnel confirmed that Moolarben provided payment for the independent valuation.	
12	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		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments	
SCHEDULE 5 - ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING					
ENVIRONMENTAL MANAGEMENT STRATEGY					
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 carrying out any development on site, and:	O	Moolarben Coal Mines Environmental Management Strategy Version 2 dated 8/12/2008 is the currently approved strategy.	It is understood that the EMS has been updated by MCO and the revised strategy has addressed the issues raised by the auditor as outlined in the following sections. The revised strategy has been submitted to DP&I for approval but no approval had been received at the time of the audit. MCO was noted to be operating in accordance with the revised strategy.	
	(a) provide the strategic context for environmental management of the project;	O	The EMS includes a brief description of the operations, however given that it was prepared for the construction activities, this section may not reflect the operations that currently exist in relation to OC1 and the CHPP.		
	(b) identify the statutory requirements that apply to the project;	O	Section 3 of the EMS document outlines the statutory requirements that apply to the project, including the specific requirements of the Project Approval. This section identifies what additional approvals are required by the operations and what approvals, licences etc have already been obtained.	It is suggested that this section of the EMS needs to be regularly updated to reflect any changes in legislation. For example, the EMS refers to the Occupational Health and Safety Act which has now been superseded by the Workplace Health and Safety Act.	
	(c) describe in general how the environmental performance of the project would be monitored and managed;	O	The EMS generally describes how the environmental performance of the operations will be managed and monitored and references the specific management plans prepared for key issues. The compliance management and reporting regime has been detailed in Section 10 of the EMS and includes workplace inspections, audits and environmental monitoring.	Moolarben has implemented a reasonably comprehensive environmental inspection system for its own operations. The EMS identifies that that contractors will be required to submit an environmental control plan or environmental management plan for MCO approval prior to commencement of work. However, no evidence was sighted during the audit to indicate that MCO had obtained an EMP or similar from the Downer Mining Services contractor. It was also noted that the inspection program undertaken by MCO environment team staff does not routinely include contractor facilities. This issue is further discussed in the report.	
	(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;	C	Stakeholder consultation including government agency consultation is outlined in Section 7.3 of the EMS.	Moolarben has generally implemented the measures outlined in the EMS. A CCC has been established, the website provides an array of environmental information, newsletters have been distributed and government agencies are engaged as required.	
- receive, handle, respond to, and record complaints;	C	The complaints handling procedure is outlined in Section 9.1 of the EMS.	The system for receiving, recording and actioning complaints was reviewed during the audit. Generally, the system is well implemented, however during agency consultation, issues have been raised by EPA in relation to the handling of complaints. This issue is discussed further in the report.		

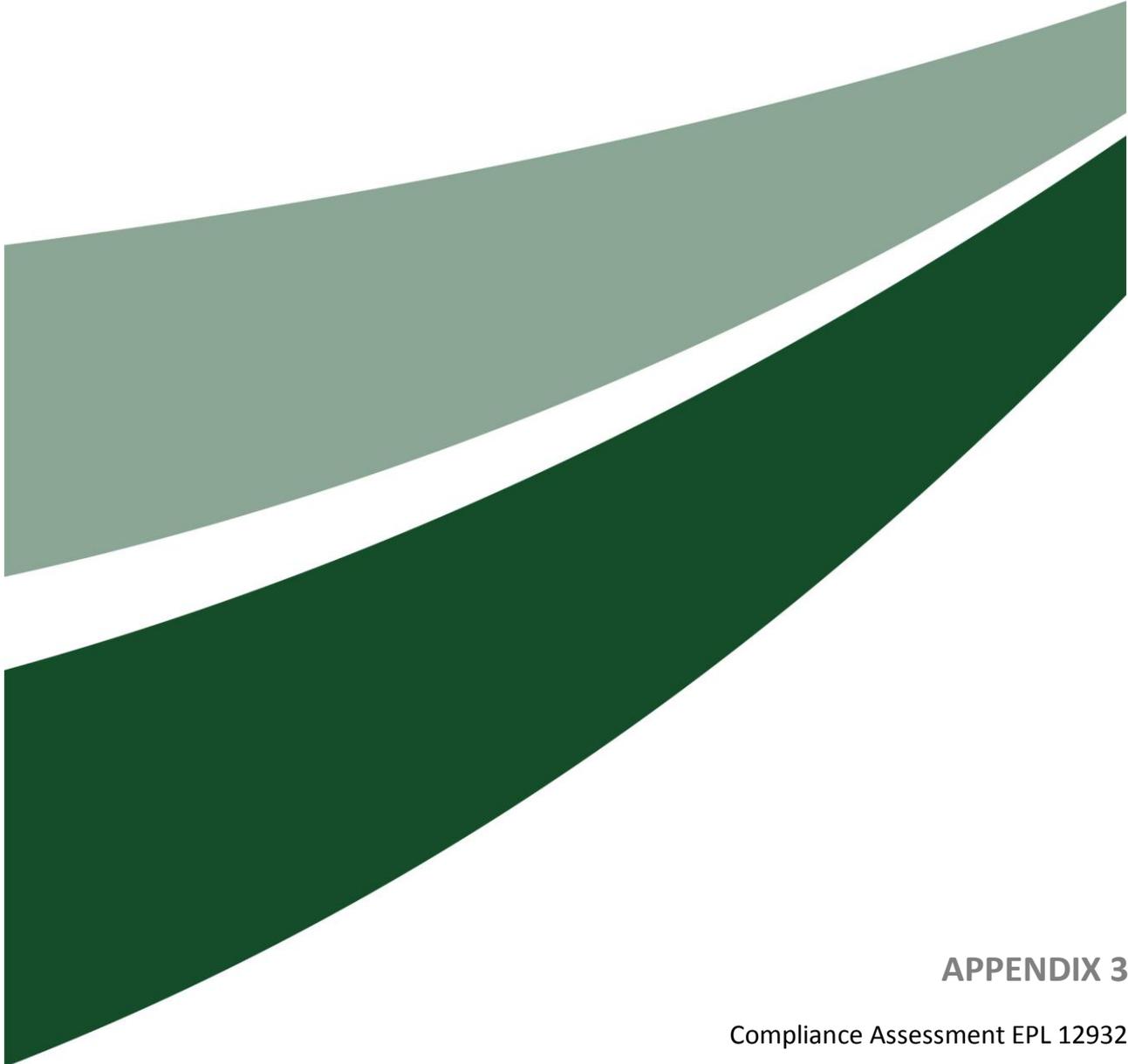
Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
	- resolve any disputes that may arise during the course of the project;	O	The EMS does not specifically address the processes for dispute resolution other than in the handling of complaints. It was noted that the Plan includes a copy of the Project Approval which does include a dispute resolution process in Appendix 11.	During discussions with site staff, it was identified that Moolarben does have some issues with landowners in relation to ongoing complaints. As a result of these issues, Moolarben is currently developing procedures in consultation with the EPA to provide further guidance to staff on dealing with complaints. These processes should be included in the next review of the EMS.
	- respond to any non-compliance;	C	The procedures for dealing with non-compliances, including identification of non compliances, are described in Section 9.3 of the EMS.	
	- manage cumulative impacts; and	C	Strategies to manage cumulative impacts are detailed in Section 4.13 of the EMS.	Interviews with MCO staff during the audit site inspection identified that Moolarben has a water sharing agreement with Ulan, and has co-ordinated blasting times and shift changes so as to stagger the times to manage cumulative impacts.
	- respond to emergencies; and	C	As part of it requirements under the POEO Act, Moolarben has prepared a Pollution Incident Response Management Plan which outlines the emergency response for a range of environmental incidents.	
	(e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the project.	O	Management roles and responsibilities are detailed in Section 6 of the EMS. Given that this version of the Plan was prepared for the construction phase of the project, it needs to be updated to reflect the management roles and responsibilities associated with operations.	Despite the plan needing to be updated, interviews with site staff during the site inspection identified that staff generally have a good understanding of their roles and responsibilities in relation to environmental management. For example, the Production Supervisor was aware of the noise and air criteria for the operations and was familiar with the required environmental controls and reporting processes.
ENVIRONMENTAL MONITORING PROGRAM				
2	The Proponent shall prepare and implement an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must consolidate the various monitoring requirements of this approval into a single document, and be submitted to the Director-General with the submission of the relevant monitoring programs.	C	Moolarben Coal Environmental Monitoring Program dated 3/8/10. A review of the monitoring program document identified that it provides a consolidation of the monitoring requirements outlined in the project approval and EPL and other monitoring required under the various management plans prepared for the operations. The document includes maps of monitoring locations and provides a summary of monitoring parameters and frequency of monitoring for each monitoring location.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
REPORTING				
Incident Reporting				
3	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) harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.	C	Notifications to Environment Line and DP&I have been made by Moolarben. For example, notification of discharge from sediment basin 4 was made to the Environment Line at 5.27pm on 30/9/11. This was followed up with emails to EPA and DP&I on the same date.	
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:	NC	For the sample notification reviewed during the audit, a report was noted to be provided on 11/10/11. Whilst the written report was submitted, it was submitted 11 days after the incident which is outside of the 6 day period specified.	
	(a) describes the date, time, and nature of the exceedance/incident;	C	The reports reviewed during the audit were noted to include the information required.	
	(b) identifies the cause (or likely cause) of the exceedance/incident;	C		
	(c) describes what action has been taken to date; and	C		
(d) describes the proposed measures to address the exceedance/incident.	C			
Annual Reporting				
5	Within 12 months of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General and relevant agencies. This report must:		AEMRs for Moolarben available on the MCO website. 2009 - 2010 AEMR - dated 31 October 2010. 2010 - 2011 AEMR - undated 2011 -2012 AEMR - undated	
	(a) identify the standards and performance measures that apply to the project;	C	AEMRs - Section 3.0 identify the monitoring standards and performance related to MCO. The standards and performance measures applicable to the operations are detailed in this section of the AEMR.	
	(b) describe the works carried out in the last 12 months;	C	AEMR - Section 2.0 and 5.0 detail the performance of the site during the report period and the rehabilitation works undertaken at the site during the report period.	
	(c) describe the works that will be carried out in the next 12 months;	C	AEMR - Section 6.0	
	(d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;	C	AEMR - Section 4.1 and Appendix 5	
	(e) include a summary of the monitoring results for the project during the past year;	C	AEMR - Section 3.0 includes a summary of the monitoring results during the report period.	It is noted that the inclusion of the raw monitoring data within the main section of the AEMR results in the AEMR being difficult to review. The readability and functionality of the AEMR may be improved through the inclusion of a compliance summary in the main text of the document, with detailed raw data to be included within an appendix of the document where it can be accessed as required.
(f) include an analysis of these monitoring results against the relevant: - impact assessment criteria/limits; - monitoring results from previous years; and - predictions in the EA;	C	AEMR - Section 3.0		

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
	(e) identify any trends in the monitoring results over the life of the project;	C	AEMR - Section 3.0	Where applicable, trends have been identified. However, monitoring graphs within the AEMR may be modified to show trends since monitoring began (i.e. groundwater monitoring).
	(f) identify any non-compliance during the previous year; and	C	AEMR - Section 3.0	
	(g) describe what actions were, or are being, taken to ensure compliance.	C	AEMR - Section 2.0 and 3.0	
INDEPENDENT ENVIRONMENTAL AUDIT				
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:	O	The first independent environmental compliance audit was undertaken by URS in 2009/2010. This current audit was due to be commissioned by September 2012, however Umwelt were not commissioned until November 2012. It is understood that MCO encountered issues in the approval of auditors through DP&I and also contract negotiations with consultants.	
	(a) be conducted by a suitably qualified, experienced, and independent team of experts whose appointment has been endorsed by the Director-General;	C	The previous audit was undertaken by URS with a team approved by the Director-General.	For the current audit, the auditors and technical specialists were approved by Director-General by email.
	(b) include consultation with the relevant agencies;	C	Consultation was undertaken for the previous audit with the audit report including a commentary on the issues raised by government agencies and the findings of the audit in relation to those issues.	For the current audit, consultation has been undertaken with relevant government agencies (DRE, NOW, DP&I, EPA and Council) and details of the consultation are included in the audit report.
	(c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant mining lease and environment protection licence (including any strategy, plan or program under these approvals);	C		
	(d) review the adequacy of strategies, plans and/or programs required under these approvals; and, if necessary; and	C		
	(e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals, including changes to the mine plan.	C		
	<i>Note:</i> - Notwithstanding the timing referred to above, audits must be carried out prior to the completion of longwall panels 4 and 8. The Proponent must liaise with the Department to determine the precise date of these audits. - This audit team should be led by a suitably qualified auditor, and include experts in the field of subsidence, surface water and groundwater management, noise, ecology and mine rehabilitation.	Noted		
7	Within 6 weeks of completing this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General with a response to any recommendations contained in the audit report.	NT	This will be undertaken by MCO upon completion of the audit.	
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	This will be undertaken by MCO upon completion of the audit.	

Condition	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
COMMUNITY CONSULTATIVE COMMITTEE				
9	The Proponent shall establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General, in general accordance with the Guideline for Establishing and Operating Community Consultative Committees for Mining Projects. This committee must be established within 3 months of this approval.	C	A community consultative committee has been established for the mining operations at Moolarben. Minutes of recent meetings were reviewed during the audit to identify the type of issues being raised and how those issues are being addressed. Meetings are typically held every two months with the most recent meeting being held in December 2012.	Minutes of CCC meetings are available on the Moolarben website.
ACCESS TO INFORMATION				
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:			
	(a) provide a copy of the relevant document/s to the relevant agencies and CCC; and	C	CCC minutes indicate that copies of management plans are provided to CCC members as required.	
	(b) put a copy of the document/s on its website.	C	Copies of approved management plans, AEMRs and previous audit reports are available on the Moolarben website.	
11	During the project, the Proponent shall:			
	(a) make a summary of monitoring results required under this approval publicly available on its website; and	C	Monitoring results have been summarised in monthly environmental monitoring reports which are available on the website.	
	(b) update these results on a regular basis (at least every 3 months).	C	Monthly environmental monitoring reports and real-time noise monitoring reports are uploaded to the website on a regular basis.	

Compliance	238
Non-compliance	11
Observation	21
Verification	1
Not Triggered	72



APPENDIX 3

Compliance Assessment EPL 12932

Environment Protection Licence No. 12932

Anniversary Date: 18 August

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments									
1 Administrative conditions													
A1 What the licence authorises and regulates													
A1.1	<p>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.</p> <p>Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.</p> <table border="1"> <thead> <tr> <th>Scheduled Activity</th> <th>Fee Based Activity</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Coal Works</td> <td>Coal works</td> <td>> 5000000 T handled</td> </tr> <tr> <td>Mining for Coal</td> <td>Mining for coal</td> <td>> 5000000 T produced</td> </tr> </tbody> </table>	Scheduled Activity	Fee Based Activity	Scale	Coal Works	Coal works	> 5000000 T handled	Mining for Coal	Mining for coal	> 5000000 T produced	C	During the audit, activities observed to be undertaken on site did not include any other scheduled activities other than those nominated in this condition.	
Scheduled Activity	Fee Based Activity	Scale											
Coal Works	Coal works	> 5000000 T handled											
Mining for Coal	Mining for coal	> 5000000 T produced											
A2 Premises or plant to which this licence applies													
A2.1	<p>The licence applies to the following premises:</p> <table border="1"> <thead> <tr> <th>Premises Details</th> </tr> </thead> <tbody> <tr> <td>MOOLARBEN COAL MINE</td> </tr> <tr> <td>4250 ULAN ROAD</td> </tr> <tr> <td>ULAN</td> </tr> <tr> <td>NSW 2850</td> </tr> <tr> <td>APPROVED AREA UNDER PROJECT APPROVAL 05_0117 AS INDICATED IN ATTACHMENT 2 LICENCE VARIATION APPLICATION RECEIVED BY THE EPA ON 21 FEBRUARY 2011</td> </tr> </tbody> </table>	Premises Details	MOOLARBEN COAL MINE	4250 ULAN ROAD	ULAN	NSW 2850	APPROVED AREA UNDER PROJECT APPROVAL 05_0117 AS INDICATED IN ATTACHMENT 2 LICENCE VARIATION APPLICATION RECEIVED BY THE EPA ON 21 FEBRUARY 2011	C	Cadastral boundaries overlaid on aerial photos indicates that mining operations are being undertaken within the approved area.				
Premises Details													
MOOLARBEN COAL MINE													
4250 ULAN ROAD													
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NSW 2850													
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A3 Information supplied to the EPA													
A3.1	<p>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to:</p> <p>a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and</p> <p>b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</p>	C	During the site inspection, works were generally observed to be undertaken in accordance with the information provided to support the issue of the licence. Moolarben are currently applying for a licence variation with respect to the management of water on site and draft conditions of licence have been received.										

Environment Protection Licence No. 12932

Anniversary Date: 18 August

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																																																												
2 Discharges to Air and Water and Applications to Land																																																																
P1 Location of monitoring/discharge points and areas																																																																
P1.1	<p>The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</p> <table border="1"> <thead> <tr> <th colspan="4"><i>Air</i></th> </tr> <tr> <th>EPA identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>Dust deposition monitoring</td> <td>Dust deposition monitoring</td> <td>Dust deposition gauge DG01 as indicated on Attachment 3 (Project Area with General Location of Discharge and Monitoring Points) licence variation application received by the EPA 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Monitoring results reviewed during the audit identified that monitoring is undertaken at the designated locations.	
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Anniversary Date: 18 August

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																																								
P1.2	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	Noted																																										
P1.3	<p>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</p> <table border="1"> <thead> <tr> <th colspan="4"><i>Water and land</i></th> </tr> <tr> <th>EPA Identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Discharge to waters. Discharge water quality monitoring.</td> <td>Discharge to waters. Discharge water quality monitoring.</td> <td>Discharge to Bora Creek from the CHPP Clean Water Dam. Discharge point LDP01 as indicated on Attachment 3 (Project Area with the General Location of Discharge and Monitoring Points) licence variation application received by the EPA on 21/2/11</td> </tr> <tr> <td>2</td> <td>Discharge to waters. Discharge water quality monitoring.</td> <td>Discharge to waters. 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3 Limit Conditions																																												
L1 Pollution of waters																																												
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	C	Although incidents involving water discharges have been reported to the EPA during the audit period, none resulted in pollution of waters as further investigations undertaken at the time of each incident confirmed that water had not discharged off site.	Moolarben has had unlicensed discharges in the past, however observations on site and discussions with staff indicate that water management on site has been improved during the audit period. Further upgrades to water management systems are also proposed.																																								

Environment Protection Licence No. 12932

Anniversary Date: 18 August

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L2 Concentration limits																																																																																								
L2.1	For each monitoring/discharge point or utilisation area specified in the table's below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	See below																																																																																						
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Noted																																																																																						
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table's.	Noted																																																																																						
L2.4	<p>Air Concentration Limits</p> <p>POINT 6,7,8,9,10,11,12,13,14</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>100 percentile concentration limit</th> <th>Reference conditions</th> <th>Oxygen correction</th> <th>Averaging period</th> </tr> </thead> <tbody> <tr> <td>Particulates - Deposited Matter</td> <td>grams per square metre per month</td> <td>4.0</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period	Particulates - Deposited Matter	grams per square metre per month	4.0				C		Whilst there has been individual exceedances of the dust gauge criteria from month to month, the average annual dust deposition rate is below the criteria.																																																																								
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L2.5	<p>Water and/or Land Concentration Limits</p> <p>POINT 1,2</p> <table border="1"> <thead> <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>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>800</td> <td></td> <td></td> <td>900</td> </tr> <tr> <td>Iron</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>5</td> </tr> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5-8.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>50</td> </tr> <tr> <td>Zinc</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>5</td> </tr> </tbody> </table> <p>POINT 22</p> <table border="1"> <thead> <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>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>800</td> <td></td> <td></td> <td>900</td> </tr> <tr> <td>Iron</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>5</td> </tr> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5-8.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>50</td> </tr> <tr> <td>Zinc</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>5</td> </tr> </tbody> </table>	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Conductivity	microsiemens per centimetre	800			900	Iron	milligrams per litre				5	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Total suspended solids	milligrams per litre				50	Zinc	milligrams per litre				5	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Conductivity	microsiemens per centimetre	800			900	Iron	milligrams per litre				5	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Total suspended solids	milligrams per litre				50	Zinc	milligrams per litre				5	NT		No licensed discharges were undertaken during the audit period, therefore monitoring was not required to be undertaken at these points and consequently there were no results to review.
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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																					
L3 Volume and mass limits																									
L3.1	For each discharge point or utilisation area specified below (by a point number), the volume/mass of:	C	No discharges were undertaken at points 1, 2 and 22 during the audit period, hence the volume limits for those points will not be applicable.																						
	a) liquids discharged to water; or; b) solids or liquids applied to the area; must not exceed the volume/mass limit specified for that discharge point or area.																								
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L4 Waste																									
L4.1	The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.	C	No wastes were observed to be received on site during the site inspection. Waste management systems were reviewed during the audit and the site inspection, with wastes generally observed to be well managed.																						
	Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.	C	No additional wastes have been received at the mine.																						
	Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.	C	Moolarben advised that they do not receive waste tyres from outside of their own operations. Tyres from the MCO site are buried in pit in accordance with the requirements of the EPL.																						
	This condition does not limit any other conditions in this licence.	Noted																							
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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																																																																	
L5 Noise limits																																																																					
L5.1	<p>Noise generated from the premises must not exceed the noise limits in the table below. The locations referred to in the table below are indicated on Project Approval 05_0117 Moolarben Coal Mine Appendix 5 - Property Numbers.</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day</th> <th>Evening</th> <th>Night</th> <th>Night</th> </tr> <tr> <td></td> <td>LAeq (15 min) dBA</td> <td>LAeq (15 minute) dBA</td> <td>LAeq (15 minute) dBA</td> <td>LA1 (1 minute) dBA</td> </tr> </thead> <tbody> <tr> <td>41A P Libertis Lot 7 DP47521 3466 Ulan Road Cooks Gap</td> <td>38</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>63 B & B Whiticker Lot 6 DP47521 1045 Ridge Road Cooks Gap</td> <td>38</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>64 Goninan & Boland Lot 58 DP251083 1025 Ridge Road Cooks Gap</td> <td>38</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>170 Montgomery Lot 60 DP251603 918 Ridge Road Cooks Gap</td> <td>38</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>171 J McGregor Lot 49 DP 250888 193 Ridge Road Cooks Gap</td> <td>38</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>172 A & T Kimber Lot 62 DP 251903 1008 Ridge Road Cooks Gap</td> <td>38</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>All other privately owned land (outside the village of Ulan)</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> <tr> <td>Ulan primary school</td> <td>35 (internal) when in use and under all weather conditions</td> <td>35 (internal) when in use and under all weather conditions</td> <td>35 (internal) when in use and under all weather conditions</td> <td>35 (internal) when in use and under all weather conditions</td> </tr> <tr> <td>Ulan Anglican and Catholic Churches</td> <td>35 (internal) when in use and under all weather conditions</td> <td>35 (internal) when in use and under all weather conditions</td> <td>35 (internal) when in use and under all weather conditions</td> <td>35 (internal) when in use and under all weather conditions</td> </tr> <tr> <td>Goulburn River National Park</td> <td>50</td> <td>50</td> <td>50</td> <td></td> </tr> <tr> <td>Munghorn Gap Nature Reserve</td> <td>50</td> <td>50</td> <td>50</td> <td></td> </tr> </tbody> </table>	Location	Day	Evening	Night	Night		LAeq (15 min) dBA	LAeq (15 minute) dBA	LAeq (15 minute) dBA	LA1 (1 minute) dBA	41A P Libertis Lot 7 DP47521 3466 Ulan Road Cooks Gap	38	38	37	45	63 B & B Whiticker Lot 6 DP47521 1045 Ridge Road Cooks Gap	38	38	37	45	64 Goninan & Boland Lot 58 DP251083 1025 Ridge Road Cooks Gap	38	38	37	45	170 Montgomery Lot 60 DP251603 918 Ridge Road Cooks Gap	38	38	37	45	171 J McGregor Lot 49 DP 250888 193 Ridge Road Cooks Gap	38	38	37	45	172 A & T Kimber Lot 62 DP 251903 1008 Ridge Road Cooks Gap	38	38	37	45	All other privately owned land (outside the village of Ulan)	35	35	35	45	Ulan primary school	35 (internal) when in use and under all weather conditions	35 (internal) when in use and under all weather conditions	35 (internal) when in use and under all weather conditions	35 (internal) when in use and under all weather conditions	Ulan Anglican and Catholic Churches	35 (internal) when in use and under all weather conditions	35 (internal) when in use and under all weather conditions	35 (internal) when in use and under all weather conditions	35 (internal) when in use and under all weather conditions	Goulburn River National Park	50	50	50		Munghorn Gap Nature Reserve	50	50	50		NC	<p>Review of 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs Review of noise monitoring reports</p>	<p>Four (4) exceedance recorded and reported during the 2009 - 2010 period One (1) exceedance recorded and reported during the 2010 - 2011 period No exceedances recorded during the 2011 - 2012 period</p>
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	<p><i>Note:</i> 1. Where the Project Specific Noise Limits (PSNL) are exceeded by between 3 to 5 decibels, the proponent shall develop and implement a Noise Reduction Plan which will consider a range of feasible and reasonable mitigation measures with PSNL as a noise goal for the longer term operation of the mine. 2. The above noise limits do not apply at properties where the licensee has a written agreement with the landowner to exceed the noise limits.</p>	Noted																																																																			
L5.2	<p>For the purpose of Condition L5.1: a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays; b) Evening is defined as the period from 6pm to 10pm; and c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays</p>	C	Reflected in noise monitoring reports																																																																		

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
L5.3	The noise limits set out in condition L5.1 apply under all meteorological conditions except for the following:	C	Review of noise monitoring reports	However, due to wind speed and/or estimated temperature inversion conditions resulted not always being applicable during: 2009 - 2010 period only 46% of the monitoring results were valid 2010 - 2011 period only 48% of the monitoring results were valid
	a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or			
	b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or			
	c) Stability category G temperature inversion conditions.			
L5.4	For the purpose of condition L5.3:	C	Review of NMP and AEMRs	
	a) Data recorded by the meteorological station identified as EPA Licence Point 25 must be used to determine meteorological conditions; and			
	b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.			
L5.5	To determine compliance:	O	Review of Noise Management Plan	Table 9 and Figure 1 of the NMP provided information on the monitoring locations. The monitoring locations used at the time of the audit were not consistent with the locations identified in Table 9 and Figure 1. It is understood the NMP review was in progress and that these discrepancies were being addressed.
	a) with the Leq(15 minute) noise limits in condition L5.1, the noise measurement equipment must be located:			
	i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or			
	ii) within 30 metres of a dwelling façade, but not closer than 3 metres where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable			
	iii) within approximately 50 metres of the boundary of a National Park or Nature Reserve			
	b) with the LA1(1 minute) noise limits in condition L5.1, the noise measurement equipment must be located within 1 metre of a dwelling façade.	O	Review of Noise Management Plan	Table 9 and Figure 1 of the NMP provided information on the monitoring locations. The monitoring locations used at the time of the audit were not consistent with the locations identified in Table 9 and Figure 1. It is understood the NMP review was in progress and that these discrepancies were being addressed.
	c) with the noise limits in condition L5.1, the noise measurement equipment must be located:	O	Review of Noise Management Plan	While the NMP outlines the methodology for conducting the attended noise monitoring, it does not provide any information on the format of, and the information to be contained within, the noise monitoring report.
	i) at the most affected point at a location where there is no dwelling at the location; or			
	ii) at the most affected point within an area at a location prescribed by conditions L5.5(a) or L5.5(b).			
L5.6	A non-compliance of L5.1 will still occur where noise generated from the premises in excess of the appropriate limit is measured:	C	Review of 2009 - 2010, 2010 - 2011 and 2011 - 2012 AEMRs Review of noise monitoring reports	Notwithstanding the issues raised in L5.5, MOC have addressed the recorded exceedances in accordance with their project approval and Noise Management Plan.
	(a) at a location other than an area prescribed by condition L5.5(a) and L5.5(b); and/or			
	(b) at a point other than the most affected point at a location.			
L5.7	For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.	C	Review of noise monitoring reports	

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
L6 Blasting				
L6.1	Blasting in or on the premises must only be carried out between 9 am and 5 pm, Monday to Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the prior approval of the EPA.	C	Requirements identified in BMP - Section 4.1. Review of blasting records confirms that blasting has been undertaken in accordance with the requirements of this condition.	
L6.2	Blasting at the premises is limited to the following:			
	a) A maximum of 2 blasts per day;	C	Requirements identified in BMP - Section 4.1. Blast records reviewed showed that no more than 2 blasts per day have been conducted.	
	b) A maximum of 9 blasts per week averaged over a 12 month reporting period; including	C	Requirements identified in BMP - Section 4.1. Review of blasting records for period July 2010 to June 2012 showed that blasts were averaging approximately 2 per week, well below the limit of 9. Blasting frequency has increased since that time but is currently averaging about 4 per week.	
	c) A maximum of 4 blasts per week, averaged over a 12 month reporting period, with a maximum instantaneous charge (MIC) of greater than 650 kg.	O	Requirements identified in BMP - Section 4.1.	Whilst MIC of each blast is recorded on the blasting data sheets, this information is not maintained by the environment team in their blasting data spreadsheet. This makes it difficult to confirm compliance with this condition. However given that blasts averaged less than 4 per week during the audit period, this requirement is considered to have been met.
L6.3	The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. 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.	NC	Requirements identified in BMP - Section 3.1. Review of blasting records identified a blast on 8/7/2010 which registered an overpressure of 120.6 at BM1 (Ulan School).	
L6.4	The airblast overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) at any noise sensitive locations 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.	C	Requirements identified in BMP - Section 3.1. Review of blast records identifies two exceedances of 115dB within the audit period (1/7/2010 and 14/6/2011). However the number of exceedances above 115 is less than 5% over each reporting period.	
L6.5	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive locations. 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.	C	Requirements identified in BMP - Section 3.2. Review of blast data indicated no exceedances of ground vibration criteria during the audit period.	

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Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
L6.6	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec at any noise sensitive locations 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.	C	Requirements identified in BMP - Section 3.2. Review of blast data indicated no exceedances of ground vibration criteria during the audit period.	
	<p><i>Note:</i></p> <p>1. The airblast overpressure and groundvibration levels in conditions L6.3 to L6.6 do not apply at noise sensitive locations that are owned by the licensee or subject to a private agreement, relating to airblast overpressure and ground vibration levels, between the licensee and land owner.</p> <p>2. The airblast overpressure and ground vibration levels in conditions L6.3 to L6.6 do not apply at Aboriginal rock shelter sites S1MC55 and S1MC56.</p> <p>3. "Noise sensitive locations" includes buildings used as a residence, hospital, school, child care centres, places of public worship and nursing homes. A noise sensitive location includes the land within 30 metres of the building.</p>	Noted		
4 Operating Conditions				
O1 Activities must be carried out in a competent manner				
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	O	Coal handling, movement and processing was observed to be well managed. The pit and haul roads are maintained in a neat and tidy condition. Storage of hydrocarbons and chemicals was identified as an issue in some areas as discussed in relation to condition O5.1 below.	
	b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	O	Wastes were generally well managed - waste separation systems were observed to be in place, with most bins checked during the audit containing the correct waste stream for that bin. An issue was identified in relation to waste separation and storage at the workshop. This issue had already been identified by the Moolarben environment team and actions were in place to procure additional waste signage and undertake a Toolbox Talk in relation to waste management with all maintenance workshop staff.	

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
O2 Maintenance of plant and equipment				
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	C	Maintenance and defects reporting systems reviewed during the audit indicated that MCO has established maintenance plans for each plant item and conducts regular servicing. Pre-start checklists are used to identify defects - SAP reporting system allows tracking of defect repairs and service requirements such that weekly servicing schedules can be prepared.	
	b) must be operated in a proper and efficient manner.	C	Moolarben has developed training competency units to train and assess the competency of its operators. During the audit site inspection, plant was observed to be operated in a proper manner. The neat and tidy condition of the pit and surrounds is considered to give a good indication of the competency of the operators.	
O3 Dust				
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.	C	Environmental controls to be implemented on site are identified in AQMP - Section 4.1. Observations made on site during the audit included the use of water sprays on coal conveyor transfer points, use of water sprays on the ROM dump hopper, water carts in operation watering haul roads and hardstand areas, progressive rehabilitation.	No dust issues were observed during the two days on site.
O3.2	All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.	C	Requirements identified in AQMP - Section 4.1. Water carts were observed on site watering haul roads and hardstand areas.	
O4 Effluent application to land				
O4.1	Effluent application must not occur in a manner that causes surface runoff.	C	Effluent application to land occurs through a piped irrigation system at each sewage system. The effluent disposal areas include the visual bund and garden at the open cut office and the garden at the administration office. Both areas were inspected during the audit and no evidence of surface runoff was evident.	
O4.2	Spray from effluent application must not drift beyond the boundary of the premises.	C	During the site inspection, there was no evidence that spray is drifting beyond the boundary. The pipework for the effluent irrigation system was observed to be contained well within the mine boundary.	

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
O4.3	The quantity of effluent applied to the utilisation area(s) must not exceed the capacity of the utilisation area(s) to effectively utilise the effluent.	C	The effluent irrigation areas inspected during the audit did not show any signs of scalding or other adverse impacts from the application of treated effluent. Plants within the gardens appeared to be relatively healthy given the very hot weather that preceded the audit.	
	For the purpose of this condition, "effectively utilise" includes the ability of the soil to absorb the nutrient, salt and hydraulic loads and the applied organic material without causing harm to the environment.	Noted		
O5 Processes and management				
O5.1	All chemicals, fuels and explosives must be handled and stored in a bunded area which complies with the specifications of the relevant Australian Standard and legislative requirements.	NC	Whilst in most areas, adequate bunding and spill management controls were in place, it was noted that the diesel fill point at the Downer EDI Blasting Services compound did not have any secondary containment provided. It was also noted that there were isolated incidents of 44 gallon drums of grease or oils not being stored in bunded areas at the Workshop.	It was noted during the audit that MCO does not currently audit or regularly inspect the environmental performance of its operational contractors (such as Downer EDI). The lack of secondary containment on the diesel fill point may have been picked up earlier had an environmental audit or inspection program been in place.
O5.2	Contingency and emergency management plans must be developed and implemented for the spill of any chemical and fuel.	C	A Pollution Incident Response Management Plan has been prepared for the Moolarben operations. This plan identifies the requirements for hydrocarbon management and identifies the controls to be established, including the provision of secondary containment and the use of spill kits.	Spill kits were observed to be provided at various places around the site (including at the Downer compound) and at all areas where hydrocarbons are handled and stored. All spill kits checked during the audit were noted to be well maintained and well stocked.
5 Monitoring and Recording Conditions				
M1 Monitoring Records				
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.	C	Monitoring results are maintained in a series of excel spreadsheets.	
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;	C	Electronic copies of the monitoring results and reports prepared by the monitoring contractor are maintained on the MCO server.	
	b) kept for at least 4 years after the monitoring or event to which they relate took place; and	C	Records were noted to be available from the commencement of monitoring in 2009.	
	c) produced in a legible form to any authorised officer of the EPA who asks to see them.	NT	MCO advised that no authorised officer of the EPA has asked to see the records.	
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence:	C	Monitoring contractor (ALS) provides scanned copies of field sheets for each sampling event with the monthly reports. These field sheets were observed to contain the details required by this condition.	
	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.			

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																																
M2 Requirement to monitor concentration of pollutants discharged																																				
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:																																			
M2.2	<p>M2.2 Air Monitoring Requirements</p> <p>POINT 6,7,8,9,10,11,12,13,14</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Particulates - Deposited Matter</td> <td>grams per square metre per month</td> <td>Monthly</td> <td>AM-19</td> </tr> </tbody> </table> <p>POINT 15</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>micrograms per cubic metre</td> <td>Continuous</td> <td>AM-22</td> </tr> </tbody> </table> <p>POINT 16</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>micrograms per cubic metre</td> <td>Every 6 days</td> <td>AM-18</td> </tr> </tbody> </table> <p>POINT 17</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>micrograms per cubic metre</td> <td>Continuous</td> <td>AM-22</td> </tr> </tbody> </table>	Pollutant	Units of measure	Frequency	Sampling Method	Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19	Pollutant	Units of measure	Frequency	Sampling Method	PM10	micrograms per cubic metre	Continuous	AM-22	Pollutant	Units of measure	Frequency	Sampling Method	PM10	micrograms per cubic metre	Every 6 days	AM-18	Pollutant	Units of measure	Frequency	Sampling Method	PM10	micrograms per cubic metre	Continuous	AM-22	C	Requirements are identified in AQMP - Section 5.0. Monitoring data reviewed during the audit, including laboratory result sheets for dust gauges and HVAS, showed that monitoring is generally undertaken in accordance with the Approved Methods.	It was noted that Moolarben do not currently undertake any auditing or planned task observations in relation to the monitoring conducted by the contractor. Whilst a review of the siting of monitoring stations has been undertaken to confirm locations conform to the guidelines outlined in the relevant Australian Standards, no similar review has been conducted of monitoring practices to confirm they are in accordance with the approved methods.
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M2.3	<p>Water and/or Land Monitoring Requirements</p> <hr/> <p>POINT 1,2</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>Continuous during discharge</td> <td>Continuously</td> </tr> <tr> <td>Iron</td> <td>milligrams per litre</td> <td>Daily during any discharge</td> <td>Grab sample</td> </tr> </tbody> </table> <table border="1"> <tbody> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td>Daily during any discharge</td> <td>Grab sample</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Continuous during discharge</td> <td>Continuously</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td>Daily during any discharge</td> <td>Composite sample</td> </tr> <tr> <td>Zinc</td> <td>milligrams per litre</td> <td>Daily during any discharge</td> 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For monitoring points 5, 23 and 24, monitoring data reviewed during the audit indicated that the required parameters have been measured with sampling for those points undertaken on a quarterly basis.	
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M2.4	For the purposes of the table(s) above Special Frequency 1 means Point 3 is required to be sampled monthly in the event of a flow, and daily during periods of discharge from the premises and in the event of a flow at Point 3.	Noted																																																																																																																																																										
	For the purposes of the table(s) above Special Frequency 2 means Point 4 is required to be sampled monthly in the event of a flow.	Noted																																																																																																																																																										

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																														
M3 Testing methods - concentration limits																																		
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:	C	Requirements are identified in AQMP - Section 5.0. Monitoring data reviewed during the audit, including laboratory result sheets for dust gauges and HVAS, showed that monitoring is undertaken in accordance with the Approved Methods.	In September 2010, Minespex undertook a review of the siting of all monitoring units against the guidelines contained in the relevant Australian Standards referenced by the EPA Approved Methods publication.																														
	a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or																																	
	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																																	
	c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.																																	
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.	C	Lab reports reviewed during the audit were from a NATA accredited laboratory - reports identify the methods used.																															
	<i>Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 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".</i>	Noted																																
M4 Weather monitoring																																		
M4.1	The meteorological weather station must be maintained so as to be capable of continuously monitoring the parameters specified in condition M4.2.	C	Records reviewed showed that the weather station is calibrated annually by Carbon Based Environmental (for example calibration certificate dated 25/1/2012). Weather data reviewed during the audit indicated that the required parameters are measured as required by Condition M4.2.	Whilst only one weather station is required, Moolarben has three weather stations on site.																														
M4.2	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.	C	Weather data reviewed for the period 2010 to 2012 showed that required parameters are being measured.																															
	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Units of measure</th> <th>Frequency</th> <th>Averaging Period</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Wind direction</td> <td>Degrees</td> <td>Continuous</td> <td>15 minute</td> <td>AM-2 & AM-4</td> </tr> <tr> <td>Wind speed</td> <td>metres per second</td> <td>Continuous</td> <td>15 minute</td> <td>AM-2 & AM-4</td> </tr> <tr> <td>Sigma theta</td> <td>Degrees</td> <td>Continuous</td> <td>15 minute</td> <td>AM-2 & AM-4</td> </tr> <tr> <td>Rainfall</td> <td>Millimetres</td> <td>Continuous</td> <td>15 Minute</td> <td>AM-4</td> </tr> <tr> <td>Air Temperature</td> <td>Degrees celcius</td> <td>Continuous</td> <td>1 hour</td> <td>AM-4</td> </tr> </tbody> </table>				Parameter	Units of measure	Frequency	Averaging Period	Sampling Method	Wind direction	Degrees	Continuous	15 minute	AM-2 & AM-4	Wind speed	metres per second	Continuous	15 minute	AM-2 & AM-4	Sigma theta	Degrees	Continuous	15 minute	AM-2 & AM-4	Rainfall	Millimetres	Continuous	15 Minute	AM-4	Air Temperature	Degrees celcius	Continuous	1 hour	AM-4
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Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
M5 Recording of pollution complaints				
M5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	C	Complaints are maintained in an electronic database. A sample of complaints was reviewed during the audit.	
M5.2	The record must include details of the following:	C	For example, call to hotline at 2.09am on 24/1/2013. Hotline sends email and text messages to nominated personnel (including OCE and environment staff). On this occasion, the Production Assistant drove out to the complainant location, listened for noise sources, observed weather conditions at the time and checked noise levels at the nearest monitors. Full details were observed to be recorded on the complaint form.	Given that noise complaints form the greatest number of complaints, the handling of noise complaints was addressed in some detail during the audit.
	a) the date and time of the complaint;	C		
	b) the method by which the complaint was made;	C		
	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;	C		
	d) the nature of the complaint;	C		
	e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and	C		
	f) if no action was taken by the licensee, the reasons why no action was taken.	C		
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	C	Complaints maintained in electronic database - four years of record were observed to be available.	
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	C	Complaints summaries are provided with each quarterly report submitted to EPA in accordance with condition R4.1.	
M6 Telephone complaints line				
M6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	C	24 hour Community Response Line is 1800 556 484.	
M6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	C	The Complaints Line number is advertised on the Moolarben website in several locations and is available in the community newsletter.	
	The preceding two conditions do not apply until 3 months after:	NT		
M6.3	a) the date of the issue of this licence or 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		

Environment Protection Licence No. 12932

Anniversary Date: 18 August

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments																																																					
M7 Requirement to monitor volume or mass																																																									
M7.1	For each discharge point or utilisation area specified below, the licensee must monitor:																																																								
	a) the volume of liquids discharged to water or applied to the area;	Noted																																																							
	b) the mass of solids applied to the area;	Noted																																																							
	c) the mass of pollutants emitted to the air; at the frequency and using the method and units of measure, specified below.	Noted																																																							
	<table border="1"> <thead> <tr> <th colspan="3">POINT 1</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>kilolitres per day</td> <td>Flow meter and continuous logger</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 2</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>kilolitres per day</td> <td>Flow meter and continuous logger</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 5</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Daily during any discharge</td> <td>kilolitres per day</td> <td>By Calculation (volume flow rate or pump capacity multiplied by operating time)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 22</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>kilolitres per day</td> <td>Flow meter and continuous logger</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 23</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Daily during any discharge</td> <td>kilolitres per day</td> <td>By Calculation (volume flow rate or pump capacity multiplied by operating time)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">POINT 24</th> </tr> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Daily during any discharge</td> <td>kilolitres per day</td> <td>By Calculation (volume flow rate or pump capacity multiplied by operating time)</td> </tr> </tbody> </table>	POINT 1			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	kilolitres per day	Flow meter and continuous logger	POINT 2			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	kilolitres per day	Flow meter and continuous logger	POINT 5			Frequency	Unit of Measure	Sampling Method	Daily during any discharge	kilolitres per day	By Calculation (volume flow rate or pump capacity multiplied by operating time)	POINT 22			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	kilolitres per day	Flow meter and continuous logger	POINT 23			Frequency	Unit of Measure	Sampling Method	Daily during any discharge	kilolitres per day	By Calculation (volume flow rate or pump capacity multiplied by operating time)	POINT 24			Frequency	Unit of Measure	Sampling Method	Daily during any discharge	kilolitres per day	By Calculation (volume flow rate or pump capacity multiplied by operating time)	C	No discharges occurred during the audit period from points 1, 2 and 22 and therefore no volumes were recorded for those points. For points 5, 23 and 24, effluent inspections record flow volumes from meters.
POINT 1																																																									
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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
M8 Blasting				
M8.1	To determine compliance with condition(s) L6.3 to L6.6: a) Airblast overpressure and ground vibration levels experienced at the following noise sensitive locations must be measured and recorded for all blasts carried out on the premises; i) Ulan Public School, Ulan and ii) Aboriginal rock shelter sites S1MC55 and S1MC56 (where blasting occurs within 2 km of the site) as indicated in Appendix 9 Project Approval 05_0117	C	Requirements are identified in BMP - Section 3.0 and Table 5. Monitoring results reviewed during the audit indicate that monitoring has been undertaken as required.	
	b) Instrumentation used to measure and record the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006. <i>NOTE: A breach of the licence will still occur where airblast overpressure or ground vibration levels from the blasting operations at the premises in excess of the limit specified in conditions L6.3 to L6.6 are detected at any "noise sensitive locations" other than the locations identified in the above condition.</i>	C		
M9 Other monitoring and recording conditions				
M9.1	To assess compliance with the noise limits presented in L5.1, attended noise monitoring must be undertaken in accordance with condition L5.6 and: a) at each one of the locations listed in condition L5.1;	C		
	b) occur quarterly in a reporting period;	C	Noise monitoring required by this condition has been conducted quarterly as required - reports prepared by Global Acoustics reviewed during the audit.	
	c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of two consecutive 15 minute periods.	C	Noise reports reviewed during the audit demonstrated that noise monitoring is undertaken in accordance with the requirements of this condition.	
	d) occur over two consecutive operating days.	C	Noise reports reviewed during the audit demonstrated that noise monitoring is undertaken in accordance with the requirements of this condition.	
	Note: To assess compliance with with the noise limits for the Whittaker, Goninan/Boland and Kimber properties, noise monitoring is to be undertaken in accordance with condition L5.6 at the Kimber property (property 172).	Noted		

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Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
6 Reporting Conditions				
R1 Annual return documents				
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:	C	The annual returns for 2010-2011 and 2011-2012 were reviewed during the audit. Both Annual Returns reviewed included a Statement of Compliance with additional pages attached to detail non-compliances reported.	
	a) a Statement of Compliance; and			
	b) a Monitoring and Complaints Summary.	C	Both Annual Returns reviewed included a Monitoring and Complaints Summary as required.	
	At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.	C	Forms have been supplied and completed for each reporting period as required.	
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	C	Annual Return has been submitted for the reporting periods since the last audit. Returns for 2010-2011 and 2011-2012 were reviewed during the audit. Submission of reports was confirmed by information on EPA website.	
R1.3	Where this licence is transferred from the licensee to a new licensee:	NT		
	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.	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').	C	The annual returns for 2010-2011 and 2011-2012 reviewed during the audit were signed and dated 12/10/11 and 26/09/12 respectively. The EPA website has recorded the returns being received 14/10/11 and 2/10/11 respectively. This shows that the returns are submitted within the required timeframe with the due date being 17/10 as noted on the Annual Return forms.	

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	C	Copies of Annual Returns submitted are retained by Moolarben electronically.	
R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:	C		
	a) the licence holder; or			
	b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	NT		
R1.8	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		
	<i>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.</i>			
	<i>Note: An application to transfer a licence must be made in the approved form for this purpose.</i>			
R2 Notification of environmental harm				
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	C	Notifications to Environment Line have been made by Moolarben. For example, notification of discharge from sediment basin 4 was made to the Environment Line at 5.27pm on 30/9/11. This was followed up with an email to Sheridan Ledger (EPA) on the same date.	
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. <i>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.</i>	NC	For the example notification given above, a report was provided to the EPA on 11/10/11. Whilst the written report was submitted, it was submitted 11 days after the incident which is outside of the 7 day period specified.	

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
R3 Written Report				
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.	Noted	Moolarben advised that the EPA requested a written report for a water discharge that occurred on 20/8/12. The request for a report identified several issues and required a response by 14/9/12.	
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.	C	Moolarben undertook investigations into the incident and provided a detailed response back to EPA dated 11/9/12.	
R3.3	The request may require a report which includes any or all of the following information:		The Moolarben response was based on the issue numbering contained in the EPA's request to ensure that all relevant information was provided.	
	a) the cause, time and duration of the event;	C		
	b) the type, volume and concentration of every pollutant discharged as a result of the event;	C		
	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;	C		
	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;	C		
	e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;	C		
	f) details of any measure taken or proposed to be taken to prevent or	C		
g) any other relevant matters.	C			
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 further requests have been made.	

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Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
R4 Other reporting conditions				
R4.1	Every calendar quarter, the licensee must complete and submit to the EPA a quarterly report comprising:	C	Records reviewed during the audit showed that quarterly monitoring reports are provided to EPA. Report for 1 October to 31 December 2012 was reviewed during the audit.	
	a) Data, reported graphically where practicable, for monitoring conducted in accordance with licence requirements;	C	Report reviewed during the audit included monitoring results and graphs to identify trends in monitoring results.	
	b) Statement of compliance; and	C	Report reviewed during the audit included a Statement of Compliance.	
	c) A complaints summary.	C	Report reviewed during the audit included a summary of complaints received and actions undertaken during the period.	
	The quarterly report must be received by the EPA no later than 4 weeks after the end of the period being reported.	C	Quarterly report for Q4 (October to December 2012) was submitted by email from K. Marchant to Sheridan Ledger (EPA) dated 22/1/13 - this is within the four week timeframe.	
R4.2	A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the second round of quarterly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:	C	Records reviewed during the audit showed that quarterly noise reports are submitted as required. Reports are generally provided within the required timeframes - for example Q4 2012, monitoring was undertaken 28,29, and 30 November - report was prepared and submitted by email from K. Marchant to Sheridan Ledger (EPA) dated 21/12/12.	
	a) an assessment of compliance with noise limits presented in Condition L5.1; and	C		
	b) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition L5.1.	C		
7 General Conditions				
G1 Copy of licence kept at the premises or plant				
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	C	A copy of the licence was observed to be kept on site. It is also available on the Moolarben website.	
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	NT	Moolarben advised that no authorised officer has requested to see it.	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	C	The licence was made available to the auditors. It was also noted to be available on the Moolarben website.	
G2 Signage				
G2.1	Each monitoring and discharge point must be clearly marked by a sign that indicates the EPA point identification number.	C	Site inspection confirmed that discharge points are labelled - Photo.	

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
8 Pollution Studies and Reduction Programs				
U1 Coal Mine Particulate Matter Control Best Practice				
U1.1	The Licensee must conduct a site specific Best Management Practice (BMP) determination to identify the most practicable means to reduce particle emissions.	C	Sighted Moolarben Coal Particulate Matter Control Best Practice Pollution Reduction Program, prepared by PAE Holmes dated 25 January 2012.	It is noted that the report was reviewed by EPA who advised Moolarben by letter dated 9/1/2013 that they considered the report to be generally compliant with the requirements of this condition.
U1.2	The Licensee must prepare a report which includes, but is not necessarily limited to, the following:	C	Section 2 of report provides a discussion of the estimated baseline emissions, ranks the activities in terms of both annual mass emission and predicted impact, and identifies the top four particulate generating activities for the operations. Justification of existing controls is also discussed in Section 4.1	
	- identification, quantification and justification of existing measures that are being used to minimise particle emissions;	C	Best practice measures are discussed in Section 3 of the report. This discussion includes an assessment of the effectiveness of each measure and an estimate of the resultant emissions.	
	- identification, quantification and justification of best practice measures that could be used to minimise particle emissions;	C	Section 4 of the report includes a discussion on the practicability of implementing best practice management and identifies the best practice control measures that would achieve a measurable benefit in terms of reductions in annual particulate impacts at sensitive receptors.	
	- evaluation of the practicability of implementing these best practice measures; and	C	The report identified that no additional best practice controls were required and hence no timeframes for implementation were required.	
	- a proposed timeframe for implementing all practicable best practice measures.	C	The report references the Site Specific Determination Guidelines and includes a copy in Appendix B.	
	In preparing the report, the Licensee must utilise the document entitled Coal Mine Particulate Matter Control Best Practice – Site Specific Determination Guideline – August 2011.	C		
U1.3	All cost related information is to be included as Appendix 1 of the Report required by condition U1.2 above.	C	Cost related information is included in the report as part of the discussion of feasible options for control measures and the evaluation of these options in Section 4.2 of the report.	
U1.4	The report required by condition U1.2 must be submitted by the Licensee to the Office of Environment and Heritage's Regional Manager Bathurst, at PO Box 1388 BATHURST NSW 2795 by 6 February 2012.	C	Report was received by EPA 1/2/2102 as identified in EPA letter to Moolarben dated 9/1/2013.	
U1.5	The report required by condition U1.2 above, except for cost related information contained in Appendix 1 of the Report, must be made publicly available by the Licensee on the Licensee's website by 13 February 2012.	C	Report was observed to be available on the Moolarben website.	

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Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
U2 Design Review of Water Management System				
U2.1	The licensee must undertake an Independent Design Review of the Moolarben Water Management System in accordance with the requirements of the Protection of the Environment Operations Act, specific requirements of Environment Protection Licence 12932 and against recognised Industry Standards and Guidelines. A Design Report outlining the findings of the Review and recommendations must be submitted to the Bathurst office of the EPA by 22 December 2011.	C	CHPP Water Management Plan Review December 2011	
U2.2	The licensee must develop a "Water Management Action Program", based on the recommendations of the Design Review required by condition U2.1 above and in consultation with the EPA. A draft copy of the Water Management Action Plan must be submitted to the Bathurst office of the EPA by 31 January 2012. The Water Management Action Program should include, but not necessarily be limited to, the following items:	C	The Water Management Action Program Version 01 was reviewed during the audit. Correspondence was also sighted to indicate that Moolarben requested and was granted an extension on the submission of the Plan, with the Plan submitted to EPA by letter dated 9/2/12.	
	a) The on ground works to be undertaken;	C	Works required to upgrade the site water management system are described in Section 6 of the report.	
	b) The timeframes for the completion of required works;	C	Timeframes for completion are included in Table 1 - Water Management Action Program.	
	c) A review of all relevant Management Plans;	C	Section 4 of the report provides a review of the existing water management plan for the site and identifies key issues.	
	d) Updating of all relevant Management Plans to include the Design recommendations; and	C	Section 6 of the report includes a discussion on the proposed future water management strategy for the site and identifies the changes required to implement the updated water management plan.	
e) Submission of the revised Management Plans to the Department of Planning for approval.	C	Noted to be included in Water Management Action Plan (item 5(3)).		

Compliant	101
Non-Compliant	4
Verification	0
Observation	6
Not Triggered	14



APPENDIX 4

Compliance Assessment ML 1605, 1606
and 1628

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Notice to Landholders				
1	Within a period of three months from the date of grant of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted, state whether the lease includes the surface and must contain an adequate plan and description of the lease area.			
Environmental Harm				
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.	NC	Moolarben has generally implemented measures to minimise harm to the environment in terms of air quality, noise, visual amenity, vibration and lighting, and has demonstrated a commitment to improving its environmental performance. During the audit site inspection, it was observed that there were generally good management practices across the site, particularly related to the rehabilitation practices implemented at the site. In terms of environmental controls, the current practices in place for the storage, handling and use of hazardous substances would not be considered to represent all reasonable and feasible measures to minimise harm to the environment from the storage and use of these substances.	

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Mining Operations Plan				
	(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.	C	Latest MOP (2013 to 2017) has been approved by DRE.	Consultation with DRE indicated that they considered the MOP to be of a high standard.
	(b) The MOP must:			
	- identify areas that will be disturbed by mining operations;	C	A detailed description of mining activities for the MOP period is provided in Section 2 of the MOP.	
	- detail the staging of specific mining operations;	C	Staging of mining operations is described in MOP Section 2.2. MOP Plans 3a to 3f provide details of the staging of mining operations for the MOP period.	
	- identify how the mine will be managed to allow mine closure;	C	Decommissioning and the post mining land use are discussed in Section 4 of the MOP.	Observations made on site during the site inspection indicated that Moolarben is making good progress with rehabilitation which is undertaken progressively as the mine proceeds. Final landforms are already being established which shows that planning for mine closure is already underway despite the early stage of the mine.
3	- identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;	C	A comprehensive discussion of environmental issues and controls to be implemented is included in Section 3 of the MOP.	Environmental controls described in the MOP were generally observed to be implemented on site.
	- reflect the conditions of approval under:			
	the <i>Environmental Planning and Assessment Act 1979</i>	C	Consents, authorisations and licences for the Moolarben operations are identified in Section 1.4 of the MOP. References to specific approval requirements are also addressed in relevant sections of Section 3 of the MOP.	
	the <i>Protection of the Environment Operations Act 1997</i>			
	and any other approvals relevant to the development including the conditions of this lease; and			
- have regard to any relevant guidelines adopted by the Director-General.	C	MOP Section 1.2 states "This MOP has been prepared in accordance with the Interim Mining Operations Plan (MOP) Guidelines ('Interim Guidelines') (DTI, 2012). ..." Section 1.3 provides further information in relation to the Interim Guidelines.	Review of the MOP indicates it has been prepared in accordance with the guidelines.	
(c) The titleholder may apply to the Director-General to amend an approved MOP at any time.	NT	Current MOP has not been amended.		

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/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 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 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.	NT	Most recent MOP relates to the period 2013 to 2017 and as such is considered to be current and in effect.	
Environment Management Reporting				
4	The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.	C	AEMRs were sighted and reviewed for the reporting periods 2010-2011 and 2011-2012.	
5	The EMR must: - report against compliance with the MOP;	O	Whilst the discussion of rehabilitation in Section 5 of the AEMR makes reference to the MOP, the remainder of the report does not appear to address any specific MOP requirements. It was noted in Section 1.1 of the 2011-2012 AEMR that the introductory statements do not make reference to the MOP or the reporting requirements contained in the mining leases for the site.	
	- report on progress in respect of rehabilitation completion criteria;	C	Section 5 of the AEMR provides a discussion on the progress of rehabilitation undertaken on site during the reporting period.	
	- report on the extent of compliance with regulatory requirements; and	C	Section 3.23 of the AEMR discusses any reportable incidents that occurred during the reporting period and provides updates on previous reportable incidents.	Whilst the AEMR has provided the discussion of reportable incidents as required by the DRE AEMR guidelines, it may be appropriate for the AEMR to also include a discussion on the general level of environmental performance of the operations in relation to the conditions imposed by the various project approvals, licences, and mining leases. This may take the form of a summary of any compliance tracking programs in place for example.
	- have regard to any relevant guidelines adopted by the Director-General.	C	The AEMRs reviewed during the audit were noted to have been prepared in accordance with the guidelines issued by DRE in respect of AEMRs.	
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	Moolarben advised that no additional reports have been required during the audit period.	

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Rehabilitation				
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	C	Rehabilitation areas were inspected during the audit. It was observed that rehabilitation is undertaken progressively with areas of OC1 not required for further mining already being shaped, topsoiled and seeded. All areas inspected were observed to be stable.	
Subsidence Management				
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	Underground mining has not yet commenced.	
	(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		
	(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 (EDP09)</i> .	NT		
	(d) Subsidence Management Plans are to be prepared in accordance with the <i>Guidelines for Applications for Subsidence Management Approvals</i> .	NT		
	(e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 2 and will be subject to the Annual Environmental Management Report process as set out in 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		

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Working Requirement				
9	The lease holder must: (a) ensure that at least 44 competent people are efficiently employed on the lease area on each week day except Sunday or any week day that is a public holiday, OR	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than \$770,000 per annum whilst the lease is in force.			
	The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.			
Control of Operations				
10	(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:	NT	Moolarben advised that no directions have been issued.	
	(i) cease working the lease; or			
	(ii) cease that part of the operation not complying with the Act or conditions;			
	Until in the opinion of the Environmental officer the situation is rectified.			
	(b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction.			
	(c) A direction referred to in this condition may be served on the Mine Manager.			

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Reports				
11	The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;			
	(b) Details of expenditure incurred in conducting that exploration;			
	(c) A summary of all geological findings acquired through mining or development evaluation activities;			
	(d) Particulars of exploration proposed to be conducted in the next twelve months period;			
	(e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.			
Licence to Use Reports				
12	(a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.			
Confidentiality				
13	(a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(i) the lease holder has agreed that specified reports may be made non-confidential.			
	(ii) reports deal with exploration conducted exclusively on areas that have cease to be part of the lease.			
	(b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.			
	(c) The Director-General may extend the period of confidentiality.			

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Terms of the non-exclusive licence				
14	(a) the Minister may sub-licence others to publish, print, adapt and reproduce by not on-licence reports.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.			
	(c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.			
	(d) there is no royalty payable by the Minister for the licence.			
	(e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.			
Blasting				
15	(a) <u>Ground Vibration</u> 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.	C	Blasting has not been undertaken in ML1605 to date.	
	(b) <u>Blast Overpressure</u> 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.	C	Blasting has not been undertaken in ML1605 to date.	

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Safety				
16	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
Exploratory Drilling				
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 holes together with information on the location of the proposed holes.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(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.				
Prevention of Soil Erosion and Pollution				
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 approved, 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.	C	Operations on site were generally observed to be carried out in a manner that does not aggravate pollution. There was very little evidence of erosion and sedimentation, despite a high intensity storm the night before the audit site inspection. Environmental controls were observed to be in operation to minimise the potential for air quality issues.	

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Transmission Lines, Communication Lines and Pipelines				
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.	C	Moolarben has negotiated an agreement with Transgrid in relation to blasting operations.	
Fence Gates				
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.	C	Within the active mining areas, there are no fences or gates in place. In relation to exploration activities outside of the active mine areas, protocols are in place to ensure that fences are not damaged unless agreements are in place with the relevant landowner.	
	(b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	C	This requirement generally only applies to exploration activities carried out within the lease area outside of active mining areas. Protocols are in place to ensure that gates are left as they were found.	
Road and Tracks				
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.	NT	Moolarben advised that no roads had been affected during the audit period.	
	(b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.	C	Moolarben currently has a voluntary planning agreement with Mid West Regional Council which includes contributions for road maintenance.	Invoices are sent out by Council for the required contributions and paid by Moolarben in accordance with the agreement.
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.	C	During the site inspection, access tracks were observed to be appropriately positioned and did not appear to be excessive in number. The access tracks traversed during the site inspection were all observed to be maintained in a reasonably good condition with little evidence of erosion or sedimentation.	A short but intense storm was experienced on the site the night before the site inspection. Despite the storm, the site was noted to be in good condition.

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Trees and Timber				
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.	C	The land on which the Moolarben operations exist is owned primarily by Xstrata Coal. Moolarben has an agreement with Xstrata to use the land (access agreement sighted which gives permission for MCO to remove trees as required.	
	(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.	C	Clearing plans have been prepared to identify the limits of disturbance. Moolarben also has a ground disturbance permitting process in place which assesses each ground disturbing activity prior to commencement to ensure that it is within the approved footprint.	Moolarben has had enforcement action previously in relation to unauthorised clearing, however, the systems that are now in place should work to prevent a recurrence.
	(c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area	C	Moolarben has obtained occupancy licences for the Crown land it utilises.	
Resource Recovery				
24 (given as 25 in lease)	(a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being covered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.			
	(c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.			
	(d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.			
	(e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.			
	(f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.			

Mining Lease 1605

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Indemnity				
25 (given as 26 in the lease)	The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or than any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
Security				
26 (given as 27 in the lease)	(a) A security in the sum of \$100,000 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:			
	(i) Cash,			
	(ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.			

Not assessed	11
Compliance	23
Non-compliance	1
Verification	0
Observation	1
Not Triggered	12

Mining Lease 1606				
Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Notice to Landholders				
1	Within a period of three months from the date of grant of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted, state whether the lease includes the surface and must contain an adequate plan and description of the lease area.			
Environmental Harm				
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.	NC	Moolarben has generally implemented measures to minimise harm to the environment in terms of air quality, noise, visual amenity, vibration and lighting, and has demonstrated a commitment to improving its environmental performance. During the audit site inspection, it was observed that there were generally good management practices across the site, particularly related to the rehabilitation practices implemented at the site. In terms of environmental controls, the current practices in place for the storage, handling and use of hazardous substances would not be considered to represent all reasonable and feasible measures to minimise harm to the environment from the storage and use of these substances.	
Mining Operations Plan				
	(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.	C	Latest MOP (2013 to 2017) has been approved by DRE.	Consultation with DRE indicated that they considered the MOP to be of a high standard.
	(b) The MOP must: - identify areas that will be disturbed by mining operations;	C	A detailed description of mining activities for the MOP period is provided in Section 2 of the MOP.	
	- detail the staging of specific mining operations;	C	Staging of mining operations is described in MOP Section 2.2. MOP Plans 3a to 3f provide details of the staging of mining operations for the MOP period.	
	- identify how the mine will be managed to allow mine closure;	C	Decommissioning and the post mining land use are discussed in Section 4 of the MOP.	Observations made on site during the site inspection indicated that Moolarben is making good progress with rehabilitation which is undertaken progressively as the mine proceeds. Final landforms are already being established which shows that planning for mine closure is already underway despite the early stage of the mine.

Mining Lease 1606

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
3	- identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;	C	A comprehensive discussion of environmental issues and controls to be implemented is included in Section 3 of the MOP.	Environmental controls described in the MOP were generally observed to be implemented on site.
	- reflect the conditions of approval under: the <i>Environmental Planning and Assessment Act 1979</i> the <i>Protection of the Environment Operations Act 1997</i> and any other approvals relevant to the development including the conditions of this lease; and	C	Consents, authorisations and licences for the Moolarben operations are identified in Section 1.4 of the MOP. References to specific approval requirements are also addressed in relevant sections of Section 3 of the MOP.	
	- have regard to any relevant guidelines adopted by the Director-General.	C	MOP Section 1.2 states " <i>This MOP has been prepared in accordance with the Interim Mining Operations Plan (MOP) Guidelines ('Interim Guidelines') (DTI, 2012). ..</i> " Section 1.3 provides further information in relation to the Interim Guidelines.	Review of the MOP indicates it has been prepared in accordance with the guidelines.
	(c) The titleholder may apply to the Director-General to amend an approved MOP at any time.	NT	Current MOP has not been amended.	
	(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 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 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.	NT	Most recent MOP relates to the period 2013 to 2017 and as such is considered to be current and in effect.	

Mining Lease 1606				
Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Environment Management Reporting				
4	The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.	C	AEMRs were sighted and reviewed for the reporting periods 2010-2011 and 2011-2012.	
5	The EMR must: - report against compliance with the MOP;	O	Whilst the discussion of rehabilitation in Section 5 of the AEMR makes reference to the MOP, the remainder of the report does not appear to address any specific MOP requirements. It was noted in Section 1.1 of the 2011-2012 AEMR that the introductory statements do not make reference to the MOP or the reporting requirements contained in the mining leases for the site.	
	- report on progress in respect of rehabilitation completion criteria;	C	Section 5 of the AEMR provides a discussion on the progress of rehabilitation undertaken on site during the reporting period.	
	- report on the extent of compliance with regulatory requirements; and	C	Section 3.23 of the AEMR discusses any reportable incidents that occurred during the reporting period and provides updates on previous reportable incidents.	Whilst the AEMR has provided the discussion of reportable incidents as required by the DRE AEMR guidelines, it may be appropriate for the AEMR to also include a discussion on the general level of environmental performance of the operations in relation to the conditions imposed by the various project approvals, licences, and mining leases. This may take the form of a summary of any compliance tracking programs in place for example.
	- have regard to any relevant guidelines adopted by the Director-General.	C	The AEMRs reviewed during the audit were noted to have been prepared in accordance with the guidelines issued by DRE in respect of AEMRs.	
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	Moolarben advised that no additional reports have been required during the audit period.	
Rehabilitation				
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	C	Rehabilitation areas were inspected during the audit. It was observed that rehabilitation is undertaken progressively with areas of OC1 not required for further mining already being shaped, topsoiled and seeded. All areas inspected were observed to be stable.	

Mining Lease 1606				
Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Subsidence Management				
	(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	Underground mining has not yet commenced.	
8	(b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the <i>Applications for Subsidence Management Approvals Guidelines (EDG17)</i>	NT		
	(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 (EDP09)</i> .	NT		
	(d) Subsidence Management Plans are to be prepared in accordance with the <i>Guidelines for Applications for Subsidence Management Approvals</i> .	NT		
	(e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 2 and will be subject to the Annual Environmental Management Report process as set out in 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		
Working Requirement				
9	The lease holder must:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(a) ensure that at least 20 competent people are efficiently employed on the lease area on each week day except Sunday or any week day that is a public holiday, OR			
	(b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than \$350,000 per annum whilst the lease is in force.			
	The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.			

Mining Lease 1606

Condition No.	Requirement	Compliance C/C/O/V/NT	Evidence	Comments
Control of Operations				
10	(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:	NT	Moolarben advised that no directions have been issued.	
	(i) cease working the lease; or			
	(ii) cease that part of the operation not complying with the Act or conditions;			
	Until in the opinion of the Environmental officer the situation is rectified.			
	(b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction.			
	(c) A direction referred to in this condition may be served on the Mine Manager.			
Reports				
11	The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;			
	(b) Details of expenditure incurred in conducting that exploration;			
	(c) A summary of all geological findings acquired through mining or development evaluation activities;			
	(d) Particulars of exploration proposed to be conducted in the next twelve months period;			
	(e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.			
Licence to Use Reports				
12	(a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.			

Mining Lease 1606

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Confidentiality				
13	(a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(i) the lease holder has agreed that specified reports may be made non-confidential.			
	(ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.			
	(b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.			
	(c) The Director-General may extend the period of confidentiality.			
Terms of the non-exclusive licence				
	(a) the Minister may sub-licence others to publish, print, adapt and reproduce by not on-licence reports.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
14	(b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.			
	(c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.			
	(d) there is no royalty payable by the Minister for the licence.			
	(e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.			

Mining Lease 1606				
Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Blasting				
15	(a) <u>Ground Vibration</u> 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.	C	Requirements identified in BMP - Section 3.2. Review of blast data indicated no exceedances of ground vibration criteria during the audit period.	
	(b) <u>Blast Overpressure</u> 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.	NC	Requirements identified in BMP - Section 3.1. Review of blasting records identified a blast on 8/7/2010 which registered an overpressure of 120.6 at BM1 (Ulan School). Review of blast records identifies two exceedances of 115dB within the audit period (1/7/2010 and 14/6/2011). However the number of exceedances above 115 is less than 5% over each reporting period.	
Safety				
16	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
Exploratory Drilling				
	(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 holes together with information on the location of the proposed holes.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
17	(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.				

Mining Lease 1606				
Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Prevention of Soil Erosion and Pollution				
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 approved, 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.	C	Operations on site were generally observed to be carried out in a manner that does not aggravate pollution. There was very little evidence of erosion and sedimentation, despite a high intensity storm the night before the audit site inspection. Environmental controls were observed to be in operation to minimise the potential for air quality issues.	
Transmission Lines, Communication Lines and Pipelines				
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.	C	Moolarben has negotiated an agreement with Transgrid in relation to blasting operations.	
Fence Gates				
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.	C	Within the active mining areas, there are no fences or gates in place. In relation to exploration activities outside of the active mine areas, protocols are in place to ensure that fences are not damaged unless agreements are in place with the relevant landowner.	
	(b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	C	This requirement generally only applies to exploration activities carried out within the lease area outside of active mining areas. Protocols are in place to ensure that gates are left as they were found.	
Road and Tracks				
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.	NT	Moolarben advised that no roads had been affected during the audit period.	
	(b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.	C	Moolarben currently has a voluntary planning agreement with Mid West Regional Council which includes contributions for road maintenance.	Invoices are sent out by Council for the required contributions and paid by Moolarben in accordance with the agreement.
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.	C	During the site inspection, access tracks were observed to be appropriately positioned and did not appear to be excessive in number. The access tracks traversed during the site inspection were all observed to be maintained in a reasonably good condition with little evidence of erosion or sedimentation.	A short but intense storm was experienced on the site the night before the site inspection. Despite the storm, the site was noted to be in good condition.

Mining Lease 1606

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
Trees and Timber				
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.	C	The land on which the Moolarben operations exist is owned primarily by Xstrata Coal. Moolarben has an agreement with Xstrata to use the land (access agreement sighted which gives permission for MCO to remove trees as required.	
	(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.	C	Clearing plans have been prepared to identify the limits of disturbance. Moolarben also has a ground disturbance permitting process in place which assesses each ground disturbing activity prior to commencement to ensure that it is within the approved footprint.	Moolarben has had enforcement action previously in relation to unauthorised clearing, however, the systems that are now in place should work to prevent a recurrence.
	(c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area	C	Moolarben has obtained occupancy licences for the Crown land it utilises.	
Resource Recovery				
24	(a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being covered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.			
	(c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.			
	(d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.			
	(e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.			
	(f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.			

Mining Lease 1606

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments	
Indemnity					
25 (given as 26 in the lease)	The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or than any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.	
Security					
26 (given as 27 in the lease)	(a) A security in the sum of \$100,000 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.	
	(b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:				
	(i) Cash, (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.				
Prescribed Dam					
27 (given as 29 in the lease)	(a) Notwithstanding any Mining Operations Plan, the lease holder must not mine within any part of the lease area which is within the notification area of the Moolarben Creek Dam without the prior written approval of the Minister and subject to any conditions he may stipulate.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.	
	(b) Where the lease holder desires to mine within the notification area he must:				
	(i) at least twelve (12) months before mining is to commence or such less time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and				
	(ii) provide such information as the Minister may direct.				
	(c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with.				
	(i) This sub-paragraph is complied with if:				

Mining Lease 1606

Condition No.	Requirement	Compliance C/NC/OV/NT	Evidence	Comments
	(a) the Dams Safety Committee is constituted by Section 7 of the Dams Safety Act 1978 and the owner of the dam have been notified in writing of the desire to mine referred to in paragraph (B).			
	(b) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined.			
	(c) the Director-General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal.			
	(d) the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make any such recommendations; and			
	(e) where the Dams Safety Committee has made recommendations the approval is in terms that are:			
	(i) in accordance with those recommendations; or			
	(ii) where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub-paragraph (ii) of this			
	(ii) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam:			
	(a) as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or			
	(b) in the event of failure to reach such agreement - as determined by the Premier.			
	(d) The minister, on notice from the Dams Safety Committee, may at any time or times:			
	(i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is given.			
	(ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.			

Not assessed	12
Compliance	22
Non-compliance	2
Verification	0
Observation	1
Not Triggered	12

Mining Lease 1628				
Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Notice to Landholders				
1	Within a period of three months from the date of grant of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted, state whether the lease includes the surface and must contain an adequate plan and description of the lease area.			
Environmental Harm				
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.	NC	Moolarben has generally implemented measures to minimise harm to the environment in terms of air quality, noise, visual amenity, vibration and lighting, and has demonstrated a commitment to improving its environmental performance. During the audit site inspection, it was observed that there were generally good management practices across the site, particularly related to the rehabilitation practices implemented at the site. In terms of environmental controls, the current practices in place for the storage, handling and use of hazardous substances would not be considered to represent all reasonable and feasible measures to minimise harm to the environment from the storage and use of these substances.	
Mining Operations Plan				
	(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.	C	Latest MOP (2013 to 2017) has been approved by DRE.	Consultation with DRE indicated that they considered the MOP to be of a high standard.
	(b) The MOP must: - identify areas that will be disturbed by mining operations;	C	A detailed description of mining activities for the MOP period is provided in Section 2 of the MOP.	
	- detail the staging of specific mining operations;	C	Staging of mining operations is described in MOP Section 2.2. MOP Plans 3a to 3f provide details of the staging of mining operations for the MOP period.	

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
3	- identify how the mine will be managed to allow mine closure;	C	Decommissioning and the post mining land use are discussed in Section 4 of the MOP.	Observations made on site during the site inspection indicated that Moolarben is making good progress with rehabilitation which is undertaken progressively as the mine proceeds. Final landforms are already being established which shows that planning for mine closure is already underway despite the early stage of the mine.
	- identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;	C	A comprehensive discussion of environmental issues and controls to be implemented is included in Section 3 of the MOP.	Environmental controls described in the MOP were generally observed to be implemented on site.
	- reflect the conditions of approval under:	C	Consents, authorisations and licences for the Moolarben operations are identified in Section 1.4 of the MOP. References to specific approval requirements are also addressed in relevant sections of Section 3 of the MOP.	
	the <i>Environmental Planning and Assessment Act 1979</i>			
	the <i>Protection of the Environment Operations Act 1997</i>			
	and any other approvals relevant to the development including the conditions of this lease; and			
	- have regard to any relevant guidelines adopted by the Director-General.	C	MOP Section 1.2 states " <i>This MOP has been prepared in accordance with the Interim Mining Operations Plan (MOP) Guidelines ('Interim Guidelines') (DTI, 2012)...</i> " Section 1.3 provides further information in relation to the Interim Guidelines.	Review of the MOP indicates it has been prepared in accordance with the guidelines.
	(c) The titleholder may apply to the Director-General to amend an approved MOP at any time.	NT	Current MOP has not been amended.	
(d) It is not a breach of this condition if:	NT			
(i) the operations constituting the breach were necessary to comply with a lawful order or direction 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				
(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 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.	NT	Most recent MOP relates to the period 2013 to 2017 and as such is considered to be current and in effect.		

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Environment Management Reporting				
4	The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.	C	AEMRs were sighted and reviewed for the reporting periods 2010-2011 and 2011-2012.	
5	The EMR must:	O	Whilst the discussion of rehabilitation in Section 5 of the AEMR makes reference to the MOP, the remainder of the report does not appear to address any specific MOP requirements. It was noted in Section 1.1 of the 2011-2012 AEMR that the introductory statements do not make reference to the MOP or the reporting requirements contained in the mining leases for the site.	
	- report against compliance with the MOP;			
	- report on progress in respect of rehabilitation completion criteria;	C	Section 5 of the AEMR provides a discussion on the progress of rehabilitation undertaken on site during the reporting period.	
	- report on the extent of compliance with regulatory requirements; and	C	Section 3.23 of the AEMR discusses any reportable incidents that occurred during the reporting period and provides updates on previous reportable incidents.	Whilst the AEMR has provided the discussion of reportable incidents as required by the DRE AEMR guidelines, it may be appropriate for the AEMR to also include a discussion on the general level of environmental performance of the operations in relation to the conditions imposed by the various project approvals, licences, and mining leases. This may take the form of a summary of any compliance tracking programs in place for example.
	- have regard to any relevant guidelines adopted by the Director-General.	C	The AEMRs reviewed during the audit were noted to have been prepared in accordance with the guidelines issued by DRE in respect of AEMRs.	
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	Moolarben advised that no additional reports have been required during the audit period.	
Rehabilitation				
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	C	Rehabilitation areas were inspected during the audit. It was observed that rehabilitation is undertaken progressively with areas of OC1 not required for further mining already being shaped, topsoiled and seeded. All areas inspected were observed to be stable.	

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Subsidence Management				
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	Underground mining has not yet commenced.	
	(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		
	(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 (EDP09)</i> .	NT		
	(d) Subsidence Management Plans are to be prepared in accordance with the <i>Guidelines for Applications for Subsidence Management Approvals</i> .	NT		
	(e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 2 and will be subject to the Annual Environmental Management Report process as set out in 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		
Working Requirement				
9	The lease holder must:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(a) ensure that at least 11 competent people are efficiently employed on the lease area on each week day except Sunday or any week day that is a public holiday, OR			
	(b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than \$192,500 per annum whilst the lease is in force.			
	The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.			

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Control of Operations				
10	(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:	NT	Moolarben advised that no directions have been issued.	
	(i) cease working the lease; or			
	(ii) cease that part of the operation not complying with the Act or conditions;			
	Until in the opinion of the Environmental officer the situation is rectified.			
	(b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction.			
	(c) A direction referred to in this condition may be served on the Mine Manager.			
Reports				
11	The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;			
	(b) Details of expenditure incurred in conducting that exploration;			
	(c) A summary of all geological findings acquired through mining or development evaluation activities;			
	(d) Particulars of exploration proposed to be conducted in the next twelve months period;			
	(e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.			
Licence to Use Reports				
12	(a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.			

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Confidentiality				
13	(a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(i) the lease holder has agreed that specified reports may be made non-confidential.			
	(ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.			
	(b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.			
	(c) The Director-General may extend the period of confidentiality.			
Terms of the non-exclusive licence				
	The terms of the non-exclusive copyright licence under condition 12 are:	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(a) the Minister may sub-licence others to publish, print, adapt and reproduce by not on-licence reports.			
14	(b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.			
	(c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.			
	(d) there is no royalty payable by the Minister for the licence.			
	(e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.			

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Blasting				
15	(a) <u>Ground Vibration</u> 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.	C	Requirements identified in BMP - Section 3.2. Review of blast data indicated no exceedances of ground vibration criteria during the audit period.	
	(b) <u>Blast Overpressure</u> 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.	C	Blast exceedance that occurred was in ML1606.	
Safety				
16	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
Exploratory Drilling				
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 holes together with information on the location of the proposed holes.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(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.			

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Prevention of Soil Erosion and Pollution				
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 approved, 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.	C	Operations on site were generally observed to be carried out in a manner that does not aggravate pollution. There was very little evidence of erosion and sedimentation, despite a high intensity storm the night before the audit site inspection. Environmental controls were observed to be in operation to minimise the potential for air quality issues.	
Transmission Lines, Communication Lines and Pipelines				
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.	C	Moolarben has negotiated an agreement with Transgrid in relation to blasting operations.	
Fence Gates				
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.	C	Within the active mining areas, there are no fences or gates in place. In relation to exploration activities outside of the active mine areas, protocols are in place to ensure that fences are not damaged unless agreements are in place with the relevant landowner.	
	(b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	C	This requirement generally only applies to exploration activities carried out within the lease area outside of active mining areas. Protocols are in place to ensure that gates are left as they were found.	
Road and Tracks				
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.	NT	Moolarben advised that no roads had been affected during the audit period.	
	(b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.	C	Moolarben currently has a voluntary planning agreement with Mid West Regional Council which includes contributions for road maintenance.	Invoices are sent out by Council for the required contributions and paid by Moolarben in accordance with the agreement.
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.	C	During the site inspection, access tracks were observed to be appropriately positioned and did not appear to be excessive in number. The access tracks traversed during the site inspection were all observed to be maintained in a reasonably good condition with little evidence of erosion or sedimentation.	A short but intense storm was experienced on the site the night before the site inspection. Despite the storm, the site was noted to be in good condition.

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Trees and Timber				
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.	C	ML1628 is Crown land and Moolarben has obtained occupancy licences for the Crown land it utilises.	
	(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.	C	Clearing plans have been prepared to identify the limits of disturbance. Moolarben also has a ground disturbance permitting process in place which assesses each ground disturbing activity prior to commencement to ensure that it is within the approved footprint.	Moolarben has had enforcement action previously in relation to unauthorised clearing, however, the systems that are now in place should work to prevent a recurrence.
	(c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area	C	Moolarben has obtained occupancy licences for the Crown land it utilises.	
Resource Recovery				
24 (given as 25 in lease)	(a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being covered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.			
	(c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.			
	(d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.			
	(e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.			
	(f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.			

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Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Indemnity				
25 (given as 26 in the lease)	The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or than any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
Security				
26 (given as 27 in the lease)	(a) A security in the sum of \$50,000 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:			
	(i) Cash, (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.			
Prescribed Dam				
	(a) Notwithstanding any Mining Operations Plan, the lease holder must not mine within any part of the lease area which is within the notification area of the Moolarben Creek Dam without the prior written approval of the Minister and subject to any conditions he may stipulate.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	(b) Where the lease holder desires to mine within the notification area he must: (i) at least twelve (12) months before mining is to commence or such less time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and			

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
27 (given as 29 in the lease)	(ii) provide such information as the Minister may direct.			
	(c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if:			
	(i) the Dams Safety Committee is constituted by Section 7 of the Dams Safety Act 1978 and the owner of the dam have been notified in writing of the desire to mine referred to in paragraph (B).			
	(ii) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined.			
	(iii) the Director-General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal.			
	(iv) the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make any such recommendations; and			
	(v) where the Dams Safety Committee has made recommendations the approval is in terms that are:			
	- in accordance with those recommendations; or			
	- where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub-paragraph (ii) of this paragraph.			
	(vi) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam:			
	- as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or			
	- in the event of failure to reach such agreement - as determined by the Premier.			
	(d) The minister, on notice from the Dams Safety Committee, may at any time or times:			
	(i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is given.			
(ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.				

Mining Lease 1628

Condition No.	Requirement	Compliance C/NC/O/V/NT	Evidence	Comments
Suspension of Mining Operations				
28 (given as 30 in the lease)	The holder of a consolidated mining lease may not suspend mining operations in the mining area other than in accordance with the consent of the Minister.	Not assessed		Compliance with this condition was not assessed during the audit as the condition was not considered to relate to the environmental management of the site.
	The lease holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping petroleum titles(s). The cooperation agreement should address but not be limited to issues such as:			
29 (given as 31 in the lease)	- access agreements;			
	- operational interaction procedures;			
	- dispute resolution;			
	- information exchange;			
	- well location;			
	- timing of drilling;			
	- potential resource extraction conflicts; and - rehabilitation issues.			

Not assessed	13
Compliance	23
Non-compliance	1
Verification	0
Observation	1
Not Triggered	12



APPENDIX 5

Photographic Plates



PLATE 1
View over Open Cut Pit 1



PLATE 2
View over OC1 and highwall



PLATE 3
Diesel fill point at Downer Blast Services compound - note no secondary containment



PLATE 4
Water cart in operation around Open Cut Workshop



PLATE 5
Water sprays in operation on ROM dump hopper



PLATE 6
Fuel tanks at Open Cut Workshop - tanks double skinned and fill points enclosed by drive-over bunds



PLATE 7
Oil drums not on banded pallet at Open Cut Workshop



PLATE 8
1000L mini-bulk containers on banded pallet - note no secondary containment from toppling or leaks under pressure



PLATE 9
Spill kits at Open Cut Workshop



PLATE 10
Fencing of Aboriginal Archaeological site at CHPP



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